The Acquisition of Aspect in L1 Italian

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1. Introduction

Aspect conveys the internal compositional meaning of a sentence. We have to distinguish between two basic notions of aspect: *lexical aspect* and *grammatical aspect*[1]. *Lexical aspect* (or Aktionsart, situation aspect) deals with the temporal contour of a situation which is independent of the time; it describes whether an eventuality is stative or dynamic, punctual or durative. The lexical property that concerns us in this study is the property of telicity. This aspectual property encodes, for example, whether the event denoted by the verb has a natural terminus or not, that is if it is *telic* or *atelic*. The atemporality of a given lexical aspect is determined by the fact that "…the timeframe is irrelevant to the natural unfolding of the event" (Rosen 1999:3). A predicate has telic interpretation when the event that it denotes reaches its point of culmination; in other words, when it entails the completion of an event as in *build the house, write a letter*. A telic predicate has a natural endpoint, while a predicate is atelic when the event that it denotes does not reach its culmination or does not encode any natural endpoint as in *laugh*, *work, love cheesecake*.

Grammatical aspect (or viewpoint aspect) operates on top of lexical aspect. The use of grammatical aspect implies that a speaker chooses a certain perspective to report on an event. This aspect "…focuses on the temporal perspective of the event" (Rosen 1999:3) and it is usually determined by tense morphology. Grammatical aspect refers to the actual beginning and final boundaries of an event, whether they are implied or not. The grammatical/aspectual property that concerns us in this study is the property of *perfectivity*. A *perfective* reading presents the event as an unanalyzed whole, including its initial and final boundaries, whereas an *imperfective* reading zooms in on the event in progress without reference to the time when it started or ended.

Languages differ in how they mark the property of telicity. For example, Dutch and English encode telicity in the syntax-semantics of the direct objects. Transitive verbs with a semantically countable direct object may yield telicity (1), while Transitive verbs with an uncountable / mass object may yield atelicity (2). This can be shown using one of Dowty's (1979) tests for telicity: the contrast between durative versus time-frame adverbial phrases. Durative phrases (e.g. "for hours") select for an atelic predicate, while time-frame adverbials (e.g. "in an hour") select for telic ones. Compare the possible modifications in the Dutch examples in (1) and (2) reported by Van Hout (1998).

(1) Het paard heeft urenlang /* in een uur brood gegeten. (uncountable/mass) *telic reading*
The horse has hours-long/ in an hour bread eaten
'The horse ate bread for hours/*in an hour.'

(2) Het paard heeft *urenlang / in een uur een appel gegeten. (countable) *atelic reading*
The horse has hours-long/ in an hour an apple eaten
'The horse ate an apple *for hours/in an hour.'

Slavic languages mark the quantification directly on the specification +/- perfective of the verb. For instance, the examples in (3) and (4) illustrate it. Grammatical aspect is marked on the verb (Imperfective in 3a/4a and Perfective in 3b/4b) and depending on the verbal morphology the direct object is identified as definite or indefinite

(3) a. Ota pil vino (Van Hout 1998)
Ota drink (Imperfective) wine / ?the wine
'Ota drank wine / ?the wine'

[1] The terms lexical and grammatical aspect have been identified in the literature as inner and outer aspect, Verkuyl (1987); situation time and point of view, Smith (1991/1997); and, (a)telicity and (un)boundedness, Depraetere (1995) respectively.

 Proceedings of the 2nd Conference on Generative Approaches to Language Acquisition North America (GALANA), ed. Alyona Belikova et al., 253-264. Somerville, MA: Cascadilla Proceedings Project.

b. Ota vypil vino
Ota (Perfective suffix)drink *wine / the wine
'Ota drank *wine / the wine'

(4) a. Jedi hrušky. (Van Hout 1998)
(He) eat (Imperfective) pears/ ? the pears
'He ate pears/ ? the pears '

b. Snědi hrušky.
(He) eat (Perfective)*pears/ the pears
'He ate *pears/ the pears

Van Hout (1998) claims that one may expect that learning the role of direct objects for telicity comes later than the role of perfective marking on the verb. She puts forward the hypothesis that when the lexical aspect of a verb is marked directly in its morphology it is easier to retrieve than when it is marked in the co-occurring elements. the experiments in Van Hout (1996, 1998). She found out that Dutch and English children up to the age of 5 do not conform to the aspectual information related to object position in an adult-like way. On the other hand, Polish and Russian children as 2 and 3 year olds are able to compute their aspectual entailments right.

Italian seems to pattern with languages that encode telicity in the features of the direct object. Anyway, we need to add few considerations about the lexical properties of the intransitive verbs, which can be inherently +/-telic independently of the presence of a direct object. The syntactic characteristics of the argument projected in the verb phrases are crucial, but also the semantic feature of the lexical items involved in the verb derivation can also be relevant. On grammatical aspect side, the perfective morphology can be applied to all verb classes independently of their lexical aspect. In this paper, the acquisition of perfective morphology is investigated. The effect of the (a)telicity of verbs in the development of perfective morphology is examined in Child Italian. The hypothesis is that compositional telicity is acquired earlier than the lexical aspect as it results by the semantic of the lexical items that enter into the derivation, since the syntactic generalizations are easier to acquire than the semantic idiosyncratic properties. Perfective morphology should show particular properties in interaction with verbs whose lexical aspect is not given. The second section is devoted to the analysis of the characteristics of aspect in Italian, while the third section is dedicated to the background theories on the acquisition of aspect. In the fourth section the data are presented: an analysis of the appearance of perfective morphology in the spontaneous speech, and two experimental tasks on the production and comprehension of the perfective morphology with different verb classes. In the last paragraph the data are discussed and a developmental analysis of the acquisition of aspect is given.

2. Background on Aspect in Italian

Telicity can be derived compositionally in languages like Italian. The direct object quantificational status (mass term versus count term or indefinite versus definite article) determines telicity. A dynamic verb with an indefinite object gives atelicity, e.g., biada 'fodder' in (5a), while a quantized/definite object yields telicity, as with la biada 'the fodder' in (5b). Thus, the aspectual semantics of the VP is compositionally determined (Verkuyl 1972, 1993; Krifka 1986; 1992)

(5) a. Il cavallo mangiò biada per ore/?in un'ora. (Indefinite) *atelic reading*
The horse eat (3 prs.s past) fodder for hours/? in an hour
'The horse ate fodder for hours/? in an hour'

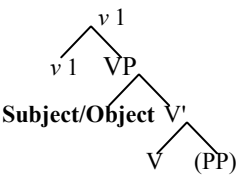
b. Il cavallo mangiò la biada *per ore/ in un'ora (Definite) telic reading
The horse eat (3 prs.s past) the fodder for hours/?in an hour
' The horse ate the fodder *for hours/in an hour'

Intransitives, depending on the loci of generation of the subjects, entail telicity or not. Van Hout (2004) proposes that unaccusatives, since they project their argument in object position are inherently telic, while unergatives since they project their argument in a *v*P external position are inherently atelic.

This generalization fits with Italian data. The unaccusative in (6) is telic and has a *v*P[2] structure as the one in (7), while the unergative in (8) is atelic and has a *v*P with the argument directly projected in the specifier position of the *v*P (9).

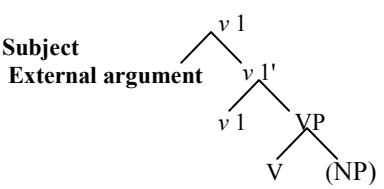
(6) Il cavallo arriva *per ore / in un'ora (Unaccusative) *telic reading*
The horse arrive (3 prs.s pres) *for hours/in an hour
'The horse arrives *for hours/in an hour'

(7) Unaccusative[3]



(8) Il cavallo piange per ore / *in un'ora (Unergative) a*telic reading*
The horse cries (3 prs.s pres) for hours/*in an hour
'The horse cries *for hours/in an hour'

(9) Unergative[4]



Given this structural generalization for the determination of telicity with intransitives, we can also find verbs that do not pattern with it. The unergative *finire* (= to end up) in (10) is telic. He behaves as an unergatives since it selects the auxiliary *avere* (=to have), that is a mark of unergativity/transitivity in Italian[5]. The auxiliary *essere* (=to be) is used only in case where there is a movement from an object of the VP to the higher functional projections responsible of agreement morphology as in Burzio (1986)[6]: that is, in unaccusatives and in passive constructions. In sum *finire* in (10) is an unergative but it does not behave for the determination of telicity as other unergatives like the one in (8).

(10) Gianni ha finito *per ore/in un'ora *telic reading*
Gianni have (auxiliary 3 prs.s pres) finished *for hours / in one hour.
'Gianni has finished *for hours/ in one hour.'

In order to account for data like the one in (10), a different mechanism of determining telicity for intransitives is needed. The contrast is given by the fact that *finire* in (10) is telic because of the

[2] We use an argument structure *à la* Larson (1988) where the VP is divided into two VP shells. The assumption is that higher VP is a *vP-like* projection (light verb) that allows the projection of an external argument as in Hale & Keyser (2002).

[3] The low PP in complement position depends from the fact that possibly, all unaccusatives do select a prepositional argument, which can remain silent. See also the discussion in Moro (1997).

[4] The low NP in complement position is the position where cognate object are found as in *John danced a happy little dance*. The cognate object does not influence the determination of telicity as we can see in sentences like *John danced a happy little dance *in one hour/for hours*. For a discussion see Hale & Keyser (2002) and Mateu (2002).

[5] Levin & Rappaport Hovav (1995) defines the selection of auxiliary in Italian as an unaccusative diagnostic, that is when we find the auxiliary *avere* (=to have) with intransitives it means that we are dealing with an unergative, while when we have the auxiliary *essere* (= to be) we are dealing with an unaccusative.

[6] For a more recent account on the auxiliary selection see Sorace (2000) who proposes a scale of verb classes identified for the different lexical values. This scale can be split in two parts for the selection of auxiliary.

presence in its lexical root of the world *fine* that means *end* in Italian. So, Italian allows the determination of telicity also by lexical insertion directly in the root of the verbs[7].

So in Italian two mechanisms are at work in order to determine the property of telicity along verb classes: on the one hand we have the characteristics of the object (both the direct objects of transitives and subjects of unaccusatives), and on the other the idiosyncratic characteristics of the lexical roots that enter into the VPs configurations.

The grammatical aspectual feature of *perfectivity* is encoded in Italian in the morphology of the *passato prossimo.* It is a compound tense form created by the present inflected form of the auxiliary and the past participle derived from the lexical root of the verb. The imperfective value is expressed through the morphology of the *imperfetto*. It is a past tense that gives a continuous, imperfective aspect with no termination entailments and it is derived by the adjunction of the morpheme *–v+ person and number* agreement morphology to the root of the verb.

The attribution of grammatical aspect through tense morphology works on predicates with marked lexical-aspectual values (such as telicity/atelicity). The lexical aspect of a given verbal item interacts with the grammatical aspect encoded in the tense morphology. Lexical and grammatical aspects interact as follows in the use of past tense morphology in Italian. *The passato prossimo* on one hand gives an entailment of completion for telic predicates such that the event has progressed to its natural culmination moment and, on the other, it establishes termination for atelic predicates (there is no natural culmination moment for atelic predicates; the final moment is an arbitrary moment). The *imperfetto*, for its imperfective feature, suggests ongoingness with the force of a conversational implicature and it applies in the same way to both telic and atelic verbs. All these interactions are summarized throughout table 1.

Table 1 Interaction between (a)telicity and the aspectual tenses. (van Hout & Hollebrandse 2001)

	IMPERFETTO	*PASSATO PROSSIMO*
TELIC	*Ongoing*	*Completed*
ATELIC	*Ongoing*	*Terminated*

In our purpose it is important to notice that *passato prossimo* gives perfective entailment to all verbs it applies on. So if children at some stage have problems just with one verb class in the interpretation of perfective morphology, it could mean that they have aspectual problems linked to such a verb class. So we employ the use/acquisition of perfective morphology along verb classes as a shortcut of the aspectual knowledge at work in Child Italian. In next section we provide an overview of the studies on the acquisition of aspect.

3. Background studies on the Acquisition of Aspect in Italian

Several studies have focused on the first productions of perfective past tenses. Antinucci & Miller (1976), in a longitudinal study of 7 Italian children (aged between 1;6 and 2;5), found that children do not produce forms of *passato prossimo* with unergatives but that they only use such tenses with change of states verbs such as *diventare* 'become'. This led them to claim that children in the early stages are cognitively not ready to entertain abstract, temporal relations. At this point of their development they lack an abstract conception of time that would allow them to construct the relation "event x precedes event y" for any two events. Instead, they claim that children can use the form of *passato prossimo* in order to refer to the resulting characteristic of some predication, for example the end state of a change

[7] For a proposal on the syntax of VP that accounts for lexical differences in verbs that share the same syntactic structures see Mateu (2002). He argues that we have to recognize two elements at work in the configuration of verb classes in order to account for the relations between syntax and semantics: the *configurational semantics* that can be read off the mere argument structures, which coincides with l-syntax postulated by Hale & Keyser (2002); the *non-configurational* semantics associated to the relational heads of these structures. The *non-configurational semantics* is developed through binary features that reside in the relational node of the configurational structure. The non configurational semantics does not refer to lexical root but to the features of the element that enter into the VP configuration.

of state verb. Children are able to observe states in the present that have the characteristic of being linked to a preceding event of which they are the result (only telic representations). This led Antinucci & Miller to formulate the so-called *Aspect First Hypothesis* (AFH), whereby children present a cognitive deficit which is the underlying cause of why tense inflection cannot mark temporal relations. Children use past form in order to refer to aspectual characteristics of the verb and not to the temporal ones: that is, children use the perfective morphology of *passato prossimo* in order to refer to *telicity*.

Data from other language do not confirm some of the assumptions of the AFH. . For example Beherens (1993) found in early German productions that were clear instances of the child's ability to refer to past events before the onset of linguistic tense marking, suggesting that children have a basic temporal orientation of past long before and dissociated from its morphological tense marking. Smith & Weist (1987) in their studies on Polish acquisition found that children are able to refer to the past properly and in earlier stages. Children aged between 1 year and 2 years were able to refer to events happening two weeks before the second experimental session by using past tense forms without referring to particular aspectual notions of the class of verbs. In next section other data coming from Italian spontaneous speech will confirm the fact that children are able to understand past tenses and furthermore the will help us in addressing the discussion about ASH.

Van Hout & Hollebrandse (2001) tested children's comprehension of telic sentences (all presenting an overt quantified object) with *imperfetto* and passato prossimo tenses using a picture selection task. Subjects were presented with short stories and accompanying pictures. The final picture of each story was missing. Children's task was to choose one of two pictures they were shown at the end of the story. They were asked about the picture using a question presented in the *passato prossimo* or in the *imperfetto*. The choice was between a picture of a completed situation and one of an ongoing situation. Half of the questions had an *imperfetto* and the other half had a *passato prossimo*. The story that at the end presented the question with an *imperfetto* implied the choice of the ongoing situation, while the situation with a *passato prossimo* triggered the choice of the completed situation. The 64 children tested in this experiment (aged between 3 and 5 years old) showed a particular pattern of comprehension: in table 2 the correct answers are computed; the choice of the correct picture for the imperfetto is the ongoing situation and for the passato prossimo the completed situation.

Table 2 (Van Hout & Hollebrandse 2001) results of the comprehension task experiment: percentage of correct answers

Age	*Imperfetto*	*Passato Prossimo*
3	35%	47%
4	71%	57%
5	58%	92%

3-year-old children present the lowest percentage of correct answers. 4 and 5 year olds show a higher percentage of correct answers. In any case, children make a lot of mistakes in performing this task. Children do not seem to recognize the grammatical aspectual information encoded in the tense morphology very well. The important thing to notice here is that there is no possibility of accounting for the experimental performance in terms of lexical aspect. There is no bias at work for which they, certainly at an early age, use perfective/imperfective morphology in order to refer to lexical aspectual notions, as predicted by AFH. Children do not interpret *imperfetto* or *passato prossimo* systematically to refer to the ongoing/completed, they only do it at 4 years for *imperfetto*, at 5 years for *passato prossimo*.

In next section we resume the data we have collected about the production and comprehension of *passato prossimo*, as it applies over telic transitives and atelic unergatives in order to complete the picture about the acquisition of the perfective morphology of *passato prossimo* along different verb classes marked for (a)telicity. Our claim is that the perfective morphology of *passato prossimo* is present in child grammar as other past tense. Futhermore, the distribution interacts with lexical aspect encoded in the verb phrases but not as predicted by AFH, but effects linked to the compositional lexical aspect or to the lexical idiosyncratic properties of the root should interact with the comprehension and production of *passato prossimo*.

4. The Acquisition of Italian Perfective Aspect

This section is devoted to put forward the data about the use of perfective morphology of *passato prossimo* in child Italian. In the first subpart we provide the data about the distribution of passato *prossimo* along verb classes in spontaneous speech. In the second section we present an experimental task in which the production of *passato prossimo* with different verb classes is visualized. The comprehension of perfective entailments of *passato prossimo* along verb classes, investigated through an experimental task is investigated in the third part.

4.1 Spontaneous Speech corpus

Methods: Our analysis of subject distribution along verb classes was performed on a longitudinal corpus of spontaneous productions of four Italian children aged between 18 and 36 months (Calambrone corpus: Diana, Martina, Raffaello, Rosa Cipriani et al 1989, CHILDES database MacWhinney & Snow 1985). In the corpus we analyzed just the declarative finite sentences. Over the 17573 sentences in the corpus we analyzed 2838 sentences declarative. We looked for the forms of *passato prossimo* and the verb classed they occurred with (Lorusso 2004).

Results: The general results of distribution of *passato prossimo* are stored in table 3. Children seem to use *passato prossimo* with all verb classes the lowest number is found with unergatives: that is the the intransitives with external arguments, structurally atelic. The higher percentage of forms of *passato prossimo* is found with unaccusatives.

Table 3 Distribution of *passato prossimo* along Verb Classes

	Forms of *passato prossimo*	Other Forms
Unaccusatives	15%	85%
Transitives	14%	86%
Unergatives	2%	98%

We looked also if children choose the correct auxiliary depending on verb classes: unaccusatives select *essere* (=to be) while transitives and unergatives select the auxiliary *avere* (=to have). In table 4 the results of selection of auxiliary are collected. At first look, children seem to correctly assign the proper auxiliary to each verb class. We can not use the cases of omission of, since the auxiliary is not expressed.

Table 4 Percentage of Selection of the Auxiliary in the Form of *Passato Prossimo* in Children's Productions

	Auxiliary essere (to be)	Auxiliary avere (to have)	Omission of Auxiliary
Unaccusatives	98%	0	2%
Unergatives	0	67%	33%
Transitives	0	75%	25%

The appearance of the first form of *passato prossimo* with different verb classes in the corpus is analyzed: unergatives in all children are the last verbs that appear presented with the morphology of *passato prossimo*. The results are collected in table 5.

Table 5 Age of First Appearance of *passato prossimo* (yy,mm,dd)

	First *passato prossimo* with Unaccusatives	First *passato prossimo* with Unergatives	First *passato prossimo* with Transitives
Diana	01;08,05	02; 06	01; 10, 07
Martina	doesn't use auxiliary	02; 04,14	01; 07, 18
Raffaello	02; 03 14	02, 05, 13	01, 11
Rosa	02; 01, 14	03;00, 24	02; 05, 25

Discussion: Children seems to correctly select the auxiliary with *passato prossimo*[8], the data seem to confirm the predictions of the aspect of the AFH since atelic verbs such unergatives are the last ones in the corpus to show the morphology of *passato prossimo* (as in table 5). Furthermore the data about the distribution of forms of *passato prossimo* along verb classes (table 3) show that children use more perfective morphology with unaccusatives, class of verbs that include the change of state verbs as *diventare* (=to become) as predicted by AFH. Anyway in the same corpus we looked at the form of imperfectives and following some predictions of AFH children are supposed to not be able to analyze past tenses. Furthermore, if perfective morphology is used to express telicity, complementary perfective morphology should express atelicity, but this is not the case. We have found in the corpus imperfective forms used with all verb classes productively since very early stages in all children. We report some examples in (11) (12) and (13) the imperfective forms found with all verb classes.

(11) Imperfective Form with Unaccusatives
eva, eva, <ere> (=sedeva) (Rosa, 01;09,11)
sit down-pr3s imperf
'(he/she) was sitted'

(12) Imperfective Form with Transitives
ettìa 0w ppallone (Diana, 01;10,07)
put –pr3s imperf the ball
'(he/she) put the ball'

(13) Imperfective Form with Unergatives
ava (=nuotava) (Martina, 01;11,20)
swim –pr3s imperf
'(he/she) swam'

The data about the distribution of *passato prossimo* seem to confirm the AFH, but the distribution of imperfective forms does not go in the same direction, that's why we need more experimental proofs about the distribution of passato prossimo, because maybe we are in front of a different phenomena. In next paragraphs we analyze the production and comprehension of *passato prossimo* with compositionally telic transitives and with atelic unergatives.

4.2 Production Task

Subjects: adult Italian speakers and fifty children participated in the study: ten 3 year-olds, ten 4 year-olds, ten 5 year-olds, ten 6 year-olds and ten 7 year-olds. The ten adults were tested at their homes in Conversano (Bari, Italy) and the children were tested at school 1° Circolo didattico "G. Falcone" also in Conversano (Bari, Italy).

Procedure: This experiment is designed to recognize the pattern of expression of perfective/non perfective forms along ages and verb classes. The goal of the production task is to investigate when children start to produce passato prossimo with unergatives and transitives in a situation where children are forced to use this tense. Children in the early stage may not able to properly produce passato prossimo with unergatives, because they are not be able to identify the role linked to the presence/absence of a direct object in order to determine the compositional telicity as it happens for English and Dutch learners (van Hout 1998).The materials consisted of 8 silent digital videos in which a story was presented: the story involved four telic transitive verbs with an overt quantified object and five atelic unergatives without overt objects. Atelic events were represented with an endpoint in order to force a completed reading and, consequently, the use of passato prossimo. All events (telic and atelic) were presented in the same video in a random order. Then, children were asked to describe such actions in the past with the request: "cosa ha fatto Marta ieri?" that means "What has Marta done yesterday'' (Lorusso 2005).

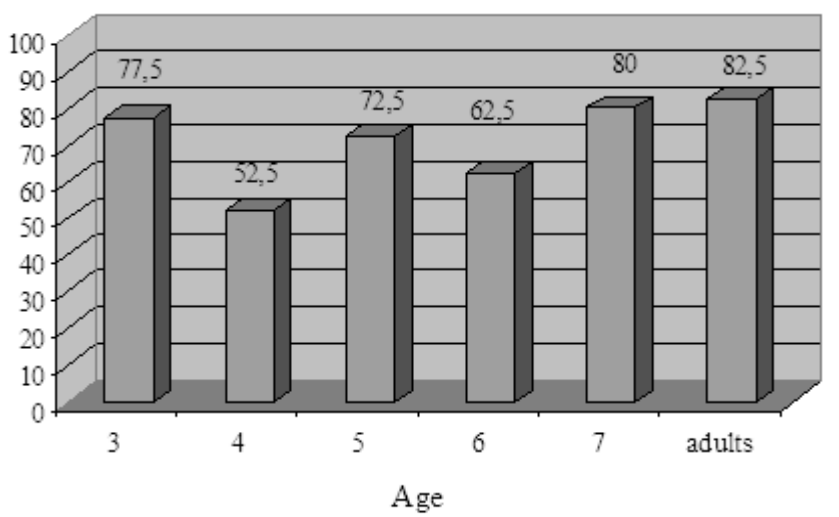
[8] These results are consistent with the ones of Snyder & Stromswold 1997.

Results: The first general result we present is the attribution of perfective and imperfective morphology to the general verb classes of telic Transitives on one hand and atelic Unergatives on the other. The absolute numbers of the responses for telic transitives is summarised in table 6 while in figure 1 we give the percentage of passato prossimo used with telic transitives.

Table 6 Responses with Telic Transitives (absolute numbers)

Telic verbs		Perfective	Imperfective	Total
Age	3	31	9	40
	4	21	19	40
	5	29	11	40
	6	25	15	40
	7	32	8	40
	adults	33	7	40
Total		171	69	240

Figure 1 Percentage of Forms of *passato prossimo* Found with Telic Transitives



Atelic unergatives have different distributions of perfective morphology depending on age. In table 7 we give the absolute number of the responses while in figure 2 we present the percentage of perfective forms over the total.

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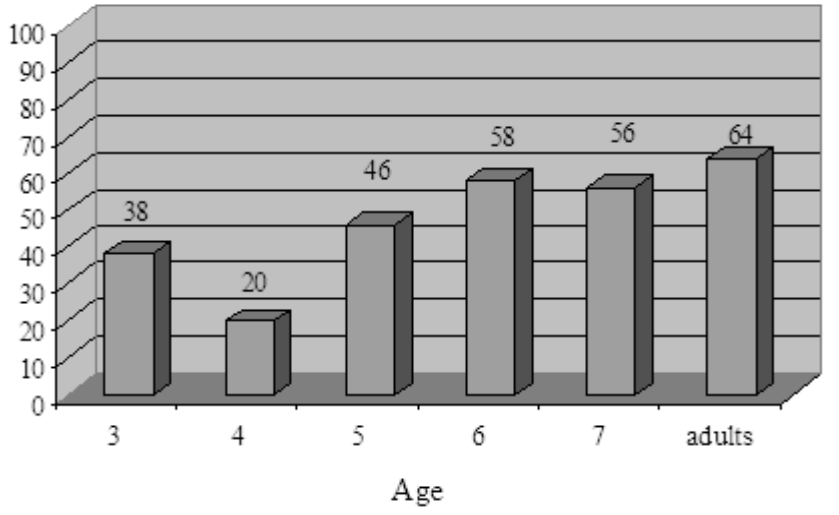
Figure 2 Percentage of Forms of *passato prossimo* Found with Aelic Unergatives



Discussion: Adults seem to behave in the same way with both verb classes: they show the tendency in selecting the *passato prossimo* when the action depicted has an endpoint without any differences among the two verb classes. Children aged between 5 and 7 years also show the tendency to select *passato prossimo* for both verb classes. So, adults and children aged between 5 and 7 years respond as the experiment requires. The use of perfective morphology is triggered by the presence of an explicit endpoint in the presentation. 3/4-year olds show systematic difference in the responses for each verb class. Atelic unergatives are expressed with a preferential imperfective morphology, while telic transitives are expressed with a preferential *passato prossimo*. This result is statistically significant by the Wilcoxon test: it is -1.92 (p-value=0.054). The same is true for 4 year olds. (The Wilcoxon statistic in this case is -2.23 (p-value=0.026)). That means that only 3 and 4 year-olds systematically attribute perfective morphology for telic transitives and imperfective for atelic unergatives.

Also this experiments does not contradict the AFH, since children use systematically preferential perfective morphology with telic verbs and preferential imperfective morphology.

4.3 Comprehension Task

Subjects: adult Italian speakers and fifty children participated in the study: ten 3 year-olds, ten 4 year-olds, ten 5 year-olds, ten 6 year-olds and ten 7 year-olds. The ten adults were tested at their homes in Conversano (Bari, Italy) and the children were tested at school 1° Circolo didattico "G. Falcone" also in Conversano (Bari, Italy).

Procedure: The comprehension experiment is a sentence picture-matching task. Eight digital video stories were presented to the subjects: 4 presented telic tranistives and 4 presented atelic unergatives. Then a question in the *passato prossimo* was asked. The task was to identify the (completed) event. Subjects were shown the videos. Each of the videos presented the two characters performing the same action, one of the two girls completed the action (completed situation) while the other was still performing it (ongoing situation). At the end of the video subjects were shown a picture representing the ongoing situation and a picture presenting the completed situation. Then they were asked to choose the picture in order to answer the question “Who has verb-ed?” The completed situation was the correct answer in all cases (Lorusso 2005).

Results: The results we present are relative to the completed interpretation assigned to the forms of passato prossimo with telic transitives figure 3 and with atelic unergatives figure 4 (Lorusso 2005).

Figure 3 Percentage of 'completed' Interpretation with Telic Transitives

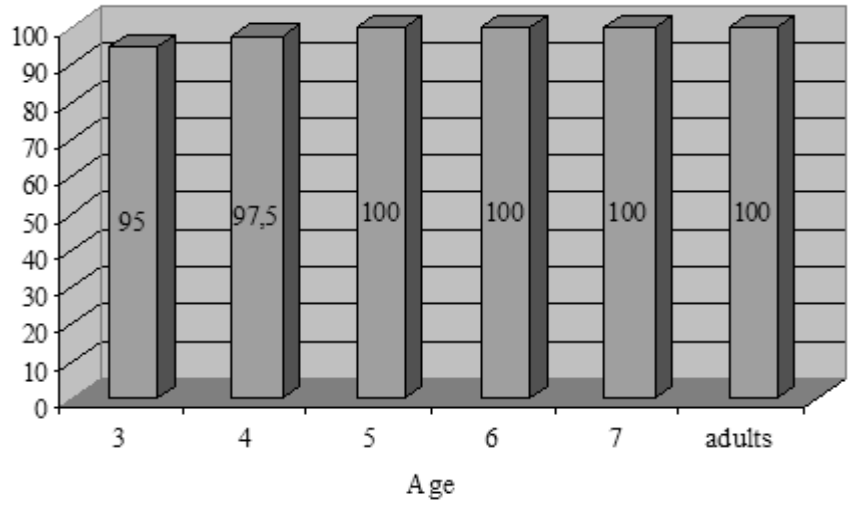
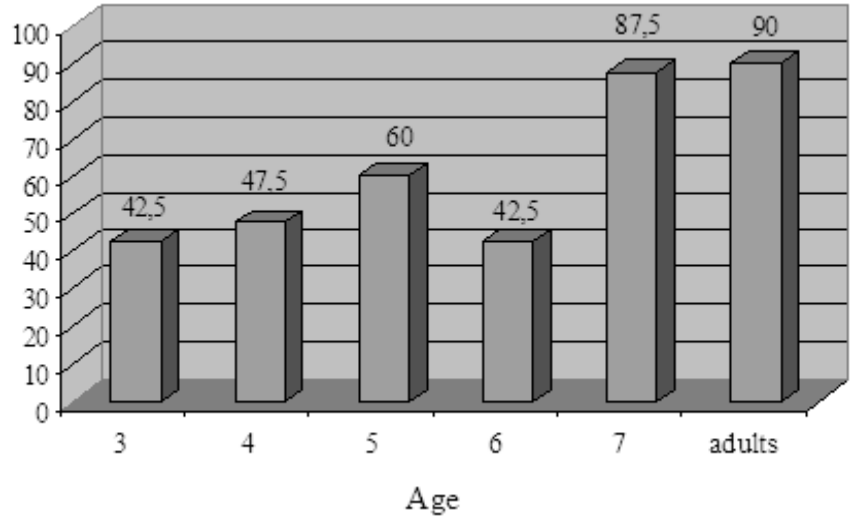


Figure 4 Percentage of 'completed' Interpretation with Atelic Unergatives



Discussion: The statistical analysis confirms that while adults and 7 year olds do not show any different behaviour in attributing the completed reading to both verb classes, children aged between 3 and 6 systematically attribute an non-terminated reading to the atelic verbs and a completed reading to the telic ones. The p-values of the likelihood statistic are all $p < 0,05$ for the children aged between 3 and 6 years. They distinguish between the tensed forms of the two verb classes for the different readings they attribute to them systematically. This comprehension task contradicts the assumption of AFH, since children are supposed to analyze both verb classes as telic and properly assign the completed reading, by the use of the perfective morphology in every situation, but this is not the case. In the next section we address a discussion about all the results we found.

5. Discussion and Conclusion

Children seem to have problem in the use of the perfective morphology of *passato prossimo* with atelic unergatives, while with transitives whose telicity is derived compositionally by the features of the direct objects they have an adult like pattern of production/expression of *passato prossimo*.

Transitives with compositional telicity are produced, in the production task, with a preferential perfective morphology as adults at all stage: namely, we do not find any relevant statistical difference

between adults and children. Furthermore, infants correctly analyze the aspectual implications of *passato prossimo* in the comprehension task. This suggests that children are aware of the aspectual implication of perfective morphology with verbs whose telicity is inferred by the presence of an overt object. This does not contradict the data about Dutch and English of Van Hout (1998) for which at the age of 5 Dutch and English children start to analyze the features of direct object in order to determine telicity. We do not know at what stage Italian children start to use the feature of the direct object in order to determine the telic value of the verb. Anyway, the mere presence of the direct object seems to be a mark that helps children in using these verbs properly in the derivation of perfective morphology.

These data do not contradict also the findings of van Hout & Hollebrandse (2001). They found that children have problem in analyzing the grammatical aspect with telic verbs, but anyway the children they studied had more problem with the comprehension of imperfective morphology as it applies to telic predicates than with perfective morphology on telic predicates, since children at about 4 years old perform above average in analyzing *passato prossimo* (see table 2). First, we have not looked at the interpretation of imperfective and second the design of the experiment is different. In our comprehension task children had to choose between two picture one presenting an ongoing situation and the other a completed situation, but before the picture matching task, they were presented with two videos one involving the completed situation and the other involving the ongoing situation. In van Hout & Hollebrandse's experiment children had to conclude the story they were presented by choosing the completed or the ongoing situation: effects of the more complex cognitive task could arise. It was less redundant than our experiment, since children had less help by the stories and the pictures and the linguistic input is the only relevant information they have to conclude the story.

Atelic unergatives present more problems, since in the data from the corpus and in both experiments they are analyzed in a deviant way, comparing it with adults' performance. Children are not able to produce an adult-like distribution of perfective forms with atelic unergatives till the age of 5, as it has been found by the data coming from the corpus of spontaneous speech and the production task. This can be linked to the failure of applying the morphology of *passatto prossimo* to verbs whose telicity is not fully recognized. These types of verbs, in fact, do not present any overt object that helps children in determine telic values. Furthermore, unergatives in Italian can have a cognate object or be the intransitive alternation of a transitive. These characteristics of the distribution of unergatives in adult Italian could create problems for the analysis of the lexical aspect of such verb class as it results by VP structure. At the age of 5 children start to produce perfective morphology for some reason linked to the fact that they initiate to assign negative lexical aspectual value to verbs that do not have a direct object, while in the earliest stage they need such an overt element. This could be also linked to the fact that they start to analyze the features of direct objects.

These data on production could confirm the assertion of the AFH of Antinucci & Miller (1978) that claims that children use perfective morphology to refer to telic situations and imperfective morphology to refer to atelic situations. Anyway, the data coming from the comprehension task show that children are not able to analyze the perfective aspect as it applies on atelic verbs, contrary to what AFH would predict, since the perfective aspect could have been analyzed as a telic marking on the verb, but this is not the case.

The problematic data about these experiments is the mismatch between comprehension and production of *passato prossimo* with atelic unergatives. Between 5 and 7 years children produce in an adult-like fashion *passato prossimo* but they fail to identify its aspectual values in comprehension. We propose that this is linked to the attribution of lexical aspect as it results by the interaction with semantic features. While in production the morphology of *passato prossimo* is applied to all verb classes independently of their lexical aspectual value as a pure morphological rule, in comprehension semantic factors may interact. The missing semantic features on the elements that enter in the derivation of the VP could influence the general data: that is, the aspect as it results by lexical insertion may have a differentiated and larger period of appearance in Child Italian.

Further studies are needed with unaccusatives and with atelic transitives, in order to have the completed picture. Anyway, we can conclude that aspect is acquired for stage and the different ways in which aspect can be encoded in a sentence have different place in the longitudinal process of the acquisition of a language: so the grammatical aspect of *passato prossimo* as it applies to telic transitives is acquired earlier than the passato prossimo as it applies to atelic predicates. Children may have difficulties with it for problem with the VP structure or also for the missing knowledge of the perfective morphology of *passato prossimo*.

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