**Introduction**

### 1 Goal of the study

- In the acquisition literature, researchers have documented a range of misinterpretations of telic sentences by children.\(^1\)
- No comprehensive analysis of these children interpretations across languages.
- At the surface, these non-adultlike interpretations seem scattered and defy any unified account.

\(^1\) Many thanks for discussions, inputs and collaborative works on related topics to Ingrid Falk, Zsófia Gyarmathy, Jinhong Liu, Christopher Piñón, Antje Rossdeutscher, Florian Schäfer, Hongyuan Sun and Karoly Varasdi. None of them is responsible for any of our mistakes.

**GOAL:** provide a unified account for three non-adultlike, seemingly contradictory patterns (see Table 1) found in early language development.

### 2 Subtypes of non-adultlike interpretation of telic sentences

Three types of non-adultlike interpretations of telic sentences, see Patterns 1-3 in Table 1.

#### 2.1 Pattern 1

Ex: English, truth value judgment task, van Hout et al. (2010; in prep.).

**DESIGN:** The participant is shown a clown building a bridge; when the music stops, the bridge is incomplete.

(1) When the music was playing, the clown built a bridge.

- **Adults** (88%): *false*
- **Children** (84%): *true*
2.2 Pattern 2

Ex: Russian, modified truth value judgment task, Kazanina and Phillips (2007).

**Design:**

- The participant is shown a video where a monkey starts a journey down a road with three different locations L1-L3. It builds a smurf completely at L1, incompletely at L2, and does nothing at L3.
- The test sentence is submitted to the participant:

  (2) Gde obez’yanka sobirala guomika? (Russian)
  
  *‘Where was the monkey assembling the smurf?’*

  Adults (100%): L1, L2
  Children (61%): L1 only

2.3 Pattern 3

Ex: Mandarin Chinese, truth value judgment task, Chen (2005; 2016).

**Design:** the participant is shown a failed-attempt P-action and is then asked to answer the test sentence.

(3) Ayi zhai le pingguo ma? (Mandarin)

  *‘Did aunty do a picking action on the apple?’*

**Results:**

- Adults (100%): *yes*
- Children (80-100%): *no*

Kazanina et al. (2016): ENG learners have been shown to interpret ditransitive send-verbs in perfective sentences as if they entailed a change of state, contrary to the adults (Oehrle (1976), Beavers (2011.).)

2.4 Summary and questions

**Questions**

- Why are English or Dutch learners too permissive with telic predicates?

- .... while Russian learners are too restrictive with the same predicates?

- Not addressed here: Pattern 3.
Table 1: Types of non-adultlike interpretations of telic sentences across languages

<table>
<thead>
<tr>
<th>Pattern</th>
<th>Type of misinterpreted sentence</th>
<th>Type of non-adultlike performance</th>
<th>Child languages concerned</th>
<th>Studies</th>
</tr>
</thead>
</table>

- Focus on English, Spanish, Italian, Russian and Polish.5

Some accounts have appealed to language-independent cognitive principles:

- Gentner’s 1978 ‘MANNER BIAS HYPOTHESIS’: *children have a general bias to include manner and ignore the result information in their semantic representation of verbs.*
  
  - Applied to Pattern 1 in child English by e.g. Gropen et al. (1991).6
  
  - But...
  
    - ... Mandarin children do not exhibit excessive non-culminating event interpretations of perfective telic sentences compared to English or Dutch children of the same age;7
  
    - ...Russian and Polish children very early perform like adults in their interpretation of perfective telic sentences.8

- Behrend’s 1990 ‘RESULT VERB BIAS HYPOTHESIS’: *children have a general tendency to focus on the result information in their representation of verbs.*

- But then, why Pattern 1 in child English/Dutch/Spanish...?

More generally, how could these two opposite conceptual biases can be reconciled? Why one bias wins over the other in a certain language, or for a certain subset of predicates?

3 Proposal in a nutshell: (Un)Markedness hypothesis

CLAIM: the account of children’s non-targetlike interpretations of telic sentences should be sensitive to language-specific configurations, specifically, on the way linguistic forms compete in each language.

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5 ...with the hope that the hypothesis can extend to other languages investigated in van Hout et al. 2010, in prep., incl. Dutch, Greek, Estonian, as well as to Mandarin Chinese.

6 Wittek (2002) proposes a variant of this bias that she calls the ‘WEAK ENDSTATE HYPOTHESIS’, according to which children tend to interpret German (telic) change of state verbs like wecken ‘wake up’ as trying to wake up, that is, as mainly describing an action performed in view of triggering a change of state. In child languages, the change of state is therefore implied rather than entailed by the verb.

7 Chen 2016:9.

Our three-fold hypothesis\(^9\) outlined in (4) and Figure (1):

\begin{tabular}{|l|l|l|}
\hline
Language & Unmarked form & Marked form \\
\hline
& Default interpretation & Auxiliary interpretation & Invariant interpretation \\
\hline
Adult English & Telic VPs in their perfective form & Telic VPs in their imperfective form & \\
Adult Spanish & Complete event & Incomplete event & Incomplete event \\
Adult Italian & Complete event & Incomplete event & Incomplete event \\
Adult Dutch & Telic VPs in their imperfective form & Telic VPs in their perfective form & \\
Adult Russian & Incomplete event & Complete event & Complete event \\
Adult Polish & & & \\
\hline
\end{tabular}

\(\text{Figure 1: locus of children non-adultlike interpretations of telic sentences (in gray)}\)

\(^9\) The idea has been previously discussed in van Hout (2008:1754) and van Hout et al. (2010, in prep).

\(\text{(UN)MARKEDNESS HYPOTHESIS}\)

(4) a. In every language, the \textbf{locus of children’s non-targetlike interpretations} of telic sentences is always an \textbf{unmarked form}, with a main/salient/most frequent interpretation \textit{and} a peripherical/auxiliary interpretation;

b. non-targetlike interpretations of telic sentences result from an \textbf{overgeneralization of the auxiliary interpretation} of this unmarked form, which is \textbf{contextually more restricted} than the default interpretation of this form;

c. children’s overgeneralization of the auxiliary form reflects their \textbf{immature command of the pragmatic reasoning} responsible for the adultlike interpretation of the unmarked form.

- It has been independently shown that children fare better with the semantic than the pragmatic content of linguistic expressions.\(^{10}\) \(\Rightarrow\) That unmarked forms raise more difficulty for children than marked forms is not surprising.

- \(\Rightarrow\) Children’s over-extension of the auxiliary interpretation does not always illustrate the same lack of pragmatic competence. In our account, non-adultlike Patterns 1 and 2 have their source in

- a ‘blindness’ to the contextual (incl. lexical) restrictions bear-

\(^{10}\) See e.g. Katsos (2014) for an overview, as well as Chierchia et al. (2001), Gualmini et al. (2001), Noveck (2001).
ing on the (auxiliary) imperfective interpretation of the default perfective morphology (English simple past)...

- An overpermissiveness for the (auxiliary) non-maximal reading of definites (the glasses >> some of the glasses) (English, Spanish, Italian telic VPs).

- or a difficulty to accommodate a discourse referent for the reference time (Russian imperfective).

- ~ Variety of sources, that nevertheless all reflect a ‘blindness’ to the (often subtle) interactions between the semantic and pragmatic components of unmarked forms.

**Pattern 1: Excessive incomplete event interpretations**

**LANGUAGES CONCERNED** (see a.o. Figure 3):
Among the 13 languages investigated in van Hout et al. (2010, in prep.), Pattern 1 is¹¹

- most salient in English, but also found (to a less extent) in Dutch, Italian, Spanish

- virtually absent from Russian, Serbian, Croatian or Polish¹²

**TELIC PREDICATES CONCERNED** (see Figure 4):
Incomplete event interpretations for perfective telic sentences are much more widespread with (non-particle) incremental theme verbs (eat/draw an apple, fill the glass) than with particle verbs and non-incremental theme predicates (close the door, break the glass, kill the mouse).¹³

- Child English stands out in the set of languages reviewed in Figures (2), (3) and (4) in that it features incomplete event interpretations even with non-incremental theme verbs (although to a much less extent than with incremental theme verbs);

- for incremental theme verbs (and in particular the subset of consumption verbs)¹⁴, even adults show a high number of incomplete event interpretations for perfective telic sentences.

  - Tendency very well established for adult English¹⁵ although less in studies that overtly contrast IMP with PFV (favouring a one-to-one matching between forms and interpretations)¹⁶

  - Less studies using ‘non-contrasting’ tasks for other languages.

**CLAIMS FOR ADULT ENGLISH:**

— van Hout (1998): 75% of English-speaking adults interpret perfective sentences with consumption verbs and a definite incremental theme (He ate his cheese) as true in an incomplete event situation.

— O’Bryan (2004): 13/16 English-speaking adults interpret similar sentences (e.g. The man drank the beer) as true in the same situation.

¹¹ See also van Hout (submitted; s) for a recent overview.


¹⁴ Cf. van Hout et al. 2010, in prep.
standard assumption: With non-stative predicates and in non-generic contexts, the English simple past (SP_{EN}) is a standard perfective (requiring completion), and not only maximality as e.g. the Hindi perfective as analysed by e.g. Altshuler (2014).\textsuperscript{17}

Incomplete event readings of incremental theme verbs in English stem a.o. from the non-maximal vague interpretation of the determiner in the incremental theme DP.

Claim for child English: excessive incomplete event readings of perfective telic sentences have two different sources:

- With stative predicates or in generic contexts, SP_{EN} has truly imperfective readings.
  Children fail to grasp these contextual restrictions bearing on the imperfective readings of SP_{EN}.

- children are overpermissive with non-maximal readings of quantized DPs.\textsuperscript{18}

4 Unmarked perfective: English

Question: why child English instantiates Pattern 1 more than child Dutch, Spanish, Italian...? Why do we find this pattern even with non-incremental theme verb in child English only?

4.1 A key difference between the default PFV morphology in ENG vs. SP/IT/FR

- SP_{EN} entails completion with (non incremental theme) telic predicates:

  (5) Mary walked to school # and she’s still walking. (Smith (1991, 64)

- But SP_{EN} is well-known to have imperfective readings with stative predicates (Comrie (1976), Smith (1991)).\textsuperscript{19}

  (6) There was a bar at the corner... and it is still there. (Schaden (2011)

(7) When I visited him, Peter was sick.\textsuperscript{20}

  a. OK \( \tau(s) \) includes \( t \);

  b. OK \( t \) includes \( \tau(s) \).

- Also, SP_{EN} can receive imperfective reading with non-stative predicates in generic/habitual sentences, see e.g. Boneh & Doron 2013

\textsuperscript{17} See the Appendix for arguments.

\textsuperscript{18} Caponigro et al. (2012), Tieu et al. (2015)

\textsuperscript{19} ‘Non-stative perfectives present events as closed [terminated, completed] (...) stative sentences with the perfective viewpoint (...) are flexible in interpretation. (Smith (1991, 170)

\textsuperscript{20} It may be that reading b. requires the (overt or covert) presence of a durative adverbial.
(8) Ruti was such a modest person. She went to work by bus.

• On all these points, \( SP_{EN} \) is different from the default perfective morphology (\( PFV_{RO} \)) in Romance languages,\(^{21}\) as noted by e.g. Schaden (2011) for French:

(9) Hubo un bar en la esquina, # y todavía sigue allí. 
There-be-PFV-3SG a bar at the corner and still is there 
‘There was a bar at the corner, and it is still there.’

(10) Ruti era una persona tan modesta. # Se fue al trabajo en bus. 
Ruti be-IMP-3SG a person so modest she go-PFV-3SG to the work in bus 
Intended: ‘Ruti was such a modest person. She went to work in bus.’

(11) Cuand fue a su casa Pedro estuvo triste. 
When go-PFV-1SG at his place Pedro be-PFV-3SG sad 
‘When I visited him, Pierre was sad’

(Roughly) same facts in Italian and French:

(12) C’è stato un bar all’ angolo, # ed è ancora lì. (ITALIAN) 
There-be-PFV-3SG a bar at the corner and is still there 
‘There was a bar at the corner, and it is still there.’

(13) Il y a eu un bar au coin... # et il y est encore. (Schaden (2011)) 
There be-PFV-3SG a bar at the corner and it be-PST-3SG still 
‘There was a bar at the corner, and it is still there.’

(14) Quand je suis passé chez lui, Pierre a été malade. 
When I go-PFV-3SG at his place Pierre be-PFV-3SG sick 
‘When I visited him, Pierre was sick’

a. # \( \tau(s) \) includes \( t \);
b. \( t \) includes \( \tau(s) \).

(15) Ruti était une personne si modeste. # Elle est allée travailler en bus. 
Ruti be-IMP-3SG a person so modest she go-PFV-SG work in bus 
‘Ruti was such a modest person. She went to work in bus.’

4.2 Semantics of \( SP_{EN} \) vs. \( PFV_{ROM} \)

See Appendix for the details.

<table>
<thead>
<tr>
<th>Has perfective reading?</th>
<th>ENG simple past</th>
<th>SP simple past</th>
</tr>
</thead>
<tbody>
<tr>
<td>Has imperfective reading?</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>↓</td>
<td>Unmarked form</td>
<td>Marked form</td>
</tr>
</tbody>
</table>

Table 2: Marked vs. unmarked default perfective morphology in English vs. Spanish
4.3 Back to child English

HYPOTHESIS:

- English learners are aware that $\text{SP}_\text{EN}$ has both perfective and imperfective interpretations;
- however, they are unable to grasp the contextual restrictions bearing on its imperfective reading;\(^{22}\)
- $\rightsquigarrow$ they over-extend this reading to contexts where $\text{PAST}_\text{EN}$ is a perfective, like in dynamic non-generic sentences.
- This accounts for why Pattern 1 is exhibited in child English even for non incremental theme verbs.
- (Spanish (and to a lesser extent Italian, see below) learners enjoy an easy one-to-one setting from perfective morphology to meaning.)

5 Non-maximal reading of (in-)definites

This, however, does not explain yet why non-targetlike incomplete event interpretations show up more often with incremental theme verbs than with non incremental theme verbs (in both adult and child languages.)

5.1 Definition

A subtype of quantized DPs — definites — is well-known to give rise to so-called non-maximal readings.
- This reading has mostly been studied for plural definites.\(^{23}\) Under this reading, not all entities within the salient set of Ns satisfy the predicate.\(^{24}\)

(16) The townspeople are asleep.

(17) The glasses are dirty.

- Non-maximal readings have also been observed for singular definites.\(^{25}\)

(18) The book is intelligently written.

(19) The sky darkened in an hour, but it wasn’t completely dark.\(^{26}\)

(20) Peter ate a/the pizza.

- Piñón (2006), Piñón 2005; 2009: not only the, but also a can be used in a ‘vague’ way. He treats them as applying to a nominal predicate $P$ and a verbal predicate $R$, with allowance for a degree argument. E.g.:

\(^{22}\) That is, that it appears only with stative predicates and/or in generic sentences.

\(^{23}\) Brisson (1998), Lasersohn (1999), a.o.

\(^{24}\) For instance, Lasersohn (1999) observes that (16) seems true even if not all townspeople are asleep. Also, Yoon (1996) notes that (17) is judged true in a situation such that only 3 out of 6 glasses are dirty (while the judgment is different with clean). Krifka (1996) emphasizes the role of the context in the licensing of the non-maximal reading. Malamud (2012) shows how much its availability depends on the goals of the speaker and the hearer.

\(^{25}\) Krž (2015, 23) (about (18)): ‘one can surely say that a book is intelligently written even if some passages contain a blunder when those don’t detract from the point that it’s worth reading.’

\(^{26}\) Kennedy and Levin (2008): [‘the sky’ in (19)] is ‘interpreted imprecisely, allowing for the possibility that the verbs do not apply to subparts of the objects that the descriptions are used to refer to. In other words, what is denied in the second conjunct of (19) is that all parts of the sky are dark [...]’
(21) $a \sim \lambda P \lambda R \lambda d \lambda e[\exists y [R(e, d, y) \land P(y)]]$.

- Some subtype of quantized DPs do not allow for non-maximal/vague interpretations:
  - ‘very precise’ cardinal quantifiers (three and a half apples, 465 apples)
  - universal determiners (all the apples)
  - DPs with whole (a/the whole apple)

- Some subtype of quantized DPs disprefer (but arguably do not completely block) non-maximal/vague interpretations:
  - cardinal quantifiers with a ‘coarser’ interpretation (cp. twenty students and twenty seven students)

5.2 How non-maximal/vague readings of DPs affect the interpretation of incremental VPs

Fact. In languages with (in)definite determiners licensing non-maximal/vague readings, the complete event interpretation of incremental verbs under their perfective form depends on the maximal/vague reading of their incremental theme.

Proposal: Some incomplete event interpretations of perfective incremental accomplishments originate from the non-maximal/vague reading of their incremental theme.

- Despite this connection, few studies relate partitive interpretations of perfective telic predicates and the non-maximal reading of quantized NPs.
- A counter-example is Piñón (2006; 2009), who proposes that partitive (incomplete event) interpretations of incremental accomplishment verbs partly depend on the fact that their incremental theme is regularly interpreted in a vague way.

5.3 Predictions for in adult English

- The proposed hypothesis predicts that incomplete event interpretations...
  - ...are much less frequent—and in fact quasi-non-existent—with non-incremental causative verbs (blow out the candle) in English, but also in many other Germanic and Romance languages.  

27 Cp. (16) with (Lasersohn 1999):
(i) All the townspeople are asleep.

28 Piñón (2006) analyses whole as introducing a condition that the individual described participates in the measuring-out relation above fully, i.e. to degree 1. Therefore, if combined with eat, whole restricts the value of $d$ to be 1, whereas if whole is absent, no such restriction is imposed.

29 Cf. Krifka 2002, 2007, who assumes the following pragmatic tendency for measurement terms: VAGUENESS: ‘measurement terms are preferably interpreted in a vague way’

30 E.g. in a ‘failed-attempt’ situation, adults reject the perfective form of open, close, blow out in virtually all languages tested in van Hout et al. (2010; in prep.).
• should be more frequent with the than with two, and even less there with two and a half than with two.

• see Ogiela (2007), Ogiela et al. (2014): perfective sentences with eat/drink and a cardinal number (He ate two cookies) are judged less often true in an incomplete event situation than with a definite (He ate the cookies).

• are more frequent with eat than with build:

   • See Ogiela et al. ibid: perfective sentences with build/fix and a definite (He built the houses) are judged less often true in an incomplete event situation than the same sentences with eat/drink (He ate the cookies).

The choice between maximal or non-maximal readings is heavily driven by contextual parameters, relating a.o. to the speaker’s and hearer’s goals:

* whether the agent ate his sandwich completely or not is generally not highly relevant for the speaker and hearer’s goals;
* whether a house has been completely built or not is generally highly relevant (as it can often be inhabited in the first case only).

...hence the weak tendency to endorse an incomplete event interpretation more often with eat the apple than with build the house.

5.4 Facts accounted for in child English

• Reminder: English children have excessive (non-adultlike) incomplete event interpretations of telic sentences, especially with incremental verbs.

• Our proposal: this is partly due to the independently well-documented children’s overpermissive with non-maximal readings for certain types of quantized NPs.

• Example from Caponigro et al. (2012): Act-Out task to assess plural definition description with 4 to 7 year-old children vs adults:

(22) Give me the things in the bucket

Results:

• 4- and 5-year olds do not initially interpret plural definites maximally;
• they begin to do so by 6 to 7 years of age, at which point their responses are similar to those of adults.
• We speculate (!) that children might show the same over-tolerance for non-maximal readings with *singular* definite (*the sky*) and indefinite (*a cookie*).

• This would explain that in child English, excessive *incomplete event interpretations* are more often found with incremental verbs, included with a singular definite and indefinite incremental theme DP (since the complete event interpretation a.o. depends on the maximal reading of the quantized incremental theme DP).

6 Marked perfective morphology: Spanish, Russian

QUESTIONS:

1. Why other child languages exhibiting Pattern 1 do so for *incremental theme verbs* only?
   – Focus on child Italian and Spanish

2. Why is Pattern 1 not instantiated in child Russian and child Polish with any subtype of verbs?

3. Why does Pattern 1 seem more salient in child Italian than in child Spanish?\(^{35}\)

6.1 Languages with a marked perfective, but with non-maximal readings for the incremental theme DP: Spanish

The default perfective morphology in Spanish (PFV\(_{SP}\)) — the *preterito simple* — does not have imperfective readings (see above) or Hindilike perfective readings (see Appendix).\(^{36}\)

\(\Rightarrow\) Pattern 1 occurs in child Spanish *only* with verbs whose incomplete event readings can be exclusively rooted in the non-maximal interpretations of quantized DPs among children, that we assume to be similar across child English, Italian and Spanish.

6.2 Languages with a marked perfective, and without non-maximal readings for the incremental theme: Russian, Polish

REMINDER: Pattern 1 is not instantiated in child and adult Russian or Polish with any subtype of verbs.\(^{37}\)

MARKED PERFECTIVE

PFV\(_{RU}\) is marked and invariably requires completion (see refs. below).

(23) Ivan s’el buterbrod, # no kusochek ostavil.
    Ivan eat.PST sandwich, but piece left
    ‘Ivan ate (all of) the/a sandwich, but left a piece.’

\(^{35}\) This tendency is documented by the preliminary data provided in van Hout et al. (2010; in prep.), but still has to be confirmed yet.

\(^{36}\) Italian and Spanish differ in the type of tense/aspect morphology used by default to express perfective aspect. (North) Italian is similar to standard French in that the present perfect form (*perfetto composto, passé composé*) is the unmarked form used to express perfectivity, cf. e.g. Squartini and Bertinetto (2000)). (Peninsular) Spanish is different. The Spanish simple past (*pretérito simple*) is the unmarked perfective form. The Spanish present perfect (*pretérito compuesto*) is similar to the English present perfect in that it is used to refer to past events with current relevance, and is in principle excluded in several contexts, e.g. in presence of localizing temporal expressions like *yesterday* (see e.g. Schaden (2009)). In practice, however, it has been observed that the *perfecto compuesto* seems to lose its current relevance value, and tends to be also used as an unmarked aorist (Detges (2004)).

The same is true of the Polish perfective morphology.\textsuperscript{38} 
\textsuperscript{38} See e.g. Frackowiak (2015) and references therein.

Similarly to Spanish children, Russian and Polish children enjoy an easy one-to-one setting from perfective morphology to meaning.

\textbf{NO DETERMINER WITH (NON-)MAXIMAL READINGS}

Moreover, Russian, like Polish or Czech, does not have a grammaticalized definite or indefinite article.\textsuperscript{39} 
\textsuperscript{39} See Filip (2007; 2008) a.o.

Completion is therefore exclusively encoded by PFV, and not via (in)definiteness; incomplete event readings derived from existential/non-maximal readings of the determiner are therefore excluded for these languages.

We therefore expect Pattern 1 not to be exhibited in child (and adult) Russian, even with incremental verbs.\textsuperscript{40} 
\textsuperscript{40} Note that this analysis sheds some light on the assumption, endorsed by e.g. Borer (2005), that the definite article in Germanic languages and the perfective aspect in Slavic have the same role of expressing totality. An obvious argument against this view is that while definiteness licenses non-maximal readings in the domain of entities, the Slavic perfective does not license these readings in the domain of events.

\section*{6.3 When the perfect enters the competition}

Among languages with a marked perfective, some seem to instantiate Pattern 1 with incremental verbs more strongly than others.

Example: van Hout et al.’s 2010 preliminary results tend to suggest that the incomplete event interpretation of perfective telic sentences is more frequent in child Italian than in child Spanish.

\textbf{RELEVANT DIFFERENCES} between the past aspectual system in IT/FR and EN/SP:

\begin{table}[ht]
\centering
\begin{tabular}{|l|c|c|}
\hline
\textbf{LG} & \textbf{default PFV=perfect?} & \textbf{Has a perfect progressive?} \\
\hline
Spanish & No & Yes \\
English & No & Yes \\
French & Yes & No \\
Italian & Yes & No \\
\hline
\end{tabular}
\caption{Some differences in the past aspectual system of Spanish, English, French and Italian}
\end{table}

- the default PFV\textsubscript{IT/FR} morphology (passé composé/perfetto composto) is a perfect.

- The perfect has a default perfective reading, but can also have a (marked) imperfective reading:\textsuperscript{41} 
\textsuperscript{41} Cf. Schaden (2007) and references therein for French. The imperfective reading of the present perfect is called ‘universal’ or ‘continuative’, whereas the perfective one is called ‘existential’.

\begin{enumerate}
\item Ce matin j’ai corrigé les copies. (existential reading)
\begin{flushright}
‘This morning I’ve graded the copies.’
\end{flushright}
\item Depuis ce matin j’ai corrigé les copies. (universal r.)
\begin{flushright}
‘Since this morning I’ve been grading the copies.’
\end{flushright}
\end{enumerate}

- Under this reading, the perfect of languages like Italian and French can cover the imperfective use occupied by the present perfect progressive in languages like English or Spanish.

- Confirmed by the fact that the default PFV\textsubscript{FR/IT} is precisely \textbf{very often} used to \textbf{translate} the English \textbf{present perfect progressive}
in corpora, see e.g. Figure 5, and (26) (from the Europarl Corpus).

**Contextual Restrictions**
- Arguably in restricted contexts only (e.g. in presence of *since-* adverbials and/or adverbials like *without interruption*).

(26) a. Since 2007, the Community and Ukraine **have been negotiating** an Association Agreement. (ENG Europarl)

b. Desde 2007, la Comunidad y Ucrania **han venido negociando** un Acuerdo de Asociación. (SP transl.)

c. Dal 2007 la Comunità e l’Ucraina **hanno negoziato** un accordo di associazione. (IT transl.)

**Lexical Restrictions**
- The universal reading of the PC is probably more common with atelic predicates.
- But it is also be compatible with **incremental theme** telic verbs, see e.g. (27).

(27) J’ai nettoyé l’appartement depuis ce matin!
- I’ve cleaned the flat since this morning
- ‘I’ve been cleaning the flat since this morning.’

- However, the PC in its continuative reading is not acceptable with non-incremental theme accomplishments (FR *open the door*) or with (quasi-)achievements:

(28) (?)J’ai tué un moustique depuis 10 minutes
- ‘Ten minutes ago, I killed a mosquito.’
- NOT: ‘I’ve been killing a mosquito for 10 minutes’

(29) (?)On a cassé la porte depuis 10 minutes
- ‘We broke the door ten minutes ago.’
- NOT: ‘We’ve been breaking the door since 10 minutes.’

<table>
<thead>
<tr>
<th>perfect&lt;sub&gt;FR&lt;/sub&gt; has PFV reading?</th>
<th>with increm. ACC</th>
<th>with non-increm. ACC/ (quasi)-ACH</th>
</tr>
</thead>
<tbody>
<tr>
<td>perfect&lt;sub&gt;FR&lt;/sub&gt; has IMP reading?</td>
<td>Yes (in cert. C)</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>↓ Variant use</td>
<td>↓ No</td>
</tr>
<tr>
<td></td>
<td>Invariant use</td>
<td></td>
</tr>
</tbody>
</table>

Table 4: Marked vs. unmarked default perfective morphology in English vs. Spanish
HYPOTHESIS:

- Italian and French learners tend to allow more incomplete event interpretation for incremental theme verbs with the default PFV_{IT/FR} morphology, for the latter has imperfect readings with these verbs.
- Spanish learners show less of this tendency, for, the default PFV_{SP} does not have perfect uses. 
  \rightarrow it is less ambiguous and therefore easier to acquire.

Pattern 2: excessive complete event interpretations

REMINDER: Pattern 2 = too many complete event interpretations for imperfective telic sentences.

7 Unmarked imperfective: Russian and Polish

- Child Russian clearly instantiates this pattern, see Kazanina and Phillips (2007); child Polish shows the same tendency too, see Van Hout (2005), van Hout (2008).

HYPOTHESIS: the saliency of Pattern 2 in child Polish/Russian is due to the fact that IMP_{RU/PO} is semantically unmarked and has both imperfective and perfective interpretations (with a preference for the former), see Grønn (2008) on Russian, Frackowiak (2015) on Polish.

7.1 The imperfective in child Russian: Kazanina and Phillips (2007)

- Kazanina and Phillips (2007) used a truth-value judgment task to examine the comprehension of imperfective sentences with incremental creation (Exp. 1) and change-of-state (Exp. 2) predicates by 3-6 years old Russian children.

  EXP. 1/2: the agent who had an opportunity to carry out the same event three times (e.g. build a smurf) once at each of three locations, and performed it completely at one location, partially at another location and not at all at the remaining location.

  RESULTS OF EXP. 1/2:

  - Unlike adults who chose both the complete and incomplete location in response of the imperfective question, e.g. (2), 61% of the
children failed to associate the imperfective with an incomplete event.\footnote{Note that the experimenter explicitly invited the subjects to point to all locations making the sentence true (all where-questions were accompanied by a follow-up question asking if the described situation was satisfied anywhere else in order to ensure that the task targeted all potential interpretations of the aspectual operator, rather than just its preferred interpretation).}

(30) Gde obez’yanka sobrala gnomika?  
Where monkey assemble-PFV smurf  
‘Where has the monkey assembled the smurf?’

(31) [(2)] Gde obez’yanka sobirala gnomika?  
Where monkey assemble-IMP smurf  
‘Where was the monkey assembling the smurf?’

- EXP. 3/4: essentially differed from previous ones in that the test sentence contained an overt temporal modifier clause (a \textit{while}-clause providing an explicit reference time $t$ for the main clause; e.g. (32)).

(32) Poka mal’chik polival cvety, devochka vytiral stol.  
while boy water-IMP-3SG flowers girl clean-IMP-3SG table  
‘While the boy was watering the flowers, the girl was cleaning the table.’

- RESULTS: the children then succeeded in accepting the imperfective sentences with incomplete events, even when they had previously failed to do so in Exp. 1 or 2!
- QUESTION: Why does the presence of the \textit{while}-clause dramatically improve children’s performance in the interpretation of IMP\textsubscript{RU}?

7.2 The imperfective in adult Russian: an unmarked aspe c tual form

1. Some assumptions about IMP\textsubscript{RU} (Grønn (2008) a.o.)
   - IMP\textsubscript{RU} is the unmarked aspe c tual form in the Russian system;
   - IMP\textsubscript{RU} receives both imperfective and perfective interpretations.
   \[ \leadsto \text{IMP}_{RU} = t \subseteq e \lor t \supseteq e, \text{ see e.g. Grønn (2008), Grønn (2014).} \footnote{In favour of this analysis of IMP\textsubscript{RU} as underspecified, note that 100 \% of Russian adults tested in Kazanina and Phillips (2007) accepted imperfective sentences with both complete and incomplete events (Exp. 1&2).} \]
   - Clearly, however, the incomplete interpretation is unmarked and forms the \textbf{Hauptbedeutung} of IMP\textsubscript{RU}.

2. Grønn (2008) formally captures the (often subtle and complex) way through which IMP\textsubscript{RU} is in context-sensitive competition with PFV\textsubscript{RU} in a version of bidirectional optimality theory\footnote{Cf. Blutner 1998, 2000.} enriched with a contextual parameter.

3. Crucial point for us: Grønn expects the incomplete event interpretation of IMP\textsubscript{RU} to be easier to get for the hearer in presence of an overt element providing a discourse referent for $t$, like a \textit{while}-clause, than in absence of such element.\footnote{This perfectly fits with Kazanina and Phillips’s 2007 observation about child Russian!}
4. Why a *while*-clause makes the incomplete event interpretation easier to get?

- In order to rank meanings independently of forms, Grønn adopts a single and general constraint for the hearer: 46

(33) “Do not accommodate!”

- If a *while*-clause is present, it provides a discourse referent \( t \) for the reference time in the aspectual relation \( t \subseteq e \).
  \( \Rightarrow \) no need to construct one through accommodation to get this interpretation.

- If it is not present, only the overt past tense morpheme of the sentence provides a value for the reference time \( t \).
  This interval \( t \approx \) “the whole past preceding the utterance time”.
    - this large interval perfectly fits the need for the complete event interpretation \( e \subseteq t \).
    - ...but it is too big for the incomplete event interpretation \( t \subseteq e \!

* \( \Rightarrow \) this interpretation requires *accommodation of a time \( t \) referring to ‘some point in the past’.
* This interpretation is, therefore, dispreferred (although possible), because it violates the hearer’s constraint “Do not accommodate!”.

**PROPOSAL:**
Russian children’s inability to associate IMP \( RU \) to the incomplete event interpretation in absence of a *while*-clause only stems from their inability to accommodate a discourse referent \( t \) needed for this interpretation.
\( \Rightarrow \) they stick with the big interval provided by the past tense morpheme...
... and get the complete event interpretation only.

**ADDITIONAL ARGUMENT:** That young children have problems with interpretations requiring accommodation has been proposed before for other types of expressions. 47

\( \Rightarrow \) The incorrect disambiguation by Russian children of IMP \( RU \) in absence of a temporal locating adjunct may reflect a more general pragmatic difficulty, namely a failure to construct discourse referents not overtly provided by the discourse, but nevertheless taken for granted in the context of the speaker.

46 Also known as “*new*” or “avoid introduction of new discourse referents”.

47 Example: Krämer (2000) about the interpretation of indefinites by Dutch children, who argued that children have difficulties interpreting indefinites as free variable because this interpretation requires accommodation, and tend to interpret them instead as predicates.
8 Marked imperfective: adult Italian, Spanish, French

8.1 No truly perfective interpretation for the Romance imperfective

- For languages that have an imperfective morphology with a marked, invariant semantics, we expect children to perform better than Russian and Polish children with the imperfective morphology48

<table>
<thead>
<tr>
<th>ASSUMPTION about IMP&lt;sub&gt;IT/SP/FR&lt;/sub&gt;:</th>
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</thead>
<tbody>
<tr>
<td>(IMP, e ⊆ t) is not generated by the grammar of Spanish, Italian or French.</td>
</tr>
<tr>
<td>IMP&lt;sub&gt;ROM&lt;/sub&gt; invariably conveys imperfectivity 't ⊆ e' and has no truly perfective readings, contrary to IMP&lt;sub&gt;RU&lt;/sub&gt;.</td>
</tr>
</tbody>
</table>

See also Grønn (2008) on French.

- Paradigmatic cases: t ⊂ e., cf. (34).49

- But proper parthood is too strict for the so-called narrative reading of IMP<sub>ROM</sub>.50

- With Grønn (2008), we assume that under this reading, e = t, cf. e.g. (35)

(34) Quand je suis passé chez eux de 16 à 20 heures, Pierre écrivait une lettre.  
When I am passed at them from 16 to 20 hours Pierre write-IMP-3SG a letter  
‘When I visited them from 4 to 8 PM, Peter was writing a letter.’

(35) Le lendemain, à midi pile, Pierre trouvait une solution au problème.  
The day after at noon sharp Pierre find-IMP-3SG a solution to the problem.  
The day afterwards, at noon sharp, Peter found a solution to the problem.

The contrasts below show that the range of interpretations for IMP is larger in Slavic than in Romance: ‘strictly perfective’ readings (‘e ⊂ t’) are attested in Slavic, but not in Romance.51

(36) Ivan segodnja chinil komputer! (RUSSIAN)  
Ivan yesterday repair-IMP-3SG komputer  
‘Ivan repaired a computer yesterday’.

(37) Naprawiałem kiedyś moj komputer i wiem, jak to sie robi. (POLISH)  
I repair-IMP-3SG one time my computer and I know how to do this  
‘I repaired my computer once and I know how to do this.’

(38) Riparavo il mio computer la settimana scorsa e io so come farlo (ITALIAN)  
I repair-IMP-3SG the mine computer the week past and I know how do-it  
‘I repaired my computer once and I know how to do this.’

48 ...Since by hypothesis, adult-like interpretations are more easily acquired for marked aspectual forms than for unmarked ones.

49 This example is typically interpreted such that Peter’s letter-writing event is not finished at the end of the speaker’s visit yet (the reference time t provided by the when-clause). This sentence is false in a situation where Pierre finished writing his letter in his room at 16:30.


51 Example (37) is from Frackowiak (2015), and (39) from Grønn (2008).
(39) Ty segodnja obedal v restaurante! (RUSSIAN)
you today have-dinner-IMP-2SG in a restaurant
‘You had dinner in a restaurant today!’

(40) #Cenabas en un restaurante hoy! (SPANISH)
Have-dinner-IMP-2SG in a restaurant today
‘You were having dinner in a restaurant today!’

8.2 Acquisition studies on the interpretation of IMP in child Italian and Spanish

- ‘Truly perfective situations’ are to our knowledge not tested for Romance languages. 52
- A potential exception: van Hout (2008), who conducted an experiment on some points similar to those of Kazanina and Phillips on child Italian vs. child Polish.
- Conforming to our expectations, the preference Polish 3-years-old showed for the complete event interpretation of IMP is not found among Italian children.

9 Conclusions

Children are great semanticists!

10 References


Appendix

10.1 Semantics of PFV\textsubscript{EN} vs. PFV\textsubscript{ROM}

**PFV\textsubscript{EN} and states.** The most natural interpretation of (7) confirms the traditional view that the combination of SP\textsubscript{EN} and a state may result in an imperfective reading. Consider the analysis of Pierre was sick in (7) (ignoring tense):

- \([\text{Pierre be- sick}] \Rightarrow \lambda s. \text{sick}(s, \text{pierre})\)
- \(\text{IMPFV} \Rightarrow \lambda P \lambda t. \exists s (t \subseteq \tau(s) \land P(s))\)
- \([\text{IMPFV} [\text{Pierre be- sick}]] \Rightarrow \lambda P \lambda t. \exists s (t \subseteq \tau(s) \land P(s))(\lambda s'. \text{sick}(s', \text{pierre})) = \lambda t. \exists s (t \subseteq \tau(s) \land \text{sick}(s, \text{pierre}))\)

Also, this explains the fact that the cessation inference triggered in the first clause of (6) is defeasible.\(^{53}\)

**PFV\textsubscript{ROM} and states.** How can we account for the contradiction of (13) and the interpretation of (14)? Does it suffice to assume that the PFV\textsubscript{ROM} is a standard perfective?\(^{54}\)

\[(41) \ ['PFV'] = \lambda P \lambda t \exists e [\tau(e) \subseteq t \land P(e)]\]

This would be too weak, for Definition (41) is, in fact, satisfied in (13) or (14): Given that states satisfy the subinterval property, in all


\(^{54}\) This is Schaden’s 2011 argument: since PFV\textsubscript{ROM} encodes (41), a continuation stating that the state continues to occur at UT leads to a contradiction.
situations making (13) true, there is an eventuality satisfying (41).
Strictly speaking, (41) is, therefore, a perfective sentence.
Instead of (41), we would need something like the following for PFV$_{ROM}$ (the new conjunct has a dotted underline):

- PFV $\Rightarrow \lambda P \lambda t. \exists s (\tau(s) \subseteq t \land P(s) \land \neg \exists s'(s \subset s' \land P(s') \land t \subset \tau(s')))$

For example, the derivation of Pierre a été malade would be:

- $[\text{Pierre être- malade}] \Rightarrow \lambda s. \text{sick}(s, \text{pierre})$
- $[\text{PFV } [\text{Pierre être- malade}]] \Rightarrow$
  $[\lambda P \lambda t. \exists s (\tau(s) \subseteq t \land P(s) \land \neg \exists s'(s \subset s' \land P(s') \land t \subset \tau(s')))][(\lambda s''. \text{sick}(s'', \text{pierre}))]=$
  $\lambda t. \exists s (\tau(s) \subseteq t \land \text{sick}(s, \text{pierre}) \land \neg \exists s'(s \subset s' \land \text{sick}(s', \text{pierre}) \land t \subset \tau(s')))$

This analysis rules out the existence of a larger state $s'$ of the same type $P$ that properly includes the reference time $t$.
We can make a definition for the new conjunct:\footnote{This is close in spirit from the maximality operator used by Koenig and Muansuwan (2000), Filip (2008), Altshuler (2014), etc.}

- $\text{Maximal}(s, t, P) =_{\text{def}} \neg \exists s'(s \subset s' \land P(s') \land t \subset \tau(s'))$

Given this definition, we can revise the derivation above as follows:

- PFV $\Rightarrow \lambda P \lambda t. \exists s (\tau(s) \subseteq t \land P(s) \land \text{Maximal}(s, t, P))$
- $[\text{PFV } [\text{Pierre être- malade}]] \Rightarrow$
  $[\lambda P \lambda t. \exists s (\tau(s) \subseteq t \land P(s) \land \text{Maximal}(s, t, P))][(\lambda s'. \text{sick}(s', \text{pierre}))]=$
  $\lambda t. \exists s (\tau(s) \subseteq t \land \text{sick}(s, \text{pierre}) \land \text{Maximal}(s, t, \lambda s'. \text{sick}(s', \text{pierre})))$

10.2 The English perfective is not Hindi like

Argument 1. The semantics Altshuler (2014) attributes to PFV$_{HI}$ only requires that there be a proper initial part of a VP-event in $w_0$, without specifying how large this initial part should have.
This seems correct: Hindi perfective sentences can describe incomplete events in which only a small part of the whole event has been realised.\footnote{For instance, (42) or (43) are judged true even if John only reaped 10\% of the crop, or erased 10\% of the mural, R. Bhatt (p.c.).}

(42) John-ne fasal kaaT-ii. (Hindi)
John-ERG crop cut-PFV.SG
‘John reaped the crop (partly)/entirely.’

(43) John-ne drawing miTaa-yii. (Hindi)
John-ERG drawing erase-PFV-SG
‘John erased the drawing.’
English is arguably different.\textsuperscript{57}

This difference is expected if the non-culminating interpretation in English stems from the non-maximal reading of the DP, because the later often only permits slight deviation from strict maximality (see, e.g., Križ 2015).

**Argument 2:** Even when a definite DP is interpreted non-maximally, it is quite odd to mention the exceptions explicitly (see, e.g., Križ’s 2015 example (44)).\textsuperscript{58}

(44) Although the professors are smiling, \#one of them is not.

(45) Although the wall is painted red, \#some of it is blue.

The same is true of singular definites in perfective sentences:

(46) We ate the cake yesterday. \#We will eat the remaining part tomorrow.

(47) John cleaned the kitchen yesterday. \#I will clean the rest of it this afternoon.

If PFV\textsubscript{EN} were a partitive operator like PROG\textsubscript{EN} or PFV\textsubscript{HI}, this would be unexpected, for the latter allow reference to the remaining part of the incremental theme, see the Hindi example (??) in Part 1, and the following English PROG ones:

(48) When I entered, she was eating the cake and I took the remaining part.

(49) When I entered, John was cleaning the kitchen. I then cleaned the rest of it to let him rest.

**Argument 3.** Singh (1994, 38) mentions that for some non-gradual predicates (her Class 1), e.g. tangnaa ‘hang’, the non-culminating event interpretation is possible, but under a try to interpretation only (Tatevosov and Ivanov’s 2009 failed-attempt reading), see (50).\textsuperscript{59}

(50) miiraa ne kamiiz Taangii par wo Tangii nahii (Hindi)
Mira ERG shirt hang-PFV but it hang NEG
‘Mira tried to hang a shirt but could not.’

\begin{itemize}
  \item Such failed-attempt readings are not available in English with the perfective form of non-incremental accomplishment verbs (break, blow out).\textsuperscript{60}
  \item This is unexpected if PFV\textsubscript{EN} were a partitive operator like the PFV\textsubscript{HI} or PROG\textsubscript{EN}.
\end{itemize}

\textsuperscript{57} We expect English-speaking adults to tend to reject the English counterparts of (42) or (43) with incomplete events that correspond to only 10\% of the whole event (except, perhaps, if it sufficed to attain the relevant contextual goal).

Wright (2014) also notes that if John only ate one bit of a sandwich, many respondents would hesitate to judge the sentence John ate a sandwich true.

This shows that non-maximal definite DPs should not be analyzed as partitive DPs, as Ogiela et al. 2014 suggest.

\textsuperscript{58} This is expected if the non-culminating interpretation in English stems from the non-maximal reading of the DP, because the later often only permits slight deviation from strict maximality (see, e.g., Križ 2015).

\textsuperscript{59} Our sketchy account: differently from achievements, these verbs are accomplishments and describe a full causation event, of which the change-of-state component, however, is conceived of as atomic/indivisible. Therefore, the only available proper-part interpretation consists in negating the whole atomic-(like) change of state and focusing on the causal action, which ends up in a failed-attempt reading.

\textsuperscript{60} See again van Hout et al. (2010; in prep.).
• But it can be accounted for once assumed that the non-culminating interpretation depends on the non-maximal reading of NPs, since this reading does not play a role in the complete event interpretation of non-incremental verbs.

• Conclusion: PFV_{EN} requires reference to not simply maximal parts like PFV_{HI}, but complete parts.

Children vs Adults – Incomplete perfective

Figure 2: Percentage of incomplete event interpretation for perfective telic sentences across all in child vs. adult languages, from van Hout et al, 2010, in prep.
Children – Incomplete perfective

Incremental -- build, make, draw vs Change -- open, close, blow out

Figure 3: Percentage of incomplete event interpretation for perfective telic sentences for incremental theme verbs vs. non incremental theme verbs across child languages, from van Hout et al, 2010, in prep.
<table>
<thead>
<tr>
<th>LG</th>
<th>non-particle incremental theme verbs</th>
<th>Non-incremental theme verbs</th>
<th>studies</th>
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<tbody>
<tr>
<td>EN</td>
<td>Children</td>
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<td></td>
<td>84%</td>
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<td><em>build, make, draw. the N</em></td>
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<td><em>eat, drink, fold, wrap the N</em></td>
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Figure 4: Percentage of incomplete event interpretations for perfective among adults vs. children across verb types and languages
Translations of the English present perfect progressive in the Europarl Corpus, 2004-2015 (1443 occurrences in total)

Figure 5: Translations of the English present perfect progressive occurrences in the Europarl Corpus in French, Italian and Spanish (2004-2015), From Martin, in prep.