

LEXICAL AND GRAMMATICAL ASPECT IN LANGUAGE ACQUISITION

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Abstract: This paper investigates the relation between lexical and grammatical aspect in child Romanian. It tests the predictions of the Aspect First Hypothesis against the data of one Romanian speaking child. It finds that the Aspect First Hypothesis is not confirmed by child Romanian in its strong interpretation. However, the data supports the prototype reinterpretation of the Aspect First Hypothesis.

Keywords: aspect, tense, telic, atelic

1. Introduction

The aim of this paper is to explore the interaction between lexical and grammatical aspect in child Romanian. Previous research on the acquisition of English, Polish, Mandarin and Brazilian Portuguese showed that, at the onset of language acquisition, present or progressive/imperfective morphology is associated with atelic verbs, while past or perfective morphology is attached to telic verbs. A generalisation like (A) seems to operate in early child language:

- (A) Present / progressive / imperfective morphology – atelic verbs/situations
Past/perfective morphology – telic verbs/situations

The fact that children do not generalize temporal morphology to all types of verb phrases suggests that children are not concerned with locating events with respect to Speech Time when using that morphology. If they were, then verbal morphology would be distributed to all types of events, regardless of their telicity. Consequently, it was suggested that children describe the temporal structure of the event using temporal morphemes (Wagner 2001: 662). Since tense is the grammatical category which places an event relative to Speech Time, and aspect reflects the internal organization of the event, the Aspect First Hypothesis was put forth. According to this hypothesis, *at the beginning of language acquisition, children use temporal morphology to express aspectual contrasts, not to order events with respect to Speech Time.* This hypothesis can have several interpretations due to the two dimensions attributed to aspect: lexical and grammatical aspect.

2. Grammatical and Lexical Aspect

Grammatical aspect (or viewpoint aspect) comprises the distinction between the perfective or imperfective viewpoints that the speaker can take on the event. If a perfective viewpoint is taken, the speaker considers the event externally, in its entirety, and views it as terminated or completed. Perfective aspect morphology expresses completion for events with a natural endpoint (telic events) or termination for events without a natural endpoint (atelic events) (Smith 1980: 269). The imperfective viewpoint focuses on the incompleteness of the situation, its ongoing nature.

Lexical aspect (situation aspect or *Aktionsart*) has been taken to refer both to the verb phrase and the event in real life it describes. The confusion comes from Vendler's (1957) classification which used the less precise expression of "time schemata" (Li and Shirai 2000:

16-17). Lexical aspect refers either to the way in which the real-life event is structured or to the inherent meaning of the verb phrase and takes into account notions such as telicity, dynamism, punctuality, stativity. For instance, the event and the predicate in *I painted a house* are telic, because they presuppose a result, whereas the event and the predicate in *I am singing* are atelic, since they refer to a homogenous situation devoid of a clear result.

The best-known aspectual classification divides predicates into *activities* (durative, atelic), *accomplishments* (durative, telic), *achievements* (punctual, telic), *states*. When it comes to distinguishing between the various aspectual classes of predicates, we should note that there is “no one-to-one mapping between given types of situations and given types of lexical items” (Li and Shirai 2000: 17). If an event has a natural endpoint (*painting a house*) this does not necessarily imply that, when we describe it, we will automatically use a telic predicate. As speakers, we have the choice to focus various parts of the event and to vary the aspectual interpretation:

- (1) I have painted a house. (focus on the result)
- (2) I am painting a house. (focus on the middle phase of the action)

Moreover, according to Li and Shirai (2000: 17, crediting Comrie 1976), the same type of predicate can have different aspectual interpretations in distinct languages: perception verbs are stative in English [-imperfective markers], whereas in Portuguese they are not stative [+ imperfective markers]. Romanian parallels Portuguese in this respect, as seen in (4):

- (3) *I was seeing the children running.
- (4) Vedeam copiii alergând.

In conclusion, we should bear in mind the three factors that influence the aspectual interpretation of a predicate: (a) the type of real-life situation described, (b) the aspectual properties of the predicate used to describe it, (c) the viewpoint taken by the speaker when talking about the event, expressed by the perfective or imperfective grammatical aspect markers used.

2. The Aspect First Hypothesis (AFH)

Wagner (2001) explains that several interpretations are available for the AFH due to the ambiguity of the term “aspect”. Does tense morphology encode grammatical or lexical aspect at the onset of acquisition? Thus the AFH, given again in (B), could take the form of hypotheses (a), (b) and (c) below:

(B) At the beginning of language acquisition, children use temporal morphology to express aspectual contrasts, not to order events with respect to Speech Time.

(a) Lexical/Situation Aspect First: tense morphology underlines only lexical aspect, not the temporal ordering of the event to ST.

(b) Grammatical/Viewpoint Aspect First: tense morphology expresses only grammatical aspect, is distributed regardless of the telicity of the predicate, but does not indicate the relation of the event to ST.

(c) Lexical and Grammatical Aspect First: tense morphology is distributed according to the aspectual properties of the events/predicates and expresses grammatical aspect, not the temporal ordering of the event relative to ST.

AFH	Lex. Asp.	Gramm. Asp.	Relation to ST (tense)
(a)	+		–
(b)	–	+	–
(c)	+	+	–

Table 1

Hypothesis (a) suggests that, in English for instance, children attach *-ed* to verbs in order to highlight the telicity of the predicate, to indicate the fact that a particular predicate is a resultative one. Present or progressive morphology is used to indicate that a predicate is atelic (Wagner 2001: 663). The relation between ST and ET is not represented by children.

Hypothesis (b) entails that present or past morphology is initially used by children to signal the fact that they view the event as continuing or finished/completed respectively. If the child uses the present tense, he views the event as ongoing. If the child uses the past tense, he views the event as perfected. The difficulty with (b) is that many languages combine grammatical aspect and tense in one morpheme (e.g. the Romanian *perfect compus* is both past and perfective, while the present tense is inherently imperfective), so it is difficult to test this interpretation of the AFH for languages like French, Italian (Wagner 2001: 664) or Romanian. There are, however, languages in which tense and grammatical aspect are encoded in different morphologies, for instance Polish. Mandarin has only grammatical aspect markers, and no tense markers. Hence, for Polish and Mandarin (b) is more easily testable.

Hypothesis (c) is a combination of the previous two and is more restrictive than (b). The distribution of temporal morphology takes into account lexical aspect (i.e. present morphology only with atelic predicates, past morphology only with telic predicates), but it expresses grammatical aspect, i.e., ongoingness or completion, not simultaneity with or anteriority to ST.

All these hypotheses, according to Weist et al. (1984: 348), presuppose a deficiency in child's initial temporal system. The young child is unable to order events relative to ST. Thus the child is unable to represent relations of the type $ET < ST$, $ET = ST$, $ET > ST$, but is able to conceptualise aspectual notions of the type event with/without a result or completed/ongoing event.

3. Predictions

On the basis of hypothesis (a), we can formulate the following predictions for child Romanian:

1. At the onset of acquisition, telic verb phrases are only associated with past tense morphology, never with present tense morphology.
2. Atelic verb phrases are only associated with present tense morphology, never with past tense morphology.

Hypothesis (b) involves the following predictions:

3. Initially, past tense morphology is attached to both telic and atelic verb phrases, and present tense morphology is attached to both atelic and telic verb phrases.

4. Children will mark for the past only predicates referring to recent past events. The reasoning behind this prediction is the following: the relation ET-ST (tense) is not yet available to children and they can process only the perfective-imperfective contrast, (completed vs ongoing situations), which pertains to grammatical aspect. We assume that for children past morphology encodes perfective grammatical aspect, so they will only attach past

morphology to those events which are most easily interpretable as completed. These are those events whose results are still visible (recent past events).

For hypothesis (c), which is a more restrictive variant of hypothesis (b) and a combination of (a) and (b), we can restate predictions 1, 2, 4, but not 3:

5. (1.) At the onset of acquisition, telic verb phrases are only associated with past tense morphology, never with present tense morphology.

6. (2.) Atelic verb phrases are only associated with present tense morphology, never with past tense morphology.

7. (4.) Children will mark for the past only predicates referring to recent past events.

If predictions 1, 2 are disconfirmed, this leads to a refutation of hypothesis (2a), because it means that lexical aspect is not the crucial factor in the distribution of verbal morphology, which automatically involves a refutation of hypothesis (2c) which also presupposed predictions 1 and 2.

In the remainder of this paper, we will test predictions 1-7, corresponding to hypotheses (a), (b) and (c), against the data provided by child Romanian.

4. The Corpus and Research Methodology

The data presented in this paper represent a part of the Avram corpus (see Avram 2001) of child B., recorded and transcribed in the CHILDES format (MacWhinney and Snow 1985), comprising 16 recording sessions. The recording took place once a week and lasted one hour. The child interacted spontaneously with his mother and the other adults present. The corpus of child B. contains a larger amount of data, corresponding to a longer age range (1;5-3 years), but it has not been fully transcribed. For this paper we only used the files which are on the CHILDES website. The data structure is presented in Table 2.

No	File	Age	No. utt.	No. an. utt.	No. an. vb. utt.	Comments
1	bil1	1;5.12	267			
2	bil2	1;5.19	410	40	0	repetition / formulaic
3	bil3	1;5.26	352	26	0	repetition / formulaic
4	bil4	1;6.02	375	48	0	repetition / formulaic
5	bil5	1;6.09	378	21	0	repetition / formulaic
6	bil6	1;6.18	445	27	2	
7	bil7	1;6.24	449	27	2	
8	bil8	1;7.02	563	35	0	repetition / formulaic
9	bil12	1;8.01	480	22	0	repetition / formulaic
10	bil17	1;9.03	521	56	5	
11	bil21	1;10.01	370	16	6	
12	bil25	1;10.29	530	61	41	
13	bil29	1;11.26	567	95	48	
14	bil31	2;0.11	363	41	31	
15	bil34	2;1.18	625	167	69	
16	bil38	2;2.13	509	93	72	
Total			7204	457	276	

Table 2

No. utt.= Number of utterances; No. an. utt.= Number of analysed utterances; No. an. vb. utt.. = Number of analysed verbal utterances.

The corpus contains 16 audio files with the age range 1;5-2;2, comprising 7204 child utterances. The total number of utterances containing verb phrases is 457, but, especially in the beginning, a very large number of these are frozen formulas that the child does not analyse morphosyntactically and whose meaning is not understood. We excluded such utterances from the analysis. We also excluded the utterances in which the child, with or without prompting from the adult, repeats what the adult said in the immediately preceding input. We did not exclude from the analysis the utterances representing partial repetitions, which indicate either a restructuring of the input according to child grammar, or a meaningful use of the input. Thus we came to 276 verbal utterances. Afterwards we focused on verbal forms marked for the present indicative and the perfect compus indicative, excluding imperative, subjunctive, or interrogative forms and utterances containing the verb *a fi* (be). We also excluded those utterances whose predicates, although marked for the present indicative, had an irrealis interpretation, possibly representing reduced subjunctive forms (without the subjunctive marker *să*), or had a volitional or imminent future interpretation. Eventually we came to the analysis of 159 verbal utterances marked for the present and perfect compus indicative, with a realis interpretation. The motivation for the reduction of the corpus was to eliminate all ambiguous examples and to work with a minimum number of variables (the irrealis/realis variable could have further influenced the results). The predicates in the selected verbal utterances were subjected to the tests described by Dowty (1979:60) in order to determine their aspectual class. We also took into account cases of recategorization (for instance generic activity predicates were interpreted as states, but still atelic predicates).

5. Results

Tables 3 and 4 below describe the quantitative results of the aspectual classification of the predicates analysed, function of the verbal tense used in each utterance.

	Present	%	Total percentage
Ach	2	1.8	9.8% telic predicates
Acc	9	8	90.2% atelic predicates
Act	56	50	
St	45	40.2	
Total	112		

Table 3

Ach = achievement; Acc = accomplishment; Act = activity; St = state.

Among the 112 verbal utterances with present morphology, the majority (90.2%) contain atelic predicates (*states* and *activities*), yet there is a percentage of telic predicates marked for the present (9.8%), which disconfirms prediction 1 (also repeated as 5 for (c)), formulated starting from hypothesis (a). At the onset of acquisition, telic verb phrases are not associated with past tense morphology only, but are sometimes associated with present tense morphology. Similarly, in what concerns verbal utterances with the perfect compus (with full or reduced, participial form) most predicates are telic (85.2%), but there is a small percentage of atelic predicates marked with the perfect compus (14.8%) (see Table 4). This result shows that prediction 2 (also repeated as 6. for (c)), formulated on the basis of hypothesis (a), cannot be confirmed.

	PC	%	Total percentage
Ach	2	4.2	85.2% telic predicates
Acc	38	81	14.8% atelic predicates
Act	6	12.7	
St	1	2.1	
Total	47	100	

Table 4

Ach = achievement, Acc = accomplishment, Act = activity, St = state, PC = perfect compus.

The results in Tables 3 and 4 indicate, *contra* hypotheses (a) and (c), that the distribution of verbal morphology at the onset of acquisition does not display strict regularities and does not take into account exclusively lexical aspect, rather manifests the *tendency* to associate atelic verbs with the present and telic verbs with the perfect compus. This confirms prediction 3 formulated on the basis of hypothesis (b). At the onset of language acquisition, past tense morphology can be attached both to telic verb phrases, as well as to atelic ones, and the present tense is also associated with both telic and atelic predicates. However, generalisation (A) still holds for child Romanian.

We still have one more question to answer, namely whether the child encodes grammatical aspect or tense (prediction 4, also repeated as prediction 7 for hypothesis (c)). In Romanian, perfective aspect and past tense use the same morphology so we cannot give an answer on the basis of morphology. Hence we have to look for contextual clues that demonstrate the child's capacity to speak about distant past events. If this ability were demonstrated, we would know that the child does not use the clue of the visible result of the completed action in order to use the perfect compus. Indeed, we do find such contextual clues.

It is true that, many times, B. uses the perfect compus for events that took place in the very recent past :

- (5) C: Gata. (2;1)
 C: *Am (s)t(r)icat copacu(l)*.
 'Ready. I have broken the tree.'

There are, however, utterances in which B. uses the reduced perfect compus in order to describe her past experience, not recent events:

- (6) A: *Auzi, da(r) tu ai văzut vreo rață?*
 C: *xx văzut (în) poze. (1;9)*
 'A: Have you ever seen a duck?
 C: *xxx seen (in) pictures.'*
- (7) A: *Da(r) te~a mușcat vreodată (cățelul)?*
 C: *Da.*
 A: *Chiar?*
 C: *Pisi și a mu(ș)cat și pisi. (2;1)*
 A: *A mușcat~o și pe pisi?*
 M: *Nu, și pisi a mușcat~o pe Bianca.*
 'A: Has it (the dog) ever bitten you?
 C: *Yes.*
 A: *Really?*
 C: *Kitty and has bitten Kitty too. (2;1)*

A: Has it bitten Kitty too?
 M: No, Kitty has bitten Bianca too.'

In addition, B. can describe events in the relatively recent past, for instance events that took place at the beginning of the day:

- (8) A: Și azi v~a scos în parc la creșă?
 C: Da.
 A: Și tu ce'ai făcut în părculeț?
 C: *M-am jucat* cu mingea. (2;1)
 'A: And has the nursery teacher taken you to the park today?
 C: Yes.
 A: And what did you do in the park?
 C: *I played* with the ball.' (2;1)

Moreover, B. mentions events in the relatively distant past, the time of the event being indicated by the temporal adjuncts *sîmbătă și duminică* (*Saturday and Sunday*).

- (9) M: Unde'ai fost tu *sîmbătă și duminică*?
 C: Cu tati. (...)
 M: Și cu Lala a făcut Bianca plajă.
 C: Aăă baie.
 M: Și baie.
 C: Bianca (*fă*)*cut baie*. (1;11)
 'M: Where did you go on Saturday and Sunday?
 C: With daddy. (...)
 M: Bianca went sunbathing with Lala too.
 C: ... swim.
 M: For a swim too
 C: Bianca *went for a swim*.' (1;11)

In conclusion, B. can refer to the entire range of past events that are described in the adult language with the perfect compus (past experience, very recent past, recent or distant past). This suggests that B. does not use the the perfect compus for recent events only, but also for distant past events, whose termination is not indicated by a present result. This constitutes evidence that, for B., the perfect compus does not only express completion (perfective grammatical aspect), but also anteriority to speech time. Hence B. does not have a deficient temporal system, devoid of order relations between ST and ET. Future analysis should investigate whether there is a correlation between age and the range of past events described. It might be the case that, at a very early age, B. marks with the perfect compus only past events with visible results, hence very recent events. In the fragment of the corpus analysed here, there are not enough data from very early ages to draw clear conclusions in this respect.

6. Conclusions

The data of child B. disconfirm the AFH in its strong interpretation, as it was formulated in (a), (b) or (c). At the onset of language acquisition B. can describe events in the relatively distant past using the perfect compus, which indicates the presence of a temporal system of deictic relations and a capacity for placing ET before ST. In addition, temporal

verbal morphology is distributed predominantly function of the lexical aspect of the predicate, but not exclusively so.

The data seem to confirm the ideas put forth by Shirai and Andersen (1995). They proposed a reformulation of the AFH on the basis of prototype theory. This theory stipulates that any class of elements contains prototypical and peripheral members. The class prototypes evince the properties that define the class. Peripheral members have less defining properties. Shirai and Andersen maintain that, during language development, “children acquire a linguistic category starting with the prototype of the category, and later expand its application to less prototypical cases” (1995: 758). Thus past or perfective morphology is first attached to the prototype of the aspectual class, namely to the class with the properties [+result, +punctual, +telic], i.e. to achievements (Shirai and Andersen 1995: 755). This is the prototype of the telic verbal class. Later children extend this morphology to accomplishments which are [-punctual], and only afterwards to activities and states. Activities and iterative achievements are first marked for the present progressive.

What is the source of these regularities? Andersen (1988, quoted in Shirai and Andersen 1995: 747) puts forth the Distributional Bias Hypothesis, which claims that the regularities described above are also observable in adult language. Andersen maintains that adults too use past tense morphology predominantly with accomplishments and achievements and the progressive aspect with activities. Subsequently, Shirai and Andersen (1995) study speech samples of 3 English-speaking children: Adam (2;3 - 4;10), Eve (1;6 - 2;3, Brown (1973)), Naomi (1;6-4;9). The speech samples are on the CHILDES database (MacWhinney and Snow 1985). They find that the claims of the Distributional Bias Hypothesis are borne out by the data. Children’s mothers used past tense morphology mostly with achievements (58-64%) and the progressive with activities (53-61%, according to Shirai and Andersen (1995: 751). Two of the mothers did not use the progressive with state verbs and neither did their children. In the case of Naomi’s mother, a small percentage of state verbs occurred with the progressive (3.8%) and, consequently, in Naomi’s speech, state verbs like *seeing/needing* occurred. (Shirai and Andersen 1995: 751). Shirai and Andersen conclude that it is the input that determines the distribution of past tense morphology.

Shirai and Andersen are not concerned with the development of deictic relations. If we look at their formulation of AFH, we see that they mostly refer to the interaction between grammatical and lexical aspect and find it easy to equate perfectivity with pastness. They further claim that the question of whether the child expresses aspect or tense in his past inflection cannot be answered: “Our view is that it would be difficult to claim one or the other. What children are doing is simply attaching early past inflection to the prototype of the category past (i.e. [+telic], [+punctual], [+result]). The reason children appear to be marking aspect is that the prototypes of past (tense) and perfective (aspect) are very similar.” (1995: 759). They mention a suggestion made by Bybee et al. (1994), namely that past tense and perfective markers developed out of perfect and resultative ones (apud Shirai and Andersen 1995: 760). Further research should show whether the influence of the input can account for the distribution of temporal morphology in child Romanian.

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