

Aspectual sensitivity of *already*

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1 Phase-quantificational semantics of *already*

Already is an aspectual particle analyzed as an existential phase quantifier (Löbner 1989). We find counterparts of *already* in Dutch (*al*), German (*schon*), French (*déjà*) and many other languages. *Already* (p, t_0) and its counterparts presuppose a change from a negative phase ($\neg p$) to a positive phase (p), and thus assert that the evaluation point t_0 is included in the positive phase p . *Not yet* (p, t_0) has the same presupposition, but asserts that t_0 is included in the negative phase $\neg p$. There are no constraints on times later than t_0 . Graphically:

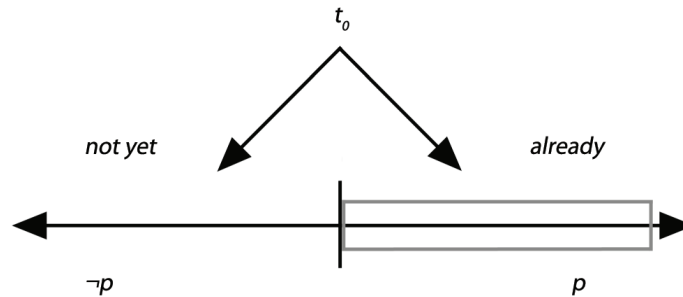


Figure 1: *already*

In order for the statement *already* (p, t_0) to be relevant, the transition from $\neg p$ to p must have happened in the immediate neighbourhood of t_0 (in the topological sense). Relevance may or may not be related to expectations, but Löbner sets this aside as a pragmatic issue. Follow-up literature has debated various aspects of this analysis of *already*, including the presuppositional status of the transition, and the duality hypothesis relating *already* to *not yet*, *still* and *not anymore* (Mittwoch 1993, Van der Auwera 1993, Michaelis 1996). Here I go back to Löbner's original work, and the related perspective adopted by Smessaert & ter Meulen (2004), because of the explicit embedding of aspectual particles in a theory of tense and aspect. This squib is concerned with the internal temporal-aspectual structure of sentences involving *already*, and ignores dynamics (Smessaert & ter Meulen 2004), focus readings as in 'he has already written five_[F] papers on *already*' (Löbner 1989, Michaelis 1996, Krifka 2000), comparative uses ('Venlo is already in the Netherlands') (van der Auwera 1993), and interactive uses ('Quel est votre nom déjà?' 'What's your name again?') (Mosegaard-Hansen 2002). The interaction of these other readings with aspect raises questions that are outside the scope of this short paper.

2 Aspectual restrictions on *already*

According to Löbner (1989), aspectual particles scope over an imperfective sentence, that is, a state or an ongoing activity. In contrast, perfective sentences denote events, that have an

inherent endpoint. Löbner and Smessaert & ter Meulen (2004) typically use sentences like (1a) to illustrate the effects of *already*. Their counterparts in German, Dutch and French are similar (1b-d):

- (1) a. She is already asleep.
 b. Das Licht is schon an. [German]
 ‘The light is already on.’
 c. Het regent al. [Dutch]
 ‘It is already raining.’
 d. Il fait déjà nuit. [French]
 ‘It is already dark.’

We can test the aspectual restrictions on *already* by looking at French. Traditionally, the Passé Simple is treated as a perfective past tense, and according to Kamp and Rohrer (1983), Passé Simple sentences denote events. Accordingly, we expect *déjà* to be incompatible with the Passé Simple. This observation has been made as early as Martin (1980: 176) and Hoepelman and Rohrer (1980: 128), and is reflected in the inacceptability of (2a, b). Attested examples of Passé Simple sentences containing *already* are rare, and have a focus reading rather than a temporal interpretation. Example (2c) is from Mogaard-Hansen (2008: 92), who assigns *déjà* a scalar interpretation:

- (2) a. ?* Il descendit déjà l’escalier. [French]
 He descended.PS already the stairs
 b. ?* Il prit déjà un bain.
 He took.PS already a bath
 c. Il naquit déjà en 1900.
 He was-born.PS already in 1900
 ‘He was already born in 1900.’

In contrast, we do expect to find *déjà* in combination with the Imparfait, as we see in (3):

- (3) a. Elle ouvrit la bouche pour lui répondre, mais il descendait déjà les marches du per-
 ron.
 ‘She opened.PS her mouth to answer him, but he was already going (lit: de-
 scended.IMP) the front steps.’
 b. Béa prenait déjà un bain de pied, elle marchait le long du bord sa longue robe à
 fleur remontée jusqu’aux cuisses.
 ‘Bea was already taking (lit: took.IMP) a foot bath, she was walking (lit:
 walked.IMP) along the shore, her long flowered dress pulled up until her thighs.’

The Imparfait is traditionally treated as an imperfective past tense, and according to Kamp and Rohrer (1983), Imparfait sentences denote states or (homogeneous) activities. The English translations of examples (3a, b) are in the Past Progressive, to emphasize that the Imparfait here describes an activity that has started before the reference point. The transition from $\neg p$ to p thus reflects the inchoative reading of the predicate (Muller 1975), in which p corresponds with the ongoing activity of buying or taking a bath. If *déjà* focuses on the state following completion of the event, we need to use the Passé Composé, the counterpart of the English Present Perfect:

- (4) a. Elle a déjà descendu les marches qui mènent au sable.
 ‘She has already done down the steps that lead to the sand.’
 b. Il a déjà pris un bain.
 ‘He has already taken a bath.’

Löbner (1989) already provides well-formed sentences in the Present Perfect with *already*, next to the examples in (1a,b):

- (5) As you expected, the train has already arrived.

However, Löbner has not addressed the compositionality issues related to sentences like (2)-(5), and neither have others after him. This is the puzzle addressed in this squib.

3 The puzzle of aspectual compositionality

Consider the general temporal-aspectual structure in (6), posited by de Swart (1998, 2012):

- (6) [Tense [ASP* [Situation Aspect]]]

The proposition has a particular situation aspect, for instance it denotes a set of states, activities, accomplishments or achievements in the terminology of Vendler (1957). The general term used here for all types of situations is ‘eventuality’. Aspectual operators are optional, but can apply recursively, so ASP comes with the Kleene star, indicating zero, one, or multiple instances. Expressions interpreted in ASP have the semantics of a modifier, so they maps sets of eventualities onto (possibly other) sets of eventualities. There is only one tense operator, and it is obligatory in the languages under consideration here. Tense takes wide scope over situation aspect as well as aspectual operators. It induces existential closure over the set of eventualities, and locates the eventuality with respect to the speech point on the time axis. Aspectual operators include the English Progressive, the perfect operator in various languages, etc. Aspectual operators also include negation and durational adverbs like *for an hour/in an hour*. Here I posit that aspectual particles like *already* are interpreted in ASP.

We can now work out the semantics of a basic example like (2a) as in (7). The compositional structure is as in (7a). The proposition denotes the set of states of her being asleep (7b). The semantics of *already* as applied to a proposition denoting a homogeneous eventuality *h* (a state or an ongoing activity) is spelled out in (7c), with the presuppositional part underlined:

- (7) She is already asleep.
 a. [Pres [already [she be asleep]]]
 b. $\llbracket \text{she be asleep} \rrbracket = \lambda s. \text{She-asleep}(s)$
 c. $\llbracket \text{already}(\lambda h P(h), t_0) \rrbracket = \lambda h [P(h) \wedge \underline{\text{Init}(s) < t_0} \wedge t_0 \subseteq h]$
 d. $\llbracket \text{already}(\text{she be asleep}, t_0) \rrbracket = \lambda s [\text{She-asleep}(s) \wedge \underline{\text{Init}(s) < t_0} \wedge t_0 \subseteq s]$
 e. $\llbracket \text{Pres}(\lambda h P(h)) \rrbracket = \exists h \exists r [P(h) \wedge r \subseteq h \wedge r \text{ 0 now}]$
 f. $\llbracket \text{Pres}(\text{already}(\text{she be asleep}, t_0)) \rrbracket =$
 $\exists s \exists r [\text{She-asleep}(s) \wedge \underline{\text{Init}(s) < t_0} \wedge t_0 \subseteq s \wedge r \subseteq s \wedge r \text{ 0 now} \wedge r = t_0]$

In line with Löbner’s (1989) proposal, *already* is defined in (7c) as a mapping from one set of homogeneous eventualities onto another one. It presupposes that the initial boundary of the

eventuality precedes the perspective point t_0 , and includes t_0 in the homogeneous eventuality.¹ The combination with the proposition in (7b) leads to the semantic representation in (7d). The present tense operator when applied to a homogeneous eventuality, introduces existential closure over the state of being asleep, and introduces a reference point that is included in h and overlaps with the speech time (7e). The presupposition is satisfied if both the reference point and the perspective point t_0 are included in the ongoing situation of her being asleep. I posit an anaphoric dependency of the reference point on the perspective point in the sense that the reference point introduced by the tense operator orients itself to the perspective point of the aspectual adverb. I take ‘double’ orientations, i.e. different temporal locations of r and t_0 in the phasal structure in Figure 1 to lead to semantic incoherence. This anaphoric dependency is added to the final representation of the sentence as a condition that identifies r with t_0 in (7f).

This interpretation set-up works fine for examples like (1), but of course (7) is only the simplest possible case, as it directly embeds *already* under the tense operator. The analysis of the examples in (2)-(5) is more challenging, because they involve grammatical aspect besides *already*. These sentences raises two questions about aspectual composition:

(i) If *already* and *déjà* qualify as aspectual particles and are interpreted in ASP, what is their (scopal) interaction with the perfect in examples like (4) and (5)?

(ii) If de Swart (1998) is right that the French Passé Simple and Imparfait are tense operators that occupy the highest position in the structure in (6), and our current assumption is that *already* is interpreted in ASP, *déjà* takes scope below the Passé Simple/Imparfait. This means that we cannot simply use the perfective/imperfective nature of these tenses to account for the contrast between (2) and (3). So what is the compositional semantics of these sentences?

Questions (i) and (ii) are addressed in Sections 4 and 5 respectively.

4 An aspectual analysis *already*

The main intuition underlying the interpretation of *already* in combination with the perfect is that the presupposition of a transition from $\neq p$ to p is satisfied by the semantics of the perfect as an aspectual operator (Michaelis 1996). According to Kamp & Reyle (1993), the perfect indicates culmination of the event ($\text{End}(e)$ in (8b)), and introduces a consequent state that starts as soon as the event culminates ($\supset\subset$). The present tense operator indicates that the speech time (‘now’) is included in the consequent state (8c):

- (8) The train has arrived.
- a. [Pres [Perf [the train arrive]]]
 - b. $\llbracket \text{Perf}(\lambda e P(e)) \rrbracket = \lambda s \exists e [P(e) \wedge \text{End}(e) \supset\subset s]$
 - c. $\llbracket \text{Perf}(\text{the train arrive}) \rrbracket = \lambda s \exists e [\text{The train-arrive}(e) \wedge \text{End}(e) \supset\subset s]$
 - d. $\llbracket \text{Pres}(\text{Perf}(\text{the train arrive})) \rrbracket =$
 $\exists s \exists e \exists r [\text{The train-arrive}(e) \wedge \text{End}(e) \supset\subset s \wedge r \subseteq s \wedge r \text{ now}]$

¹Löbner’s (1989) representation is more fine-grained, but we don’t need the complexities of his proposal to account for the aspectual puzzle discussed in this squib. The analysis proposed here is close to the semantics of *already* offered by Smessaert & ter Meulen (2004), but includes more detail on internal composition, and lacks the dynamic component relevant for temporal reasoning.

Under the scopal configuration in (9a), application of *already* to the (untensed) proposition in (8c) leads to the semantics in (9b):

- (9) The train has already arrived.
- [Pres [already [Perf [the train arrive]]]]
 - $\llbracket \text{already}(\text{Perf}(\text{the train arrive}), t_0) \rrbracket = \lambda s \exists e [\text{The train-arrive}(e) \wedge \text{End}(e) \supset \text{C} s \wedge \underline{\text{Init}(s) < t_0} \wedge t_0 \subseteq s]$
 - $\llbracket \text{Pres}(\text{already}(\text{Perf}(\text{the train arrive}), t_0)) \rrbracket = \exists s \exists e \exists r [\text{The train-arrive}(e) \wedge \text{End}(e) \supset \text{C} s \wedge \underline{\text{Init}(s) < t_0} \wedge t_0 \subseteq s \wedge r \subseteq s \wedge r \text{ 0 now} \wedge r = t_0]$

(9a) assigns *already* wide scope over the perfect operator, because the perfect ensures the transition that binds the presupposition $\text{Init}(s) < t_0$ introduced by the aspectual particle. The scopal configuration in (9a) also satisfies Löbner's (1989) intuition that aspectual particles apply to unbounded states and activities: the input of the Perfect is an event denoting proposition ('the train arrive'), but the output of the Perfect is a consequent state that can function as the input to *already*.

It might be the case that *already* has to take scope over the Perfect, because the underlying proposition is event denoting. The hypothesis that *already* in fact systematically takes wide scope over the Perfect is confirmed by the interpretation of examples like (10), which involve a state denoting proposition. This sentence cannot mean that she is in Paris now, but necessarily has the reading in which she has completed a trip to Paris in the past, and is now elsewhere. The desired interpretation is

- (10) She has already been in Paris.
- [Pres[already [Perf [she be in Paris]]]]
 - $\llbracket \text{Perf}(\text{she be in Paris}) \rrbracket = \lambda s \exists s' [\text{She-in Paris}(s') \wedge \text{End}(s') \supset \text{C} s]$
 - $\llbracket \text{already}(\text{Perf}(\text{she be in Paris}), t_0) \rrbracket = \lambda s \exists s' [\text{She-in Paris}(s') \wedge \text{End}(s') \supset \text{C} s \wedge \underline{\text{Init}(s) < t_0} \wedge t_0 \subseteq s]$
 - $\llbracket \text{Pres}(\text{already}(\text{Perf}(\text{she be in Paris}), t_0)) \rrbracket = \exists s \exists s' \exists r [\text{She-in Paris}(s') \wedge \text{End}(s') \supset \text{C} s \wedge \underline{\text{Init}(s) < t_0} \wedge t_0 \subseteq s \wedge r \subseteq s \wedge r \text{ 0 now} \wedge r = t_0]$

According to (10d), the stay in Paris has ended, and the perspective point introduced by *already* is in the consequent state of this trip, at the speech time. Under the alternative scopal configuration of (10) in (11a), however, we would derive the incoherent semantics in (11d):

- (11) She has already been in Paris.
- [Pres[Perf [already [she be in Paris]]]]
 - $\llbracket \text{already}(\text{she be in Paris}, t_0) \rrbracket = \lambda s' [\text{She-in Paris}(s') \wedge \underline{\text{Init}(s') < t_0} \wedge t_0 \subseteq s']$
 - $\llbracket \text{Perf}(\text{already}(\text{she be in Paris}), t_0) \rrbracket = \lambda s \exists s' [\text{She-in Paris}(s') \wedge \underline{\text{Init}(s') < t_0} \wedge t_0 \subseteq s' \wedge \text{End}(s') \supset \text{C} s]$
 - $\llbracket \text{Pres}(\text{Perf}(\text{already}(\text{she be in Paris}), t_0)) \rrbracket = \exists s \exists s' \exists r [\text{She-in Paris}(s') \wedge \underline{\text{Init}(s') < t_0} \wedge t_0 \subseteq s' \wedge \text{End}(s') \supset \text{C} s \wedge r \subseteq s \wedge r \text{ 0 now} \wedge r = t_0]$

Under the semantics in (11d), the perspective point t_0 is included in s' , whereas the reference point r is included in s . This implies that the anaphora resolution process leading to identification of r with t_0 results in incoherence. Recall that I assume orientation of the reference point introduced by the tense operator towards the perspective point of *already*, and impose $r = t_0$ as a general constraint on semantic coherence. I take the conflict in (11d) to imply that the

perfect cannot take wide scope over *already*. The discussion of (10/11) shows that the wide scope interpretation of *already* over the Perfect in (9) is not simply due to the event denoting nature of the underlying proposition, but is a systematic feature: *already* never scopes under the perfect operator.

Examples like (12) suggest that *already* also takes wide scope over the English Progressive:

- (12) When he walked in, she was already taking a bath.
- a. [Past [already [Prog [She take a bath]]]]
 - b. $\llbracket \text{Prog}(\text{she take a bath}) \rrbracket = \lambda s. \text{Prog}(\text{she take a bath})(s)$
 - c. $\llbracket \text{already}(\text{Prog}(\text{she take a bath}), t_0) \rrbracket = \lambda s [\text{Prog}(\text{she take a bath})(s) \wedge \text{Init}(s) < t_0 \wedge t_0 \subseteq s]$
 - d. $\llbracket \text{Past}(\text{already}(\text{Prog}(\text{she take a bath}), t_0)) \rrbracket = \exists s \exists r [\text{Prog}(\text{she take a bath})(s) \wedge \text{Init}(s) < t_0 \wedge t_0 \subseteq s \wedge r \subseteq s \wedge r < \text{now} \wedge r = t_0]$

The Progressive is an intensional operator, which operates on activity and event predicates, and returns a state of an event in progress. I refrain from working out the semantics of the progressive, and just leave it opaque as in (12b) (de Swart 1998). I am more concerned with the output of the Progressive as a set of states being the right input for *already* in (12c). Further composition with tense leads to the semantics of (12d). I leave it to the reader to verify that scope reversal would lead to an incoherent semantics similar to (11).

The analysis of the English perfect and progressive carries over to the French Passé Composé, which qualifies as the French counterpart of the Present Perfect. Example (4b) can thus be analyzed as in (13):

- (13) Il a déjà pris un bain.
‘He has already taken a bath.’
- a. [Pres [Perf [il prendre un bain]]]
 - b. $\llbracket \text{Pres}(\text{déjà}(\text{Perf}(\text{il prendre un bain})), t_0) \rrbracket = \exists s \exists e \exists r [\text{He-bathe}(e) \wedge \text{End}(e) \supset c s \wedge \text{Init}(s) < t_0 \wedge t_0 \subseteq s \wedge r \cap \text{now} \wedge r = t_0]$

The scopal configuration in (13a) leads to the semantics in (13b), according to which he is in the consequent state of taking a bath at the speech time (cf. 10d).

As far as I can see, the interaction with the Perfect and the Progressive fits nicely into the compositional approach taken in (6). The discussion of (9)-(13) provides us with the tools to address question (ii) in Section 5.

5 The interaction of *déjà* with the Passé Simple and Imparfait

De Swart (1998) defends the view that the French Imparfait and Passé Simple have a different status than the Perfect and English Progressive: they are not aspectual operators, but aspectually sensitive tense operators. As such, they impose restrictions on the aspectual nature of the proposition they locate in the past: the Imparfait locates homogeneous eventualities in the past (states/ongoing activities), whereas the Passé Simple locates quantized events in the past (accomplishments, achievements). Their status as aspectually sensitive tense operators implies that they are interpreted in the Tense slot of (6), not in ASP. Under the assumption that *déjà* is interpreted in ASP, examples like (2) and (3) are hypothesized to involve wide scope of the

Passé Simple and the Imparfait over *déjà*. But if *déjà* does not operate on a perfective/imperfective sentence in (2) and (3), we have lost the tentative explanation of the contrast between these examples. In the remainder of this section, I will argue that that is correct, but the aspectual composition analysis developed so far explains this contrast in a different way.

Let us start by working out the semantics of the well-formed sentences in the Imparfait like (3), as in (14). Following the hypothesis that the Imparfait is an aspectually sensitive tense operator, it takes wide scope over the proposition modified by *already* (14a). We know that *already* requires a state or an ongoing activity as its input, but of course ‘take a bath’ corresponds with an event, so there is a conflict here. The bath is not completed, as in (13), but rather the meaning of (14) is close to that in (12). It is inherent to the semantics of *already* that it requires inclusion of the perspective point t_0 in the positive phase p . This requires p to have the aspectual character of a state or an ongoing activity. In line with earlier proposals (de Swart 1998), I posit a covert coercion operator C_{eh} that creates a state out of an event, and gets the interpretation of a progressive, as in (14c) (see de Swart 1998 for details on the semantics of coercion operators):

- (14) Elle prenait déjà un bain de pied.
She took.IMP already a foot bath
- a. $[\text{Imp} [\text{already} [C_{eh} [\text{she take a foot bath}]]]]$
 - b. $[\text{elle prendre un bain}] = \lambda e.\text{She-bathe}(e)$
 - c. $[[C_{eh}(\text{elle prendre un bain})] = \lambda s.C_{eh}(\lambda e.\text{She-bathe}(e))(s)$
 - d. $[[\text{déjà}(C_{eh}(\text{elle prendre un bain}), t_0)] =$
 $\lambda s [C_{eh}(\lambda e.\text{She-bathe}(e))(s) \wedge \underline{\text{Init}(s)} < t_0 \wedge t_0 \subseteq s]$
 - e. $[[\text{Imp}(\text{déjà}(C_{eh}(\text{elle prendre un bain}), t_0))] =$
 $\exists s \exists r [C_{eh}(\lambda e.\text{She-bathe}(e))(s) \wedge \underline{\text{Init}(s)} < t_0 \wedge t_0 \subseteq s \wedge r \subseteq s \wedge r < \text{now} \wedge r = t_0]$

The output state of (14d) functions as the input to the tense operator. Given that the Imparfait accepts a state as its input, it can identify the referent point r with the perspective point t_0 , and locate the state in the past. Interestingly, this suggests that the imperfective nature of the French Imparfait as such is not the explanation of the well-formedness of (14), because the Imparfait is not under the scope of *already*. Rather, we need to use the Imparfait because the output of *already* is a state.

The insight that application of *already* to a proposition p results in a set of states or ongoing activities is sufficient to explain the contrast between (2) and (3). Note that the ungrammatical (2b), repeated here as (15), would have the compositional structure in (15a). The most embedded coercion operator (C_{eh}) is inserted to satisfy the aspectual needs of *already* (cf. 14), whereas the second one (C_{he}) creates an event for the Passé Simple to locate in the past. Coercion operators can be freely inserted when needed to satisfy the input requirements of a higher operator, but we see that their combination in (15e) leads to an incoherent semantics:

- (15) *Il prit déjà un bain.
He took.PS already a bath
- a. $[\text{Passé Simple}[C_{eh} [\text{already} [C_{eh} [\text{he take a bath}]]]]]$
 - b. $[[\text{déjà}(C_{eh}(\text{il prendre un bain}), t_0)] =$
 $\lambda s [C_{eh}(\lambda e.\text{He-bathe}(e))(s) \wedge \underline{\text{Init}(s)} < t_0 \wedge t_0 \subseteq s]$
 - c. $[[C_{eh}(\text{déjà}(C_{eh}(\text{il prendre un bain}), t_0))] =$
 $\lambda e' \exists s [\text{Bounded}(C_{eh}(\lambda e.\text{He-bathe}(e))(s))(e') \wedge \underline{\text{Init}(s)} < t_0 \wedge t_0 \subseteq s]$

$$\begin{aligned}
\text{d. } & \llbracket \text{PS}(C_{eh}(\text{d}\acute{e}\text{j}\grave{a}(C_{eh}(\text{elle prendre un bain}), t_0))) \rrbracket = \\
& \exists e' \exists s \exists r [\text{Bounded}(C_{eh}(\lambda e. \text{He-bathe}(e))(s))(e') \wedge \underline{\text{Init}(s)} < t_0 \wedge t_0 \subseteq s \wedge \\
& e' \subseteq r \wedge r < \text{now} \wedge r = t_0]
\end{aligned}$$

On the basis of the structure in (15a), we obtain the semantics in (15b) along the same lines as in (14). Given that we are dealing with a set of states after application of *déjà*, (15b) cannot be the input for the Passé Simple. We have to coerce the set of states into a set of events by means of a coercion operator C_{eh} . The value I choose for C_{eh} in (15c) is that of the event corresponding with a bounded state.² However, application of the Passé Simple operator in (15d) now leads to an incoherent semantics. The semantics of *déjà* requires the perspective point t_0 to be included in the state s , but the Passé Simple includes the event e' in the reference point r . This means that t_0 and r cannot be identified, which leads to an incoherence similar to the one observed in (11). So *déjà* cannot scope under the Passé Simple in (15), just like *already* could not scope under the perfect in (11). Recall that there was an alternative derivation for (11) in (10), in which the perfect was taken to scope under *already*. That alternative is blocked for the French Passé Simple, which, as an aspectually sensitive tense operator, obligatorily scopes above *déjà*. We conclude that the ungrammaticality of examples like (2) have a semantic source in the special aspectual status of the Passé Simple.

6 One more quirk

The aspectual analysis developed in Section 3 provides a natural account of the compatibility of *déjà* with the French Passé Simple and Imparfait. But if we now move our attention back to English and Dutch, we observe that there is yet another puzzling aspectual observation to be made. The literature has mostly focuses on stative sentences, and event sentences in the Present Perfect. This makes sense under the assumption that *already* operates on states or ongoing activities. However, the analysis developed so far does not explain why we frequently find event denoting predicates in combination with the Simple Past in English (16a) that are seemingly very close in meaning to their counterparts with a Present Perfect (16b):

- (16) a. So I already bought my wedding dress. It's a Melissa Sweet Valentina. I bought it at only the second store I visited.
b. One in 10 single British women have already chosen their wedding dress (and one in 4 have already bought one).

The felicity of (16a) is not easy to explain under the standard analysis of *already*. Under the assumption that *already* requires a homogeneous eventuality as its input, the only way to combine the aspectual particle with an event denoting proposition is to introduce a coercion operator C_{eh} as in (17a):

- (17) I already bought my wedding dress.
a. [Past [already [C_{eh} [I buy my wedding dress]]]
b. $\llbracket \text{Past}(\text{already}(C_{eh}(\text{I buy my wedding dress}), t_0)) \rrbracket = \exists s \exists e \exists r [\text{I-Buy-wedding dress}(e) \wedge \text{End}(e) \supset \subset s \wedge \underline{\text{Init}(s)} < t_0 \wedge t_0 \subseteq s \wedge r \subseteq s \wedge r < \text{now} \wedge r = t_0]$

²Alternatively, I could have worked out an inchoative reading, but I leave it to the reader to check that this wouldn't work either.

The structure in (17a) raises the question what semantics to associate with this coercion operator. The most likely meanings for C_{eh} would be a progressive or perfect meaning, but those aspectual transitions are not supposed to be freely available, as they exist as overt grammatical morphemes in English (cf. Moens and Steedman 1988). In line with Fong (2005), who argues that the aspectual particle *already* in Singapore English takes the place of the Present Perfect in that variety of English, the tentative suggestion I want to make here is that the transition presupposed by the aspectual particle is accommodated in configurations like (16a). Accommodation of the culmination of the event as the presupposed transition leads to the semantic representation in (17b). There is one important difference, with the present perfect sentences with *already* analyze in (9) and (10). There, the perspective point t_0 is identified with the reference point r , which the Present Perfect locates at the speech time, but in (17b), the reference point is located in the past. So the contrast between (16a) and (16b) is grounded in the general contrast between Simple Past and Present Perfect. Not surprisingly then, we find examples (16a) in narrative contexts, while (16b) is appropriate when the consequent state has current relevance, as the English Present Perfect cannot be used to tell a story (de Swart 2007).

If all we need to interpret a sentence like (16a) is a contextually relevant reference point, it should also be possible to obtain counterparts to the pluperfect reading with the Simple Past and *already*. This prediction is borne out by examples like (18):

- (18) This doctor already wrote a prescription for antibiotics before he even entered the room to talk to me.

The well-formedness of (16a) and (18) indicates that there is more to say about aspectual compatibility constraints induced by *already* than has been discussed in the literature so far. Whether the tentative analysis proposed in (17) is on the right track remains to be seen once a more indepth empirical investigation of these aspectual configurations has been carried out.

7 Conclusion

This short paper on a puzzle involving *already* is specially dedicated to Martin Stokhof at the occasion of his retirement. The insight that natural language can receive a compositional semantics in a formal framework goes back to Montague (1970, 1974). Martin, Jeroen and Frank spread the ideas of Montague semantics in the Netherlands, and trained many (very many!) students like me in various compositional semantic theories. The idea that compositionality puzzles are not just puzzling, but can actually be solved, and that their solutions provide interesting insights into human cognition became the driving force behind the cross-linguistic semantic research I carried out over the years. I am grateful for the ground they broke for my generation, and the next ones. I thank them for creating (and sustaining) the Amsterdam Colloquium as a national and international meeting point for innovative ideas on semantics. The Dutch logic and language community would not have been what it is now without you, Martin, Jeroen and Frank!

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