THE ACQUISITION OF TENSE AND ASPECT

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SUMMARY
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'My, my', the man mumbled. 'I know one thing for certain: it's much harder to tell whether you are lost than whether you were lost, for, on many occasions, where you're going is exactly where you are. On the other hand, you often find that where you've been is not at all where you should have gone, and, since it's much more difficult to find your way back from someplace you've never left, I suggest you go there immediately and then decide.' (Norton Juster – The Phantom Tollbooth)

KEY POINTS
In this chapter you will find out about:
• the relationship between tense and aspect morphology in acquisition
• the relationship between tense/aspect morphological markers and temporal-aspectual information in early systems
• the role of event types in the acquisition of temporal-aspectual systems

1. Introduction

In previous chapters it was shown that there is an early stage during which children may optionally use the infinitive (in some languages, such as English, German, French or Dutch) or another non-finite form (such as forms with the -i suffix in Greek, see Varlokosta, Vainikka and Rohrbacher 1996) in contexts which require the use of a finite (tensed) form. English speaking children produce non-tensed forms like the ones in (1):

(1)  
   a. *Him gone.
   b. Baby do it.
   c. Daddy coming. (Radford 1990: 148)

Most of the accounts of the so-called optional infinitive or root infinitive stage explain this optionality as deriving from the fact that the temporal system has not been fully acquired yet1.

The child’s early clause structure is assumed to be truncated (Rizzi 1994) in the sense that at this stage the full array of functional categories has not been yet projected.

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1 For details, see Syntactic Development, section 4.2.
Specifically, Rizzi proposes that root infinitive clauses are truncated at the TP level and thus lack a Tense projection and any of the dominating functional projections:

(2) $CP \rightarrow AgrsP \rightarrow NegP \rightarrow TP$  

Advocates of the No-Functional Projection Hypothesis (Radford 1990 a.o.) put forth the idea that, at an early stage, the child’s grammar lacks any functional projections whatsoever, Tense included. Child clauses are thus assumed to have the status of a VP.

Lack of knowledge of Tense or some sort of deficiency in the tense system has also been invoked by advocates of the Strong Continuity Hypothesis. On such a view, Tense is ‘underspecified’. In Wexler (1994), for example, the child CP is assumed to be adult-like during the optional infinitive stage. The child optionally uses non-finite forms in finite contexts simply because Tense has not matured yet.

(3) $CP \rightarrow AgrsP \rightarrow TP \rightarrow has \ not \ matured \ yet \ \rightarrow VP$

Hoekstra and Hyams (1996) argue that in root infinitives, the Tense chain (which comprises the Complementizer projection and the head of the Tense projection, with Tense being a pronominal variable bound by an operator in C), whose realisation depends on the specification of intermediary functional projections, cannot be established because the intermediary functional position, Number, does not have a specified value. Hence, Tense will be interpreted by reference to context, i.e. to NOW:

(4) $Number \rightarrow CR \rightarrow TP \rightarrow does \ not \ have \ a \ specified \ value$

One way or another, the lack of the Tense projection or some deficiency (of knowledge) of Tense is invoked as a possible cause of this phenomenon. But does the absence of the functional projection Tense, i.e. the lack of overt tense markers, imply that temporal interpretation is also absent or deficient at this stage?
Boser et al. (1992) and Phillips (1995) propose that the absence of overt marking should be analysed as merely the lack of the phonetic realisation of a specified feature. This might suggest that the lack of overt morphological markers does not automatically imply that temporal meaning is also absent. **If it is the case that young children do have a temporal system, is it identical to the adult's or does it differ from it?**

The examples in (1) show that non-tensed forms, i.e. forms with no overt tense marker, are not restricted to bare infinitives, they can have overt markers of Aspect. This might suggest that, in languages in which Aspect and Tense are not conflated, Aspect markers emerge earlier than Tense markers. At this stage, the child's projection would then qualify as an Aspect Phrase (AspP):

(5) \[
\begin{array}{c}
TP \\
\longrightarrow \\
\text{absent}
\end{array}
\]

![Diagram of TP and AspP]

These data raise at least two questions:

(i) **does aspect morphology emerge earlier than tense morphology?**

(ii) **do early aspect morphemes perform the same function as in adult's grammar?**

It was also said, in previous chapters, that the aspectual marker –ing and the past tense morpheme –ed are among the first morphemes that enter child English. It has been argued that their early use is associated to semantically well-defined aspectual classes of predicates (see, for example, Bloom et al. 1980, Shirai and Andersen 1995, Olsen and Weinberg 1999). **Could we then reach the conclusion that Aspect (morphological and lexical) and Tense intermingle in early speech? And, if they do, what does the picture of this co-operation look like?**

It has also been assumed in the literature, especially in those studies that follow Piaget's strong determinism position, according to which language acquisition and language use depend on prior acquisition of supportive cognitive structures, that the development of tense expressions in early speech depends on the child's cognitive construction of the time dimension, i.e. children can talk about/understand time only after a certain stage in cognitive development:... *a correct understanding of the child’s first past tense forms and their gradual development cannot be obtained unless we place them in relation to their cognitive prerequisites* (Antinucci and Miller 1976:168).

One can then ask the question **whether the meaning encoded in temporal forms is (strictly) based on the child's construction of the cognitive dimension of time.** If this is the case, then we should expect children's early temporal system to be non-adult like in most (if not all) respects.

The present chapter will address the bolded questions stated above. But, before looking at the early temporal-aspectual system, a possible theoretical framework for Tense and Aspect will be briefly presented in the next section.
2. On tense and aspect: a possible analysis

The core theoretical assumption with respect to Tense and Aspect is that they cannot be treated separately. At the level of syntactic representation, they are two links along the same chain: the Tense chain. Following the proposal put forth in Avram (1999), the Tense chain will be defined as consisting of a Tense operator (T-Op), the head of the Tense projection (TP) in the functional domain, and the head of the Aspect projection (AspP):

![Tense chain diagram]

The temporal – aspectual information is provided by the morphological markers associated with the two functional projections TP and AspP.

Semantically, aspect is defined as the domain of the temporal structure of situations (events and states) and their presentation (Smith 1991), i.e. a non-deictic category concerned with the internal temporal constituency of the situation (Comrie 1976). Whereas tense is deictic, placing a situation in time, aspect informs about the contour or the quality of the event or the state as seen by the speaker. Aspectual meaning is a composite of the information provided by the so-called situation-type aspect and the one provided by the so-called viewpoint aspect (Smith 1991). Situation-type aspect is determined by the inherent properties of situations: they can be durative, instantaneous, telic or atelic. This information is actually given by the lexical verb and its arguments, as well as by other complements present in the sentence. Let us briefly analyse the following sentences:

(7) She ate a sandwich in ten minutes.
(8) She ate ice-cream the whole afternoon.
(9) She ran in the park.
(10) She ran to the park.
(11) She knocked at the door.

Sentences (7) and (8) differ with respect to their aspectual value, in spite of the fact that they both contain the same lexical verb, eat. The direct object in (7), a countable noun, imposes a bounded, telic reading (i.e. the predicate denotes a situation with a natural endpoint). The direct object in (8), a mass term, imposes an atelic value. Sentence (9) describes a dynamic, durative, atelic event. Though in sentence (10) the same verb has been used, run, the situation described here is dynamic, durative but telic (because of the meaning of the preposition phrase to the park). Sentence (11) describes an instantaneous event given by the meaning of the lexical verb knock.

Viewpoint aspect is grammaticised, being signalled by grammatical inflections. For example, in English [be + -ing] has been analysed as a marker of imperfective viewpoint, signalling that only part of a situation is focused.

One can say that aspect represents an interaction of:

(i) the lexical meaning of the verb;
(ii) the arguments of the verb (object, subject);
(iii) grammatical inflection.
This suggests that aspectual meaning holds for sentences rather than for individual verbs or verb phrases.

In many languages, tenses have a specific viewpoint value. Duration, for example, appears to be a property of both the temporal and the aspectual systems. Also, the conceptual properties of a situation are visible if the situation is placed in time. Aspect and tense are related both notionally and formally and hence they cannot be treated separately (Johnson 1981, Bennett 1981, Smith 1991, Stowell 1994, Avram 1996, 1999). This is why we shall adopt the view according to which the analysis of the “flow” of an event should take into account three categories: tense, aspect and existential status (Johnson 1981) which, following the classic analysis of Reichenbach (1947), can be defined as representing three possible combinations for the paired relations among Speech Time (ST), Reference Time (RT) and Event Time (ET).

**Tense relates RT to ST:**

(i)  
RT prior to ST: past tense value

(12) In the last half-hour of 1979, several of her acquaintances attempted to prophesy for the next decade.

(ii)  
ST prior to RT: future tense value

(13) They will study syntax next year.

(iii)  
RT simultaneous with ST: present tense value

(14) Herds of people are milling around these intersections, waiting for the lights to change.

**Aspect relates ET to RT:**

(i)  
ET prior to RT: perfective

(15) a. They have reached an understanding with respect to bills.

b. She has never known what he thinks of Liz.

(ii)  
ET including RT: imperfective

(16) a. None of us, thought Jane, is wearing a dress made in France.

b. Esther was standing stranded on the black and white marble tiles.

(iii)  
RT prior to ET: imperfective

(17) Tomorrow you will tell me you have changed your mind.

**Existential status relates ET to ST:**

(i)  
ET prior to ST: historical status

(18) He had had a succession of god hands and won the kitty twice.

(ii)  
ST prior to ET: non-historical status

(19) Her nephew is getting married next month.

(iii)  
ST = ET: semi-historical status

(20) They are considering going there themselves.

Let us see how these work in the analysis of a particular sentence:

(21) John had talked to Mary before the party.

ST= now

---

2 The interpretation of tense is a complex affair; particular tense forms can be construed in quite different ways, as determined by a complex interaction of factors, including verbal aspectual class (stative vs. eventive), grammatical aspect (progressive vs punctual), verbal epistemological class (intensional vs. extensional), clause type (complement clause vs. relative clause, finite clause vs infinitive), and scope relations with other tenses (Stowell 1994:1).
RT prior to ST (-ed): past tense value
ET prior to RT (before the party, had): perfective value
ET prior to ST: the situation has the status of a historical event.

The analysis of the early temporal-aspectual system will have at its core the assumption that tense and aspect cannot be treated separately because they both deal with the temporal structure of situations and their functions are complementary: tense places the event in time, taking an external viewpoint, while aspect presents the internal structure of the event, taking an internal viewpoint. The temporal-aspectual system comprises tense, morphological aspect, situation-type aspect and viewpoint aspect. A second important assumption is that temporal-aspectual meaning holds of whole sentences, and not only of verbs.

Going back to the Tense chain given in (5), we can conclude that TP is associated with tense markers which indicate the relationship between RT and ST whereas AspP is associated with aspectual markers which indicate the relation between ET and RT. The existential status is given along the chain, as a composite of the information provided by the two links, TP and AspP:

(22) Tense Operator

\[
\text{Existential status: } \quad \text{ST/RT} + \text{ET/RT} \quad \text{ET/ST}
\]

If one adopts such a framework, then the task of the child can be assumed to be that of discovering the lexical aspectual value of VPs, the markers of tense and aspect in the target language and of mapping them onto their semantics. Given the fact that tense and aspect represent links along the same chain, sharing functions with respect to temporal information, one could expect tense and aspect to intermingle from the onset of acquisition.

3. Aspect before Tense?

3.1 The questions

Recent analyses of root infinitives in early child speech have looked at the relationship between tense and aspect in the child's temporal-aspectual system, in particular at the way in which Aspect markers could provide temporal information. One of the puzzling aspects of root infinitive structures is that in spite of the absence of overt Tense markers, they can receive a present, past or future temporal interpretation. This suggests that the absence of morphological markers for Tense does not necessarily point to lack of temporal meaning. But how is this meaning provided?

The results and the conclusions of the studies that addressed the issue of the temporal interpretation of root infinitives are, however, non-uniform across languages and, sometimes, in the case of one and the same language. For early Dutch it has been suggested that root infinitives refer mainly to future states of affairs (Hoekstra and Jordens 1994) but also that they can have past, present and future meanings.
Data from child Russian support the hypothesis that the temporal interpretation of root infinitives is expressed through the aspectual system (Brun, Avrutin and Babyonyshev 1999). In this case, Aspect markers are used to provide Tense information. Morphological markers of Aspect emerge, then, before Tense markers, but temporal interpretation is available.

Such an assumption is in line with structure building accounts of linguistic development. The Aspect projection is lower in the structure, i.e. closer to the lexical domain, than the Tense projection, and hence we expect Aspect to enter the phrase marker earlier than Tense does:

(23)  

\[ \text{TP} \]
\[ \text{2} \]
\[ \text{AspP} \]
\[ \text{2} \]
\[ \text{VP} \]

It is also in line with the theoretical framework of tense and aspect adopted in this chapter. Aspect represents, somehow, the border between the lexical and the functional domains of the temporal-aspectual chain, and we can expect early speech to start 'lexical'.

This leads us to another question. Since the term ‘aspect’ covers both morphological aspect (or viewpoint aspect, Smith 1991) and lexical aspect (Aktionsart or situation-type aspect, Smith 1991), and since some building accounts of linguistic development assume the existence of a lexical stage at the onset of acquisition, could we hypothesise that lexical aspect is acquired before morphological aspect and aspect in general before tense? If this were the case, would it be possible that lexical aspect can be used as a guide to tense interpretation or /and to morphological aspect?

Two questions have been raised:

(i) do children acquire the aspectual system before the tense system of the target language?
(ii) what part does (lexical and grammatical) aspect play in early temporal meaning?

Let us see what answers are available in the literature.

### 3.2 Early aspect morphemes can provide tense information

In Russian, root infinitives can have present (24), past (25) and future (26) tense interpretation:

(24)  
\[ \text{kupat’sya} \]
\[ \text{to-bath-imp} \]
\[ \text{‘(He) is bathing.’} \]

(25)  
\[ \text{odet’} \]
\[ \text{to put on perf} \]
\[ \text{‘(He) has put (the pants) on.’} \]

(26)  
\[ \text{pozdravlyat’ babuku} \]
\[ \text{to-congratulate-imp grandma} \]
\[ \text{‘(I will/want) to congratulate grandma. (Brun et al. 1999: 123–124)} \]

(Behrens 1993). For child German, Ingram and Thompson (1996) argue that the meaning of root infinitives is modal: they would correspond to a sentence which lacks the modal auxiliary.
During the optional infinitive stage, Russian children have acquired knowledge of the aspectual system: they use the morphological markers for perfective and imperfective aspect correctly. The analysis of the corpus provided by transcripts of the spontaneous speech of four Russian monolingual children (aged 1;5–2;5) points to the existence of a strong relationship between the temporal interpretation of root infinitive structures and the type of morphological aspectual marker used in that particular structure. Russian children tend to overwhelmingly use verbs with a perfective marker when they refer to events in the past, and verbs with an imperfective marker when they refer to present situations. In the case of future constructions, there is no correlation between temporal interpretation and morphological markers of Aspect. The data in Table 1 (Brun et al. 1999:128) present the correlation between the aspectual system and temporal interpretation in the analysed transcripts:

<table>
<thead>
<tr>
<th>Interpretation</th>
<th>Root infinitives</th>
<th>Finite Verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Perfective</td>
<td>Imperfective</td>
</tr>
<tr>
<td>Past</td>
<td>94.6%</td>
<td>5.4%</td>
</tr>
<tr>
<td>Present</td>
<td>1.7%</td>
<td>98.3%</td>
</tr>
<tr>
<td>Future</td>
<td>53%</td>
<td>47%</td>
</tr>
</tbody>
</table>

The table also points to an asymmetry between the use of aspect in infinitival structures and in finite sentences, which suggests that children use the aspectual system in root infinitives to give tense information.

Such data can lead to the conclusion that markers of Aspect emerge earlier than markers of Tense in those languages in which Aspect and Tense have different morphological representation. Aspectual distinction is closely related to the temporal interpretation of the non-tensed forms produced at this early stage.

### 3.3 Lexical aspect before grammatical aspect?

Children (cross-linguistically) seem to have an early sensitivity to the structure of events as expressed by various classes of predicates. At first sight, this might suggest that they start off with a predetermined set of universal contrasts such as state vs. process, punctual vs. non-punctual (Bickerton 1981, 1984). This idea is put forth in the so-called language bioprogram hypothesis, according to which semantic distinctions such as state vs. process or punctual vs. non-punctual are assumed to be biologically programmed, they are innate. The child will accordingly mark verbs denoting states and verbs denoting processes differently from the very onset of acquisition. A weaker variant of this hypothesis is the so-called basic child grammar hypothesis, according to which children are endowed with a pre-structured ‘semantic space’, which contains a set of universal prelinguistic semantic notions, such as the contrast process vs. result (Slobin 1985). At the beginning, children tend to use morphological markers for the past tense or perfective aspective markers to refer only to telic situations, i.e. to situations with a clear result.

Both hypotheses try to account for the acquisition of the temporal-aspectual system by appealing to innate/prelinguistic semantic notions, and they both claim that children restrict the use of certain morphological markers to a subset of predicates for which they are usually used in the adult system, though the latter does not display this restriction. However, there are cross-linguistic differences with respect to how these features are marked linguistically. In Turkish and Greek, for example, one can notice a strong inter-relationship between tense and aspect, on the one hand, and modality on
the other (Stephany 1986, Aksu-Koç 1988, 1998). In Russian or Polish, Aktionsart/situation-type aspect is morphologically marked. Such empirical data show that lexical aspect contrasts are differently packaged in different languages. If this is the case, then, can one assume the existence of some universal prelinguistic temporal-aspectual semantic distinctions? Which is the relevance of lexical aspect for the acquisition of grammatical aspect and tense?


In child Dutch, event-denoting predicates occur both in finite and non-finite sentences while states are restricted to finite contexts. In the corpus analysed by Wijnen (1998) (four Dutch speaking children, all under 3) over 93% of the temporally interpretable root infinitives contain an eventive verb. The temporal interpretation the most frequently assigned is that of future, but present and past interpretations are also available. This clearly suggests that the temporal reference of Dutch root infinitives depends on the semantic nature of the predicate. The functional projection Tense is absent and, consequently, the temporal interpretation has to rely on context. When non-eventive verbs are used in infinitivals (much more rarely than eventives), their interpretation is mainly future. Non-eventive verbs are better represented in the finite sentences available in the corpus and their temporal interpretation is, more often than not, present. However, past and future time reference is also present. Eventive and non-eventive verbs are equally represented. The experimental data reported in Wijnen (1998) point to a certain distribution pattern: in finite sentences, eventive verbs are more often used with a ‘present’ interpretation than non-eventive ones. In root infinitives, non-eventive verbs are more often used with a future meaning than eventive verbs. The existence of such patterns leads to the conclusion that it may be the case that the event/non-event contrast is available from the onset of acquisition, and that it may play a part in the temporal interpretation of Dutch children’s root infinitivals.

Experimental data of child Mandarin Chinese provide further support in favour of the view that lexical aspect is present at an early stage, revealing children’s sensitivity to the association between lexical classes of verbs and morphological markers of aspect (Li and Bowerman 1998). Children’s comprehension and production of lexical and grammatical aspect was examined in three experiments: (i) a comprehension test that measured children’s understanding of morphological aspect markers when combined with verbs belonging to different aspectual classes; (ii) a production test, which investigated children’s use of morphological markers of aspect with verbs belonging to different semantic classes, and (iii) an elicited imitation task, that tested children’s sensitivity to two specific combinations of ‘aspect marker + verb’, which do not exist in the adult system. The results obtained in the three experiments provide evidence that Mandarin Chinese-speaking children (aged approx. 3 to 6 years) are sensitive to the association between atelic predicates and imperfective morphological markers (zai, -zhe, -ne) on the one hand, and to the association between telic predicates and the perfective aspect marker (le), on the other. Children’s early speech shows that the contrast process vs. result is important at an early stage, in accordance with Slobin’s basic child grammar hypothesis. However, no results confirmed the predictions of the language bioprogram hypothesis since children did not seem to be sensitive to the contrast punctual vs. non-

(i) progressive marker zai with achievements (i.e with telic verbs which do not involve duration or causation, such as the English find, recognize, spot, notice) and (ii) the progressive marker zai with stative verbs (such as the English know, believe, love, hate).
punctual. Li & Bowerman account for the early sensitivity to the process vs. result contrast in terms of input: children analyse the distribution of the aspect markers in the input which they receive:

\[
\text{[\ldots] we believe that it is possible to account for children’s early sensitivity to the process result distinction by appealing to leaners’ analysis of the distribution of aspect markers in the speech they hear, perhaps as operationalized through connectionist principles (Li & Bowerman 1998:339).}
\]

They invoke studies of early English and early Greek, which provide empirical data that this pattern of association reflects patterns present in the input. Actually, similar claims are made in Shirai & Andersen (1995) for early Japanese and in Aksu-Koç (1998) for child Turkish.

Olsen and Weinberg (1999) examined four CHILDES file sets representing 8 monolingual English speaking children. The longitudinal corpora of child English provide further evidence that children are sensitive to certain associations between lexical and grammatical aspect. Telic verbs correlate with the -ed morpheme\(^5\) during all stages of linguistic development, whereas the number of atelic verbs which occur with the same morpheme increases in time. The imperfective marker -ing occurs mainly with [+dynamic] and [+ durative] verbs during the early stages. Similar results are reported in Fantuzzi (1996), where the Eve files (Brown 1973, CHILDES) are examined (see 4.2.2).

Longitudinal observation of Japanese children (Cziko and Koda 1987, Rispoli 1990, Shirai 1998) also point to the fact that children have knowledge of the standard associations between lexical and grammatical aspect (before they acquire tense). Japanese children tend to restrict the use of some morphological markers of tense/aspect to specific aspectual classes of verbs.

In early Brazilian Portuguese the earliest occurrences of the perfective tense forms are with accomplishments and achievements. The imperfect is used later and its first occurrences are with state and activity verbs, i.e. with non-telic ones (De Lemos 1981).

The facts discussed so far suggest that some Aktionsart distinction(s) (eventive/non-eventive or process/result) is/are present from the onset of acquisition, and that it seems that young children are sensitive to the link between lexical aspectual distinctions and morphological aspect, as well as to the link between aspectual contrasts and the temporal interpretation of non-tensed forms.

It is, however, important that this conclusion should not be misunderstood. Firstly, it is not at all clear that the same aspectual distinctions are operative cross-linguistically, i.e. it is not clear that they are universal conceptual primitives. Analyses of corpora of child French do not support Wijnen’s (1998) assumption. Secondly, one should not reach the conclusion that lexical aspect is necessarily responsible for tense/aspect interpretation during the early stages of acquisition. Investigations of English-speaking children’s comprehension of tense semantics suggest that early comprehension of tense does not depend on lexical aspect information (Wagner 1999).

One more question which Wijnen’s assumption raises regards the more general problem of whether the acquisition of tense/aspect may rely on some innate primitive categories.

Experimental data of child Russian seem to lead to the conclusion that the acquisition of aspect is not based on innate primitive categories: \textit{\ldots aspect acquisition relies on an increasing competence in lexical differentiation of Aktionsarten rather than on a direct linking of conceptual primitives with morphological markers (Stoll 1998: 352); it is learned.} Stoll argues that even if one assumed that some lexical aspectual features

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such as telicity may play a primitive role in linguistic development, they may be derived from pragmatic competence and hence need not be postulated as innate.

We can tentatively conclude that morphological aspectual markers emerge earlier than tense markers and that children have an early sensitivity to certain event characteristics. The temporal interpretation of early VP or AspP utterances is mainly contextual (it is closely related to the HERE and the NOW) and, in some cases, it may be guided by aspectual markers or by certain salient contrasts such as eventive vs. non-eventive, telic vs. atelic. Temporal interpretation seems to be interwoven, at this stage, with lexical aspect, i.e. with the aspectual class the predicate belongs to, and, in languages which have morphological markers for aspect, with these markers as well. Children are sensitive to certain associations between morphological markers of aspect and lexical aspectual classes.

3.4. Early tense morphemes used to mark aspectual information

3.4.1 The aspect-before-tense hypothesis

Child language corpora from a variety of typologically different languages (Italian, English, Turkish, Japanese, German, Portuguese, Hebrew) also reveal the existence of a cross-linguistic distribution pattern of Tense morphemes: particular Tense morphemes tend to be used only with certain aspectual classes of predicates in a way which does not parallel the adult pattern. Children’s early use of Tense morphology seems to be non-adult like, assuming a certain connection between Tense morphology and the semantics of events. This led to the so-called Aspect-before-Tense Hypothesis which assumes that, before indicating deictic tense notions, Tense markers seem to be used to refer to aspectual distinctions such as stative/non-stative, perfective/imperfective (Bronckart and Sinclair 1973, Antinucci and Miller 1976, Aksu-Koç 1988). In the previous section, evidence that lexical aspect can be responsible for temporal interpretation in the absence of tense morphological markers was discussed. In this section, we are going to discuss evidence that early tense markers are associated with certain aspectual distinctions.

3.4.2 Cross-linguistic data

This latter hypothesis is supported by cross-linguistic empirical data of child language, which reveal a strong tendency of restricting the use of (some) past tense markers with telic predicates (i.e. predicates which denote an event that implies an inherent end-point, an event which is bounded, such as repair, draw a horse, melt, kill) and the use of present tense markers with atelic predicates (i.e. predicates which denote events that lack an inherent end-point such as walk, dance, sleep). During early stages, tense morphemes seem to be used to mark aspectual information.

Analyses of child English corpora have revealed that, when English-speaking children begin to mark verbs morphologically, they tend to use the -ed past tense morpheme only with telic verbs (achievements and accomplishments) (Bloom, Lifter and Tanouye 1977) and the present tense -s with durative verbs (Bloom et al. 1977).

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6 However, see Brown’s (1973) analysis of children’s early use of tense markers in English: the American child’s use of the past inflection, though it is in principle applicable to past times of whatever remoteness, is in fact used by him at first exclusively for the immediate past (259). Past tense morphemes are thus taken to mark immediate past tense, not aspect.
Also, the progressive marker –ing is firstly used to refer to present non-stative events or to achievements used iteratively (Shirai and Andersen 1995).

One can notice a similar pattern in child Italian. According to Antinucci and Miller (1976), one of the first distinctions which Italian children can make is that between stative and non-stative situations. At an early stage, they mark the past participle of transitive verbs for agreement with the object, an agreement pattern which is ungrammatical in adult Italian:

( 28)  *La signora ha chiusa la porta.   Cf. La signora ha chiuso la porta.
The woman has closed-fem.sg. the door (fem.sg.)/the woman has closed the door
‘The woman closed the door.’

Such data are taken as strong evidence that the children focus on the result of the action denoted by the verb, using the past participle to describe the end-result. The past tense is taken as having more of an aspectual than of a temporal value: the present state of the object is used in reference to a past telic action:

... the meaning of the child’s past tense is at this point rather limited. He is able to encode a past event, but only if it results in a present state. [...] we could say that the past “tense” has more of an aspectual than a temporal value (Antinucci and Miller 1976:183).

When the child begins to use the imperfetto he/she uses it mainly in inventive story telling (use which has also been observed in child Brazilian Portuguese, de Lemos 1981, and in child Greek, Stephany 1986) to denote events in a pretend world. Thus, Italian children seem to use Tense marking to distinguish between real and pretend world. It is only later that they begin to use the imperfetto to refer to past atelic situations.

Data from child Turkish (between the age of 21–30 months) provide further evidence in favour of the existence of a cross-linguistic tendency in early child language to use Tense inflections to express aspect (Aksu-Koç 1988). The progressive marker -lyor tends to be used with activities at an early stage, indicating a present ‘ongoing’ event, i.e. aspect. Though in adult Turkish it can combine with both present and past, it is not used in past contexts in child language. The past tense marker -dl, which focuses equally on the process and its completion, and which encodes the informational perspective of a direct experiencer (i.e. it encodes the past of direct evidence), is mainly used with telic change of state verbs. Another past tense marker, -ml], which has a perfective meaning, implying that a resultant state has to come into being, and which encodes the informational perspective of an indirect experiencer (i.e. it encodes both perfectivity and inferential past), is acquired later than -dl. Its first occurrences show that it is mainly used to refer to existing states.

French-speaking children (aged 2;11–8;7) tend to use the présent with inherently durative actions and the passé composé (a compound form of past tense) with achievements and accomplishments (Bronckart and Sinclair 1973). The imparfait (a past tense form usually associated with incompleteness) is seldom used during the early stages, its development being slower than that of the passé composé.

In child Japanese the present progressive forms are restricted to pure process verbs (i.e. verbs which are non-stative both semantically and syntactically) (Cziko and Koda 1987) and the past tense marker -ta is predominantly used with achievements (Shirai 1998).

Armon-Lotem (1996, 1998) shows that in Hebrew, a language which lacks syntactic aspect, during the first phase of early verb usage, unaccusative verbs...
denoting a complete action are used with past tense morphology (29), while the present tense markers occur with verbs denoting activities (30), i.e. atelic situations:

\[\text{(29)} \quad \text{nafal} \ ‘fell’, \text{nishbar} \ ‘broke’, \text{nigmar} \ ‘finished’\]
\[\text{(30)} \quad \text{oxel} \ ‘eating’, \text{boxe} \ ‘crying’\]

(Armon-Lotem 1998:29)

Can we, on the basis of the empirical facts presented above, reach the conclusion that early child language resorts, cross-linguistically, to tense markers to encode lexical aspectual information?

Advocates of the so-called Aspect-before-Tense Hypothesis (Bronckart and Sinclair 1973, Antinucci and Miller 1976, Aksu-Koç 1988, Shirai and Andersen 1995) assume that there is indeed an early stage during which children use Tense markers to encode aspectual meaning. However, one should note that there are two possible interpretations of the hypothesis. In its strong version, children are not marking tense information at all (Antinuci and Miller 1986, Bronckart and Sinclair 1983). The early temporal system would thus be defective, it would lack the concept of temporal location and differ from the adult norm. In its weak interpretation (called by Shirai and Andersen 1995 The Aspect Hypothesis), it only states that past tense morphemes occur predominantly with telic verbs and that lexical aspect ‘guides’ the child’s application of tense morphology (see also Olsen and Weinberg 1999). Nothing is said about the lack/the presence of a deictic system.

Some linguists explicitly adopt the view that the child learns aspect and tense together (Bloom, Lifter and Hafitz 1980, Harner 1981, Rispoli and Bloom 1985) but that aspect can influence the acquisition of tense marking:

*This claim does not require that children’s use of aspect marking becomes fully developed before they learn tense distinctions, or even separate and sequential development of the two. Both systems develop together, but aspect is an early determining factor* (Bloom and Harner 1989: 211).

But, for any of the above variants, one still has to account for the developmental shift from this aspect-for-tense stage to the adult system. How does the child get rid of this tense-for-aspect grammar?

### 3.4.3 Accounts of the developmental shift from tense-for-aspect to the adult temporal system

#### 3.4.3.1 Cognitive development accounts

It has been suggested that the development of the temporal-aspectual system closely follows the child’s cognitive development. Before the age of 6, children pay more attention to particular rather than to more general characteristics of situations or objects. They are limited to an egocentric view of the world, they cannot ‘decentre’ and hence are able to talk mainly about the ‘here’ and the ‘now’. After the age of 6, during the so-called operational stage, children are able to deploy complex activities. Most importantly, relational thinking develops during this stage.

Cromer (1968), Bronckart and Sinclair (1973), Antinucci and Miller (1986) adopt this view in their analyses of temporal-aspectual development. Cromer (1968) suggests that English-speaking children use few temporal structures before the age of 6 because of their egocentric view of the world.
Antinucci and Miller (1986) argue that at the beginning of acquisition, which would correspond to Piaget’s pre-operational stage, the child’s capacity to represent past events is limited: he/she can only encode past events which have a clear resultative value, i.e. when they result in a present observable end-state. In order to be able to represent a past event, the child needs a concrete link between the NOW and the action, i.e. an observable result. That is why Italian children use the passatto prossimo (a compound form of past tense) first only with telic predicates, over-marking the resultative value with non-adult agreement between the verb and the direct object. The capacity of representing past events expands via different cognitive routes and the child will gradually use the passatto prossimo with all types of predicates.

Bronckart and Sinclair (1973) propose that, during the pre-operational cognitive stage, young children mark aspectual distinctions because they refer to properties of particular events; during this stage children tend to pay more attention to particular rather than to more general characteristics. They will begin to use different verb forms indicating tense only during the operational cognitive stage, when relational thinking develops.

Such accounts, however, are not without problems. On the one hand, they cannot explain why children do use various temporal forms before the age of 6, i.e. before the operational stage. There is experimental evidence that young children have good knowledge of temporal concepts (Wagner 1999) and can use past tense markers in the absence of end-results (Di Paolo and Smith 1978, Harner 1981). On the other hand, they cannot explain the existence of similar developmental patterns with respect to the acquisition of tense and aspect in adult second language acquisition, i.e. in the case of learners who are past their operational stage.

### 3.4.3.2 Environmentally driven accounts

Shirai and Andersen (1995) and Aksu-Koç (1998) take the distribution of past tense morphemes in the linguistic input provided by caretakers as a possible cause of the distributional pattern observed in early speech. They adopt the distributional bias hypothesis which claims that adult speakers tend to use past tense inflections more frequently with telic predicates than with atelic ones. On such a view, the child’s mappings resemble the linguistic input which he/she receives. The distributional pattern observed in caretakers’ speech is taken to account, at least partially, for the pattern observed in early speech. The analysis of the input received by the three English children (Adam, Eve, Naomi, Brown corpus, CHILDES) whose speech was examined by Shirai and Andersen (1995), lend support to this ‘input’ hypothesis. All the mothers used past tense inflections more frequently with telic verbs (Andersen and Shirai 1995:751):

<table>
<thead>
<tr>
<th>Inherent aspect with past tense inflection in mother’s speech</th>
<th>State</th>
<th>Activity</th>
<th>Accomplishment</th>
<th>Achievement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adam’s mother</td>
<td>17%</td>
<td>8%</td>
<td>11%</td>
<td>67%</td>
</tr>
<tr>
<td>Eve’s mother</td>
<td>13%</td>
<td>7%</td>
<td>21%</td>
<td>59%</td>
</tr>
<tr>
<td>Naomi’s mother</td>
<td>12%</td>
<td>18%</td>
<td>12%</td>
<td>23%</td>
</tr>
</tbody>
</table>

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But see Weist (1981) where it is argued that Piaget does not actually state that the pre-operational stage or the sensorimotor one is a period when the child lacks the ability to talk about past and future events. This period seems rather a time when children acquire the capacity to represent temporal concepts syntactically and hence to express deictic relationships.
Further evidence comes from the input Turkish children receive. Aksu-Koç (1998) examined the frequency of tense and aspect inflections and their distribution with various lexical classes of verbs in a mother and child conversation. The Turkish mother uses the past tense morpheme -dI most frequently with achievement verbs (70%) and the present/imperfective morpheme -iyor most frequently with activity verbs (61%). However, in the child language corpus, the preference for the pattern of distribution detected in the adult input is stronger (Aksu-Koç 1998: 265):

Table 3

<table>
<thead>
<tr>
<th>morpheme</th>
<th>State</th>
<th>Activity</th>
<th>Accomplishment</th>
<th>Achievement</th>
</tr>
</thead>
<tbody>
<tr>
<td>-dI</td>
<td>Mother</td>
<td>6%</td>
<td>8%</td>
<td>16%</td>
</tr>
<tr>
<td></td>
<td>Child</td>
<td>3%</td>
<td>6%</td>
<td>7%</td>
</tr>
<tr>
<td>-iyor</td>
<td>Mother</td>
<td>21%</td>
<td>61%</td>
<td>9%</td>
</tr>
<tr>
<td></td>
<td>Child</td>
<td>18%</td>
<td>67%</td>
<td>7%</td>
</tr>
</tbody>
</table>

How can one account for this stronger tendency detected in child speech if one assumes that the early distributional pattern reflects the adult norm? Besides reflecting the input, the child’s tendency to restrict one inflection to one aspectual class may suggest that ‘the child tends to simplify the pattern in the input, to carve herself an operational space to figure out how the system to which she is exposed works’ (Aksu-Koç 1998:277). Gradually, children extend the use of tense morphemes to all the classes of predicates. What ‘guides’ them in this shift?

Andersen and Shirai (1995) propose an explanation of this developmental shift in terms of the prototype theory (Rosch 1973, 1978). Early tense marking is analysed as having three relevant features: [+ telic], [+ punctual], [+ result], which the child treats as prototypical. In the beginning, he/she will only associate the past tense markers with those predicates which share the same set of features, i.e. he/she tends to represent events in their prototypical aspect. Gradually, the child will extend the category boundary and make non-canonical aspectual choices. He/she will begin to use the tense inflection with other, more marginal members of the category, as is the adult norm.

The prototypes of past tense and perfective aspect are very similar, if not identical, which makes it very difficult to state whether it is the case that early past tense morphemes encode aspectual features or tense features. This analysis, according to which telicity and pastness share a prototypical representation, leads to a confusion with regard to the dimension which the past tense morpheme targets, and hence significantly weakens the validity of the aspect before tense hypothesis in its strong variant.

### 3.4.3.3 Continuity accounts

#### 3.4.3.3.1 A performance explanation

McKee and Emiliani (1993) re-examine the data from Italian children that Antinucci and Miller (1976) used to demonstrate that the early temporal system is different from that of the adult. McKee and Emiliani argue that the children’s speech is, actually, consistent with the target grammar. This hypothesis is supported by the results of an elicited production task which show that, in spite of some clitic omissions, children have knowledge of clitics and of object agreement in passato prossimo clitic and non-
clitic constructions. They also have correct knowledge of subject-participle agreement. The agreement pattern analysed by Antinucci and Miller as non-adult is assumed, on this view, to be consistent with the adult norm, which allows the past participle in *passato prossimo* configurations to agree with the object when a clitic object is placed in preverbal position (31) but disallows it when an full DP object is used in post-verbal position (32):

\[(31)\] \(Ho\ preso\ le\ calze.\)
\[
\text{have-1\textsuperscript{st} pers. sg. taken the socks}
\]

\[(32)\] \(Le\ o\ prese\ io.\)
\[
\text{clitic-them-fem.pl. have-1\textsuperscript{st} pers.sg. taken-fem.pl} \]

The utterances discussed in Antinucci and Miller are argued not to be deviant from the target, they are only incomplete (they lack an overt clitic); the agreement pattern does show that the clitic is there: 'Briefly, we think it likely that even the youngest children's object agreement only occurred where clitic objects were intended' (McKee and Emiliani 1993). It is for performance reasons (limitations on utterance length, developing lexicons, interactions with stress) that early utterances seem different from the norm.

### 3.4.3.3.2 A subset principle account

In line with the Continuity Hypothesis, Olsen and Weinberg (1999) argue that the asymmetry between the use of the English *-ed* morpheme in child and adult speech does not reveal the existence of different organisational principles in the two grammars. The temporal systems of early speech and of the adult are assumed to be constrained by the same principles. The differences observed between the two are accounted for in terms of the syntactic Subset Principle, in accordance with which children, when forced to choose from a set of possible hypotheses, will start with the most restrictive option, which may differ from the option available in the target language but does not violate UG. Then, on the basis of the positive data provided by the linguistic input, they will relax the initial restrictive option and will switch to the one which is appropriate with respect to the target, i.e. to the option which matches the input.

They adopt the analysis of aspect put forth in Olsen (1997) (which follows mainly the theory of aspect in Smith 1991), according to which the aspectual classification of verbs is taken to operate on the level of semantic features, as shown in the table below (Olsen and Weinberg 1999: 531):

**Table 4**

<table>
<thead>
<tr>
<th>Aspectual class</th>
<th>Telic</th>
<th>Dynamic</th>
<th>Durative</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>State</td>
<td></td>
<td></td>
<td></td>
<td>+ Know, have</td>
</tr>
<tr>
<td>Activity</td>
<td></td>
<td>+</td>
<td>+</td>
<td>March, paint</td>
</tr>
<tr>
<td>Accomplishment</td>
<td>+</td>
<td>+</td>
<td></td>
<td>Destroy</td>
</tr>
<tr>
<td>Achievement</td>
<td>+</td>
<td></td>
<td></td>
<td>Notice, win</td>
</tr>
<tr>
<td>Semelfactive</td>
<td></td>
<td>+</td>
<td></td>
<td>Jump, tap</td>
</tr>
</tbody>
</table>

The features marked with ‘+’ are the only ones which may be used as determinants of the core behaviour of the members of each class. Grammatical aspect interferes with these features and can thus be restricted or unrestricted in predictable ways. Since the child’s early options are guided by the Subset principle, he/she will have to choose the most restrictive option with respect to the mapping between grammatical tense/aspect inflection and aspectual features. A very restrictive option is the one of Chinese, where imperfective affixes are restricted to events, and the one in
Korean, where the perfective is restricted to verbs which have the feature [+telic]. Both Chinese and Korean are UG possible options. The child will initially assume that these restrictions can apply to the target language as well: ‘So children assume as an initial hypothesis in all languages that the imperfective is restricted to [+dynamic] and [+durative] verbs and the perfective to [+telic] predicates.’ (Olsen and Weinberg 1999: 533). If this hypothesis is not appropriate for the target language, the child will see, gradually, that the positive data disconfirm this initial option and will relax it, allowing, for example, the English past perfective morphemes to occur with all the lexical classes of verbs. On such a view, the input helps the child to switch to the adult state.

Their hypothesis is supported by the data in four CHILDES file sets of child English, which provide evidence that children initially choose the most restrictive option, i.e. the most restrictive relationship between grammatical morphemes and lexical aspect. The use of -ed, for example, is initially restricted to [+telic] verbs but gradually, on exposure to adult data, the constraint is relaxed and the children adopt a less restrictive alternative: the number of atelic verbs which appear with -ed increases as they mature.

4 Early tense systems do not lack tense

4.1 The deficient tense hypothesis

The empirical data presented in the previous section only show that children show a preference for certain patterns of distribution of early tense morphemes, they do not actually provide evidence that at an early stage the child uses only this pattern nor that he/she lacks the ability to code deictic relationships. We have seen that as early as the optional infinitive stage, the root infinitive structure can receive present, future and past tense interpretation, in spite of the absence of explicit tense markers. Children seem to have a basic temporal orientation before the onset of tense marking which suggests that they develop time concepts independently of their encoding of tense by inflection.

Also, as Shirai and Andersen (1998), among many others, point out, because telicity and pastness, on the one hand, and atelicity and presentness, on the other, share a prototypical representation, it is difficult to state what exactly a child targets when using a certain tense morpheme. Also, since temporal interpretation also implies aspectual information, it is difficult to tear tense and aspect apart. In some languages, tense and aspect can be marked by one single marker and they can also interfere with modality (see, for example, the case of Greek, Aksu-Koç 1988).

There is evidence both from early corpora of child speech and from experiments that young children use and/or comprehend past tense morphology in the absence of an end result in various languages, such as English (Di Paolo and Smith 1978, Wagner 1999), Serbo-Croat (Radulović, cited in Weist et al. 1984), Polish (Weist et al.1984) and Russian (Gvozdev, cited in Weist et al. 1984). Such data led researchers (Weist et al.1984, Smith and Weist 1987, Fantuzzi 1996, Weist et al. 1997) to conclude that children can assign tense meaning to tense morphology, a point of view radically different from the one supported by advocates of the aspect-before tense hypothesis. The differences between the child’s temporal-aspectual system and the adult’s are accounted for as deriving from a fragile temporal system: ‘young children have not yet securely mapped tense concepts onto tense morphology’ (Wagner 1999:716), which is deficient or limited because it lacks flexible RT and hence embedding possibilities (Smith 1980). Briefly, on such a view, the child’s temporal system is deviant with respect
to the adult norm but it is, however, a deictic system: ‘The child system is simpler but not different in organization from the adult: both have the essential property of relating a time to an orientation time by simultaneity or sequence’ (Smith 1980:265). It is not the case that tense inflection codes aspectual information. Contrasts in tense and contrasts in aspect emerge simultaneously (Weist et al. 1984).

Let us call this the deficient-tense hypothesis and let us see how the deficiency of the early system has been analysed.

Smith (1980), Weist et al. (1984), Smith and Weist (1987), Fantuzzi (1996), Matsuo and Hollebrandse (1999) propose that the child’s early temporal system is simpler in terms of organisation than the adult’s. According to a by now traditional analysis of tense, which goes back to Reichenbach (1947), it is assumed, as already discussed in this chapter, that tense implies three distinct relationships: Speech time (ST) – Reference time (RT), ST- Event time (ET) and ET-RT.

The child’s early temporal system is limited to the relationship between ET and ST. At this stage, RT is always established at ST, it is “fixed”. The child can refer to times other than the present, but only from the point of view of ST, i.e. of NOW. The system involves the basic relational values of simultaneity and sequence, but only with respect to this “fixed” point of orientation. The lack of a flexible RT can explain why embeddings are not possible during this stage (Matsuo and Hollebrandse 1999, Hollebrandse 1998). Aspectual contrast is also present. Time adverbials are rarely used though their presence in the input seems to be relevant for a correct comprehension of temporal values (Wagner 1999). The ability to refer to events from more than one perspective develops gradually, in stages:

What develops gradually is the ability to refer to events from more than one aspectual perspective. It is also necessary for the two parts of the temporal reference system (time order and aspect) to integrate with each other (Smith 1980: 266).

4.2 Two early temporal systems

4.2.1 The case of German

In what follows two developmental ‘stories’ of two different temporal systems will be sketched. One story looks at data from child English, the other one to data from child German. They both assume that early temporal systems are deictic.

Behrens (1993) examines the acquisition of the past tense by seven monolingual German children (aged 1;0 -4;0) and takes the longitudinal data to reveal the existence of three phases of development with respect to the past tense:

Phase I: all the children (with one single exception) used non-finite forms and a few finite forms. However, in spite of the lack of overt tense marking, children already had a basic temporal orientation: they could refer to past and future events.

Phase II: during this stage all the children could use the present tense paradigm and non-finite past participles. The bare past participle (33) and the copula preterite (34) are the first overt markers of past tense (at about age 2):

(33) fasche tunken
    bottle drunken
(34) ba waden (=ba waren)
we were for a walk  

(Behrens 1993:67)

Phase III: all the children acquired complex predicates, notably the Perfekt (a compound form of past tense which requires the use of an auxiliary). The finite auxiliary emerged about 2-3 months after the first markers of past tense:

(35)  
Puppa ist putegange.  
doll is broken  

(Behrens 1993: 68)

The preterite emerges simultaneously with the past participle and Perfekt constructions. However, at this stage, the predominant markers for the past tense remain the past participle and the Perfekt construction. The preterite and the pluperfect (which emerges later) have a marginal role, though the preterite is the standard form used with modals and copulas.

Though one can detect a certain tendency of using the past tense with telic verbs, this preference is not exclusive. German children do not rely on resultativity as a semantic basis for the acquisition of the past tense. Tense morphemes are used not only to refer to aspeccial distinctions but also to genuine temporal reference.

4.2.2 The case of English

Fantuzzi (1996) analyses the Eve files (Brown 1973, CHILDES) with respect to the acquisition of tense. Different stages are observed:

Stage I: most verbs are not inflected for tense, but their temporal meaning is clear from the context. The past tense and progressive inflections emerge at this stage and are used to contrast perfected past events with imperfective present events. The past tense morpheme -ed is mainly used with non-durative verbs (fell, forgot, broke) while the progressive marker –ing occurs mainly with durative ones (swimming, banging, lying down).

Fantuzzi (1996) tries to account for the optional use of tense markers in terms of the deficient tense hypothesis. His core proposal is that at this early stage the temporal system is underspecified: RT is missing. Tense morphemes, when used, refer only to the relationship ET-ST, i.e. they differ from the adult system, where they indicate the relationship RT-ST. Progressive vs. non-progressive aspect is also distinguished:

(36)  

As long as RT is absent, the use of tense morphemes is optional: ‘The obligatory use of tense morphemes in English follows from the establishment of a third reference point and the construction of complex tense structures with syntactic dependencies’ (p. 201).

Stage II: at this stage, there is clear evidence that the system is deictic:

(37)  

I write right there (for a completed event)
Stage III: a third reference point is established: RT. However, the use of auxiliaries and tense inflection is still optional. This suggests that the temporal system is not yet fully adult-like, it does not involve syntactic dependencies between CP and TP in complex clauses. This will only be attained in the next stage.

The two developmental analyses lead to the same conclusion: early temporal systems are deictic before the emergence of overt tense markers. The first overt tense inflections do not refer (only) to aspectual distinctions but to temporal relationships. This conclusion is also supported by experimental data: 16- and 20-month-old English speaking children do include information about temporal order in their representation of experienced event sequences (Bauer and Mandler 1989).

Telicity or resultativity do not seem to be important for the acquisition of tense marking. Such a view is also supported by experimental data regarding children’s comprehension of present, past and future tense in telic and atelic contexts (Wagner 1999). The results of the experiment, which tested monolingual English-speaking children (younger than 4) show that the lexical aspect of the predicate does not influence children’s comprehension of tense morphology, providing evidence that there are not strong conjectures relating semantic features such as resultativity or telicity to tense morphology.

The child’s system differs from the adult’s in terms of simplicity. Early temporal systems lack RT and hence the syntactic dependencies between CP and TP.

Both cases lend support to the deficient tense hypothesis without denying, however, that there is an early connection between lexical aspect and grammatical morphemes of tense and aspect.

SUMMARY

In this chapter the following core issues regarding the acquisition of tense and aspect have been addressed:

- the existence/the absence of an early temporal system
- the emergence of aspect before tense
- innateness and lexical aspect
- the early temporal-aspectual system: is it adult-like in most/all respects?

The following tentative generalisations have been provided:

- morphological markers of aspect seem to emerge earlier than morphological markers of tense, at least in languages in which tense and aspect have different markers. In the absence of tense markers, the markers of aspect can refer to temporal location.
- Lexical aspect can also be associated with temporal interpretation at an early stage and one can also notice an early awareness of the relationship between lexical and grammatical aspect.
- Early tense markers may provide aspectual information.
• The empirical data as well as the available analyses are contradictory with respect to the innateness of aspectual contrasts as well as with respect to the relevance of lexical aspect for the acquisition of the temporal-aspectual system. However, most of the data suggest that children are sensitive to certain associations between lexical classes of verbs or between certain aspectual contrasts and morphological markers of aspect/tense.

• There exists an early deictic temporal-aspectual system which differs from the adult one; it is limited to the relationship between ET and ST. At early stages, RT is always established at ST.

Further reading

Focussed: If you are interested in the acquisition of the Sequence of Tenses, Hollebrandse (1998) presents a challenging hypothesis. If you want to focus on the acquisition of tense-aspect functional elements, Stromswold (1990) is a comprehensive dissertation on learnability and the acquisition of auxiliaries. For data from particular languages, you can go to the references in this chapter.

Textbooks: If you are interested in a very brief presentation of the acquisition of tense and aspect, Goodluck (1991) is a good choice (pp. 128–130).