

# A Pragmatic Explanation of the Stage Level/ Individual Level Contrast in Combination with Locatives

Claudia Maienborn

Humboldt University & ZAS Berlin

One important difference between stage level predicates (SLPs) and individual level predicates (ILPs) is their behavior with respect to locative modifiers. It is commonly assumed that SLPs but not ILPs combine with locatives. The present study argues against a semantic account for this behavior (as advanced by e.g. Kratzer 1995, Chierchia 1995) and proposes a genuinely pragmatic explanation of the observed stage level/individual level contrast instead. The proposal is spelled out using Blutner's (1998, 2000) optimality theoretic version of the Gricean maxims. Building on the observation that the respective locatives are not event-related but frame-setting modifiers, the preference for main predicates that express temporary properties is explained as a side-effect of "synchronizing" the main predicate with the locative frame in the course of finding an optimal interpretation. By emphasizing the division of labor between grammar and pragmatics, the proposed solution takes a considerable load off of semantics.

## 1 Locatives and the SLP/ILP Distinction

One of the most prominent linguistic criteria that have been advanced in order to distinguish stage level predicates (SLPs), which are commonly understood as expressing temporary or accidental properties, and individual level predicates (ILPs), which express (more or less) permanent or inherent properties, is their behavior with respect to locative modifiers.<sup>1</sup> SLPs like *tired*, *hungry* or *nervous* can be combined with locative modifiers (1a), while ILPs like *blond*, *intelligent* or *a linguist* don't seem to accept locatives (1b); see Chierchia (1995) and Kratzer (1995) among many others.

- (1) a. Maria was tired / hungry / nervous in the car. (SLP)  
b. \*/?/?Maria was blond / intelligent / a linguist in the car. (ILP)

Adherents of the stage level/individual level distinction take data like these as strong support for the claim that there is a fundamental difference between SLPs and ILPs in the ability to be located in space; see, e.g., the following quote from Fernald (2000):

*In: Brian Agbayani, Vida Samiian & Benjamin Tucker (eds.) (2004), Proceedings of the Western Conference on Linguistics (WECOL), volume 15, Fresno: CSU, 158 - 170.*

»It is clear that SLPs differ from ILPs in the ability to be located in space and time.«  
Fernald (2000: 24)

The standard perspective under which these and similar contrasts concerning perception reports, *when*-conditionals, subject effects, the distribution of the Spanish copula forms *ser* and *estar* etc. have been considered is that the SLP/ILP distinction essentially amounts to a *grammatical manifestation* of a deeper *conceptual difference*.<sup>2</sup> To quote Fernald again:

»Many languages display grammatical effects due to the two kinds of predicates, suggesting that this distinction is fundamental to the way humans think about the universe.«  
Fernald (2000: 4)

In the past years, research interests have focussed almost exclusively on the apparent grammatical effects of the SLP/ILP contrast. No comparable efforts were made to uncover its conceptual foundation, although there is unanimity that a definition of SLPs and ILPs in terms of the dichotomy “temporary vs. permanent” or “accidental vs. essential” cannot be but a rough approximation. This could just be an accident, however, in which case we needn’t worry because sooner or later someone would come up with an interesting story about the conceptual side of the SLP/ILP contrast that fits with the observed grammatical effects. But on the other hand, it might not be an accident at all but a hint that something is wrong with the overall perspective on the stage level/individual level distinction as a genuinely grammatical distinction that reflects an underlying conceptual opposition. The present study will explore the latter option. More specifically, I will argue that the sentences in (1) show no grammatical difference, nor do they reflect some fundamental conceptual split but rather display a genuine pragmatic contrast.

The paper is organized as follows: Section 2 gives a brief summary of Kratzer’s (1995) and Chierchia’s (1995) semantic accounts, both providing event-based explanations for the difference illustrated in (1). Section 3 presents arguments against event-based analyses of copular sentences suggesting that the difference at stake in (1) is not an issue of event semantics. Section 4 develops a pragmatic explanation of what I will call the “temporariness effect” in (1). My proposal will be laid out in the framework of bidirectional optimality theory (Blutner 1998, 2000). Finally, section 5 offers a summary and some concluding remarks.<sup>3</sup>

## 2 Semantic Explanations

There are basically two semantic explanations that have been proposed to account for the SLP/ILP contrast in (1).

According to the influential proposal by Kratzer (1995), who synthesized the stage level/individual level distinction with Davidsonian event semantics<sup>4</sup>, SLPs and ILPs differ in argument structure. SLPs have an extra event argument. This is the reason why they combine with locative modifiers. That is, SLPs can be located in space. ILPs lack such an extra event argument. Therefore, there is no entity whose location could be expressed by a locative modifier. This is illustrated in (2)-(4). The lexical entries for a SLP like *tired* and an ILP like *blond* are given in (2). While combining a SLP with a locative modifier would yield a semantic representation like (3b), any attempt to add a locative to an ILP must necessarily fail; cf. (4b).

- (2) a. tired:  $\lambda x \lambda e$  [TIRED (x, e)]  
 b. blond:  $\lambda x$  [BLOND (x)]
- (3) a. Maria was tired in the car.  
 b.  $\exists e$  [TIRED (maria, e) & LOC(e, IN (def-car))]
- (4) a. \*/??Maria was blond in the car.  
 b. [BLOND (maria) & LOC(???, IN (def-car))]

According to this view, SLPs and ILPs indeed differ in their ability to be located in space and this difference is traced back to the presence resp. absence of an event argument.

Chierchia (1995) takes a somewhat different tack. He adopts the neo-Davidsonian view (e.g., Higginbotham 1985, 2000; Parsons 1990, 2000) according to which *all* predicates introduce event arguments. Thus, SLPs and ILPs do not differ in this respect. In order to account for the SLP/ILP contrast in combination with locatives, Chierchia then introduces a distinction between two kinds of events: SLPs refer to *location dependent events* whereas ILPs refer to *location independent events*; see also McNally (1998). The observed behavior wrt locatives follows under the assumption that only location dependent events can be located in space. In Chierchia's own words:

»Intuitively, it is as if ILP were, so to speak, unlocated. If one is intelligent, one is intelligent nowhere in particular. SLP, on the other hand, are located in space.«

Chierchia (1995: 178)

What is significant for our present purposes are not so much the differences between Kratzer's and Chierchia's approach but their commonalities. Both consider the SLP/ILP contrast in (1) as a grammatical effect. That is, sentences like (1b) won't receive a compositional semantic representation; they are grammatically ill-formed. Kratzer and Chierchia furthermore share the general intuition that SLPs (and they only) can be located in space. This is what the difference in (1) is taken to show. And, finally, both analyses rely crucially on

the idea that at least SLPs, possibly all predicates, introduce Davidsonian event arguments. The next section will cast doubts on each of these assumptions.

### 3 Objections to Event-Based Explanations

I have two main objections to a semantic treatment of the SLP/ILP contrast in combination with locatives along the lines of Kratzer (1995) or Chierchia (1995). One concerns the analysis of the locatives in (1) as event-related modifiers. The other relates to the neo-Davidsonian assumption that all predicates introduce event arguments. Due to limitations of space I will sketch these arguments only very briefly; but see Maienborn (2001, 2003a,b,d) for details and further justification.

#### 3.1 Event-related vs. frame-setting locatives

First and most importantly, the locatives in (1) arguably do not belong to the class of event-related VP-modifiers but are frame-setting modifiers according to the classification proposed in Maienborn (2001).

Frame-setting modifiers tend to surface in sentence-initial position, but they are base-generated at a lower position within the functional shell of VP.<sup>5</sup> (Event-related modifiers are base-generated VP-internally.) As for their semantics, frame-setting modifiers do not add an additional predicate to the VP's event argument – this is what event-related modifiers do – but restrict the overall proposition. What exactly is being restricted is a matter of semantic underspecification. Maienborn (2001) provides a series of independent syntactic, semantic, and prosodic criteria for determining the status of a modifier as event-related or frame-setting; see also Frey (2003).

Let us have a look at the possible interpretations of the frame-setting locative in (5). Notice first, that I am only interested in the analysis of (5) as a copular sentence. We may neglect the fact that (5) can also be analyzed as a passive sentence. (In the latter case the locative would be event-related, expressing that an event of marrying which Maradona was subject to took place in Italy.)

(5) Maradona was married in Italy.

There are several ways in which we could make sense of the idea that the locative frame *in Italy* restricts the claim that Maradona was married. A speaker may use the locative frame to restrict the time for which he makes his claim; see Klein's (1994) notion of *topic time*. This gives us a temporal reading of the locative frame as illustrated by the paraphrase in (5'a). The locative may also be used to restrict the juridical background for the main predicate as indicated by (5'b). And, given the appropriate contextual support, a locative frame may always be interpreted epistemically as in (5'c). That is, sentence (5) could refer, e.g., to a situation where the yellow press in Italy propagates that Maradona was

married (while people in his home country Argentina knew that he wasn't). And there might be further ways of interpreting the semantically underspecified locative frame.

- (5') a. When he was in Italy, Maradona was married. *temporal reading*  
b. According to the laws in Italy, Maradona was married.  
c. According to the belief of the people in Italy, Maradona was married. *epistemic reading*  
d. etc.

Thus, due to their semantic underspecification, frame-setting modifiers always give rise to several potential utterance meanings. Now we can make more precise what is going on in sentences like (1). The SLP/ILP contrast that we want to explain apparently concerns *the availability of the temporal reading of a frame-setting locative*. Take, e.g., (6). Unlike the corresponding temporal reading of (6a), which is perfectly fine, under normal circumstances sentence (6b) has no interpretation saying that when she was at the disco, Maria was a smart linguist. Yet, this does not mean that (6b) is ungrammatical. The locative frame might well receive, e.g., an epistemic reading. Sentence (7) provides a natural context for such a reading.

- (6) a. At the disco, Maria was drunk  
b. ??At the disco, Maria was a smart linguist. *temporal reading*
- (7) At the disco, Maria was a really smart linguist who was, unfortunately, a terrible dancer. At the institute, though, she was a terrible linguist who was, at least, a great dancer. *epistemic reading*

A locative frame like *in the car* in (1) is not particularly well suited for an epistemic interpretation because it cannot serve to single out a group of people who could be assigned a certain stable belief. But with sufficient contextual support an epistemic reading may be construed even here. Assume, e.g., that Peter, while driving home with his father, describes his new girlfriend Maria as having blond hair. Later in the evening Peter claims that she is a brunette. This context would favour an epistemic reading for (1'b). Notice that the SLP-variant (1'a) can be given an epistemic interpretation, too. Let only the context be Peter giving two different explanations why Maria behaved so strangely at the party. (Hence, frame-setting locatives do not support any logically valid inference as to the location of the subject referent. The locative *in the car* does not locate Maria but the source of belief in (1'.))

- (1') a. In the car, Maria was tired. *epistemic reading*  
b. In the car, Maria was blond. *epistemic reading*

In sum, the difference at stake in (1) and (6) is not an issue of *grammaticality* but concerns the *acceptability* of these sentences under a temporal reading of the

locative frame. It is only under this reading that we observe a preference for temporary predicates. I will refer to this preference as *temporariness effect*.

### 3.2 Neo-Davidsonian approaches to copular sentences

In recent years it has become popular to assume that every predicate, no matter whether SLP or ILP, introduces a Davidsonian event argument; see in particular Higginbotham (1985, 2000), Parsons (1990, 2000) and subsequent work. I have argued in Maienborn (2003a-d) that this is inadequate for copular sentences (and true stative verbs). My results concerning German *sein* as well as Spanish *ser/estar* show that copular SLPs and ILPs pattern alike in failing all standard tests for Davidsonian events.

Davidsonian events are generally considered to be spatiotemporal entities with functionally integrated participants. Common linguistic diagnostics for the presence of underlying event arguments are the combination with locative modifiers, perception reports, the combination with manner adverbials etc.; see Maienborn (2003a-d) for further tests. If these diagnostics are applied carefully to copular sentences, SLPs and ILPs show no properties of event expressions at all.

As seen above, the locatives in sentences like (1) are not event-related but frame-setting. So they do not provide a reliable event diagnostic. Checking for unmistakably event-related modifiers reveals that even SLPs do not tolerate them. This is illustrated in (8) with data from German. (The temporal adverbials make sure that the locative is a VP-modifier and therefore event-related.)

- (8) *Combination with event-related locatives:*
- a. \*Das Kleid ist auf der Wäscheleine nass. (SLP)  
The dress is on the clothesline wet.
  - b. \*Paul war (zu dieser Zeit) unter der Straßenlaterne betrunken.  
Paul was (at this time) under the street lamp drunk.
  - c. \*Der Sekt ist (immer noch) im Wohnzimmer warm.  
The champagne is (still) in.the living room warm.
  - d. \*Maria ist (gerade) im Auto müde.  
Maria is (at the moment) in.the car tired.
  - e. \*Maria war (die ganze Zeit) vor dem Spiegel blond/eitel/intelligent (ILP)  
Maria was (the whole time) in-front-of the mirror blond/vain/intelligent.

If at least copular SLPs introduced an event argument, we would expect a locative modifier expressing the location of this event to be possible. That is, a sentence like (8a) should be able to indicate that there is a state of the dress being wet and that this state is located on the clothesline. Yet there is no such interpretation for (8a). Even more, (8a) as well as (8b-e) are clearly ungrammatical. That is, contrary to common wisdom (see above) SLPs and ILPs do *not* differ in their ability to be located in space; they both *resist* spatial location.

The other diagnostics show the same result. This is illustrated in (9) and (10). Copula constructions do not show up as infinitival complements of perception

verbs. (This has already been observed by Carlson 1977). And they do not combine with manner adverbials, comitatives and the like; see Maienborn (2003d) for a discussion of apparent counter-examples.

(9) *Infinitival complements of perception verbs:*

- a. \*Ich sah Maria müde sein.  
I saw Maria tired be.
- b. \*Ich hörte die Callas heiser sein.  
I heard the Callas coarse be.

(10) *Combination with manner adverbials and the like:*

- a. \*Maria war unruhig durstig.  
Maria was restlessly thirsty.
- b. \*Paul war friedlich / mit seinem Teddy / ohne Schnuller müde.  
Paul was calmly / with his teddy / without dummy tired.

This is not the place to discuss these issues with the necessary scrutiny. I just want to stress that if we take the Davidsonian approach seriously then there are good reasons to conclude that copular sentences do *not* introduce an event argument, no matter whether they express a temporary or a permanent property.

This means that an explanation of the temporariness effect in (1) cannot rely on events.

#### **4 Pragmatic Explanation for the Temporariness Effect**

In the following I want to propose a purely pragmatic explanation of the observed temporariness effect based on Blutner's (1998, 2000) optimality theoretic version of the Gricean maxims. The basic idea is that the preference for temporary properties results from an optimal interpretation of a semantically underspecified sentence.

Let us take a sentence like (11) as an illustration and we may concentrate on the temporal reading of the locative frame because, as shown in section 3.1, it is only here that the temporariness effect shows up.

(11) In Italy, Maria was rich.

Under the temporal reading, the locative modifier serves to restrict the topic time of the sentence; see Klein (1994). Hence, the grammatically determined meaning can be rendered as: there is a topic time  $t^*$ , when Maria was in Italy, and Maria is rich at  $t^*$ ; see Maienborn (2003a: chap. 5) for a compositional DRT-account.

The grammatically determined meaning is underspecified in several respects. The grammar leaves open whether:

- (i) Maria was also rich before and/or after  $t^*$ ,
- (ii) being rich is a temporary or permanent property of Maria,
- (iii) being located in Italy is a temporary or permanent property of Maria.

That is, there are several potential specifications for sentence (11) given a temporal reading of the locative frame. These interpretations are presented schematically in (12). (Bold brackets indicate the topic time,  $t^*$ ; “\$\$” refers to the time of the main predicate,  $t^P$ ; and the dotted line represents Maria’s life time,  $t^L$ .)

(12) *Candidates for the temporal reading of (11):*

- |                |   |       |                                    |
|----------------|---|-------|------------------------------------|
| a. Int1: ----- | <b>[\$\$\$\$\$\$]</b>   | ----- | $t^* = t^P, t^P \subset t^L$       |
| b. Int2: ----- | \$\$\$ <b>[\$\$\$\$\$\$]</b> \$\$\$\$   | ----- | $t^* \subset t^P, t^P \subset t^L$ |
| c. Int3: ----- | \$\$\$\$\$\$\$\$\$ <b>[\$\$\$\$\$\$]</b> \$\$\$\$\$\$\$\$\$                         | ----- | $t^* \subset t^P, t^P = t^L$       |
| d. Int4: ----- | <b>[\$]</b> | ----- | $t^* = t^P, t^P = t^L$             |

Interpretation Int1 refers to the case in which Maria stayed in Italy for a delimited time and she was rich at exactly that time. Int2 covers all those cases where Maria is rich also before and/or after her stay in Italy. According to Int3, Maria stayed in Italy only for some delimited time but she was rich during her whole life; and Int4 refers to Maria staying in Italy and being rich all her life.

Whereas the grammar remains neutral wrt Int1 – Int4, pragmatic strengthening will yield Int1 as optimal interpretation for sentence (11) (under a temporal reading of the locative frame). This kind of interpretive optimization can be formulated within Blutner’s (1998, 2000) framework of a *bidirectional optimality theory* which aims at formalizing conversational implicatures on the basis of two competing economy principles (Zipf 1949; Atlas & Levinson 1981; Horn 1984; Levinson 2000). The *Q-principle* is hearer-oriented. It requires you to tell the hearer as much as you can. The *I-principle* (in Horn’s terminology: *R-principle*) is speaker-oriented. It invites the speaker to produce the minimal output that suffices to achieve his communicative goals. Both tendencies to minimize efforts are to be balanced in order to produce an optimal pairing of form and meaning; see the formulation of Horn (1984: 13) in (13); Blutner’s OT-reconstruction is given in (14); see also Jäger (2000: 48). (“ $\alpha < \beta$ ” is to be read: The form-meaning pair  $\alpha$  is less costly/more harmonic than the pair  $\beta$  wrt a set of (possibly weighted) constraints.)

- (13) a. *Q-principle* (hearer-oriented): Say as much as you can (given I).
- b. *I-principle* (speaker-oriented): Say no more than you must (given Q).

(14) *Bidirectional OT:*

A form-meaning pair  $\langle F, Int \rangle$  is optimal<sup>6</sup> iff:

- Q: there is no other optimal pair  $\langle F', Int \rangle$  such that:  $\langle F', Int \rangle < \langle F, Int \rangle$
- I: there is no other optimal pair  $\langle F, Int' \rangle$  such that:  $\langle F, Int' \rangle < \langle F, Int \rangle$ .

The basic idea is that pragmatic strengthening involves *blocking* of interpretations as well as *preferring* certain interpretations. The Q-principle compares different forms with the same meaning and blocks those form-meaning pairs for which there exist better alternative forms. The I-principle compares form-meaning pairs which all have the same form but differ in meaning and it prefers those pairs with the most simple/straightforward interpretation. An optimal pair must fulfil both principles.

Let us see which of our form-meaning pairs for sentence (11) are optimal in the sense of the definition given in (14).

(15) *Form-meaning pairs for (11):*

- |                                     |                                     |                 |
|-------------------------------------|-------------------------------------|-----------------|
| a. $\langle F, \text{Int1} \rangle$ | c. $\langle F, \text{Int3} \rangle$ | with $F = (11)$ |
| b. $\langle F, \text{Int2} \rangle$ | d. $\langle F, \text{Int4} \rangle$ |                 |

Take first the pairing in (15d). The locative frame refers to a permanent property of Maria here. Hence, it does not narrow down the topic time. There are alternative forms for expressing this meaning, see (16).

- (16) a. Maria was always rich.  
 b. During her whole life, Maria was rich.

The advantage of the forms in (16) is that they have no other interpretations apart from Int4. Therefore, they will be preferred by a Constraint like “Avoid Ambiguity” in (17), which states that, given identical interpretations, form-meaning pairs with less ambiguous forms are to be preferred. This leads to the preference in (18). (For the sake of simplicity (16a,b) are considered together.)

- (17) *Constraint: Avoid Ambiguity!*  
 $\langle F', \text{Int} \rangle < \langle F, \text{Int} \rangle$  iff  $F'$  is less ambiguous than  $F$ .

- (18)  $\langle F', \text{Int4} \rangle < \langle F, \text{Int4} \rangle$  with  $F' = (16)$

To keep things simple, let us assume that the pairing  $\langle F', \text{Int4} \rangle$  is indeed optimal. Our pair in (15d) is ruled out as non-optimal then, because it violates the Q-principle. That is, we can draw the *Q-based implicature* that being located in Italy must be a temporary property of Maria ( $t^* \subset t^1$ ). The temporal interpretation of frame-setting modifiers is pragmatically licensed only if the topic time is properly restricted by the modifier.

Let us assume that the three remaining pairs (15a-c) fulfill the Q-principle. That is, there are no better alternative expressions for the interpretations Int1-3. If they are compared with each other, (15a) will be preferred by the constraint “Be strong” in (19) because Int1 is implied by Int2 and Int3; i.e., Int1 is the most restrictive interpretation. The respective preferences are given in (20).

- (19) *Constraint Be strong!* (cf. Blutner 2000)  
 $\langle F, \text{Int}' \rangle < \langle F, \text{Int} \rangle$  iff  $\text{Int}'$  is more restrictive than  $\text{Int}$ .
- (20) a.  $\langle F, \text{Int1} \rangle < \langle F, \text{Int2} \rangle$   
 b.  $\langle F, \text{Int1} \rangle < \langle F, \text{Int3} \rangle$

Hence, the pairings in (15b) and (15c) are non-optimal because they violate the I-Principle. The most simple way of interpreting the underspecified temporal relation between the topic time and the predication time is equating them ( $t^* = t^P$ ). This is an *I-based implicature*: The looser meaning that Maria was rich during her stay in Italy is pragmatically strengthened to the claim that she was rich at exactly that time.<sup>7</sup>

Thus, we end up with (15a) as an optimal form-meaning pair. Only the pair  $\langle F, \text{Int1} \rangle$  fulfills both the Q-principle and the I-principle. The relevant steps in deriving the temporariness effect are summarized in (21): Starting with the topic time being improperly included in Maria's life time as well as in the time of Maria being rich (21a), the Q-based implicature leads to a proper inclusion of the topic time in Maria's life time (21b); and the I-based implicature equates topic time and predication time (21c).

- (21) *Temporariness effect*:
- |                                 |  |
|---------------------------------|--|
| a. Semantic underspecification: | $t^* \subseteq t^L \ \& \ t^* \subseteq t^P$ |
| b. Q-based implicature:         | $t^* \subset t^L$                            |
| c. I-based implicature:         | $t^* = t^P$                                  |

Notice that the temporariness effect on the main predicate emerges rather indirectly, mediated by the temporariness of the frame-setting modifier. If a locative frame is pragmatically required to hold temporarily, and if, for independent reasons the temporal extension of the main predicate must be coextensive with the topic time, it follows that the main predicate is also interpreted as expressing a temporary property. What we find is a *synchronization of two properties*. Basically, it is the locative frame that is required to hold temporarily and as a kind of side effect this carries over to the main predicate.

The acceptability differences in (1) reflect the plausibility of such a synchronization in view of context and world knowledge about possible or typical temporal extensions of properties. Our world knowledge tells us that the average time of staying in a car and of being tired fit together quite easily, whereas being blond normally lasts for a longer period – unless the context provides some magic shampoo that turns people blond just for an hour or so. In this case the sentence would be fine. If we change our locative frame as in (22) acceptability judgements are reversed.

- (22) a. ?In Italy, Maria was tired. *temporal reading*  
 b. In Italy, Maria was blond. *temporal reading*

While it is quite easy to derive the temporal reading for (22b), i.e., to synchronize Maria's staying in Italy and her being blond, we would need some additional support from the context in order to accept an analogous reading for the SLP-variant (22b). We could either assume that Maria stayed in Italy only for a very short time, so that it could be possible for her to be tired throughout that time. Or we could infer that she was repeatedly tired during her stay in Italy. This is just to illustrate that the relevant judgements do not simply rely on the distinction of temporary vs. permanent properties but take into account our rich conceptual knowledge about possible or typical temporal extensions of properties and how they can be adjusted.

## 5 Conclusion

To sum up, I have proposed a pragmatic explanation of the temporariness effect displayed in (1) that is based on very general pragmatic economy principles plus world knowledge concerning the possible or typical temporal extension of properties. No specific assumptions were needed in order to account for the apparent SLP/ILP contrast in combination with locatives.

On the contrary, compared to the semantic approaches of Kratzer (1995) and Chierchia (1995), the pragmatic account advocated here is more parsimonious wrt the lexicon, the grammar and ontology.

First, there is no need for postulating a "fundamental cognitive division of the world" (corresponding roughly to temporary vs. permanent properties) that is reflected in the lexicon by some type of marking SLPs and ILPs.

Secondly, contrary to first appearances the grammar is not sensitive to the temporariness effect either. In particular, predicates do not behave differently wrt locative modifiers.

And thirdly, there is also no need to stipulate ontological distinctions like Chierchia's location dependent vs. location independent events. Within the proposal developed here the locative frame is not used to locate a property in space but to single out the topic time. The only link between the locative and the main predicate is their *temporal location*. If this account of the temporariness effect is on the right track, this is a quite straightforward application of bidirectional OT which nevertheless takes a considerable load off of the grammar and leads to a more balanced division of labour between grammar and pragmatics.

## Notes

<sup>1</sup> The SLP/ILP distinction goes back to Milsark (1974, 1977) and Carlson (1977).

<sup>2</sup> See Higginbotham & Ramchand (1997), Fernald (2000), Jäger (2001), Maienborn (2003a: chap. 2.3) for commented overviews of SLP/ILP diagnostics that have been discussed in the literature.

<sup>3</sup> This study is exclusively concerned with the SLP/ILP contrast showing up in combination with locative modifiers. See Maienborn (2003c) for a discourse-based account of the distribution of Spanish *ser/estar*.

<sup>4</sup> Throughout this paper, I use the term “event” as a cover term for events proper, processes and (certain) states; cf. Bach’s (1986) notion “eventuality”. Other labels that can be found in the literature for an additional Davidsonian event argument include “spatiotemporal location” (e.g. Kratzer 1995) and “Davidsonian argument” (e.g. Chierchia 1995). See Maienborn (2003a,b,d) for qualifications concerning the borderline category of states.

<sup>5</sup> Due to limitations of space I will ignore the information structural impact of fronting frame-setting modifiers and analyze them on a par with their post-verbal variants.

<sup>6</sup> In Blutner’s terminology “super-optimal”.

<sup>7</sup> This is a temporal variant of “conditional perfection”, i.e., the pragmatic strengthening of a conditional statement into a biconditional; see Geis & Zwicky 1971, van der Auwera (1997).

## References

- Atlas, Jay D. & Stephen C. Levinson. 1981. “It-Clefts, Informativeness and Logical Form”, in P. Cole (ed.), *Radical Pragmatics*. New York: Academic Press, 1-61.
- van der Auwera, Johan. 1997. “Pragmatics in the Last Quarter Century: The Case of Conditional Perfection”, *Journal of Pragmatics* 27: 261-274.
- Bach, Emmon. 1986. “The algebra of events”, *Linguistics and Philosophy* 9:5-16.
- Blutner, Reinhard. 1998. “Lexical Pragmatics”, *Journal of Semantics* 15.2: 115-162.
- Blutner, Reinhard. 2000. “Some Aspects of Optimality in Natural Language Interpretation”, *Journal of Semantics* 17:189-216.
- Carlson, Gregory. 1977. *Reference to Kinds in English*. Univ. of California: Ph.D. Diss.
- Chierchia, Gennaro. 1995. “Individual-Level Predicates as Inherent Generics”, in: G. N. Carlson & F. J. Pelletier (eds.), *The Generic Book*. Chicago, London: The University of Chicago Press, 176-223.
- Fernald, Theodore. 2000. *Predicates and temporal arguments*. Oxford, New York: OUP.
- Frey, Werner. 2003. “Syntactic conditions on adjunct classes”, in E. Lang, C. Maienborn & C. Fabricius-Hansen (eds.), *Modifying Adjuncts*. Berlin: de Gruyter, 163-210.
- Geis, M.L. & A.M. Zwicky. 1971. “On Invited Inferences”, *Linguistic Inquiry* 2: 561-565.
- Higginbotham, James. 1985. “On Semantics”, *Linguistic Inquiry* 16: 547-593.
- Higginbotham, James. 2000. “On Events in Linguistic Semantics”, in: J. Higginbotham, F. Pianesi & A. Varzi (eds.), *Speaking of Events*. New York, Oxford: OUP, 49-79.
- Higginbotham, James & Gillian Ramchand. 1997. “The Stage-Level/Individual-Level Distinction and the Mapping Hypothesis”, *Oxford University Working Papers in Linguistics, Philology & Phonetics* 2: 53-83.
- Horn, Laurence R. 1984. “Towards a New Taxonomy for Pragmatic Inference: Q-Based and R-Based Implicatures”, in: D. Schiffrin (ed.), *Meaning, Form, and Use in Context*. Washington: Georgetown University Press, 11-42.
- Jäger, Gerhard. 2000. “Some Notes on the Formal Properties of Bidirectional Optimality Theory”, *Linguistics in Potsdam* 8: 41-63.
- Jäger, Gerhard. 2001. “Topic-Comment Structure and the Contrast between Stage Level and Individual Level Predicates”, *Journal of Semantics* 18: 83-126.
- Klein, Wolfgang. 1994. *Time in Language*. London, New York: Routledge.

- Kratzer, Angelika. 1995. "Stage-Level and Individual-Level Predicates", in: G. N. Carlson & F. J. Pelletier (eds.), *The Generic Book*. Chicago, London: The University of Chicago Press, 125-175.
- Levinson, Stephen C. 2000. *Presumptive Meanings: The Theory of Generalized Conversational Implicature*. Cambridge, Mass: The MIT Press.
- Maienborn, Claudia. 2001. "On the Position and Interpretation of Locative Modifiers", *Natural Language Semantics* 9.2: 191-240.
- Maienborn, Claudia. 2003a. *Die logische Form von Kopula-Sätzen* (studia grammatica 56). Berlin: Akademie-Verlag.
- Maienborn, Claudia. 2003b. "Against a Davidsonian Analysis of Copula Sentences", in M. Kadowaki & S. Kawahara (eds.), *NELS 33 Proceedings*. Amherst: GLSA, 167-186.
- Maienborn, Claudia. 2003c. "A discourse-based account of Spanish *ser/estar*", to appear in *Linguistics*.
- Maienborn, Claudia. 2003d. "On Davidsonian and Kimian states", to appear in: I. Comorovski & K. von Heusinger (eds.), *Existence: Syntax and Semantics*. Dordrecht: Kluwer.
- McNally, Louise. 1998. "Stativity and Theticity", in: S. Rothstein (ed.), *Events and Grammar*. Dordrecht: Kluwer, 293-307.
- Milsark, Gary L. 1974. *Existential Sentences in English*, MIT: Ph.D. Diss.
- Milsark, Gary L. 1977. "Toward an Explanation of Certain Peculiarities of the Existential Construction in English", *Linguistic Analysis* 3: 1-29.
- Parsons, Terence. 1990. *Events in the Semantics of English. A Study in Subatomic Semantics*. Cambridge Mass.: The MIT Press.
- Parsons, Terence. 2000. "Underlying States and Time Travel", in: J. Higginbotham, F. Pianesi & A. Varzi (eds.), *Speaking of Events*. New York, Oxford: OUP, 81-93.
- Zipf, G.K. 1949. *Human Behavior and the Principle of Least Effort*. Cambridge: Addison-Wesley.

Claudia Maienborn  
 Humboldt University & ZAS Berlin  
 Department of German Language and Linguistics  
 Unter den Linden 6, 10099 Berlin, Germany  
 c.maienborn@rz.hu-berlin.de