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# Root infinitives in child second language English: an aspectual features account

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This article examines the emergence of finiteness in early second language (L2) English of five consecutive bilinguals (ages 6 to 9). The departure point is Gavruseva's (2002; 2003) proposal that nonfinite root predicates result from the underspecification of syntactic aspectual heads at the initial state  $S_0$ . Gavruseva's 'underspecification of AspP' account is developed further by examining the feature contents of aspectual projections in English from a crosslinguistic perspective. It is argued that English, in contrast to Russian and French, lacks the genuine imperfective and perfective morphemes and so makes use of a greater variety of aspectual features (e.g., intrinsic and compositional telicity features, *inter alia*). It is also proposed that an English verb's telicity semantics defines its aspectual class and predicts its finiteness status in children's early grammar. An advantage of the 'aspectual features account' is that it explains why statives (inherent atelics) and punctual eventives (inherent telics) show much higher finiteness rates than nonpunctual eventives (an aspectual class defined by a compositional telicity feature) in the child L2 data. Other approaches to the root infinitive phenomenon such as the *Truncation Hypothesis* (Rizzi 1993/94) and the *Morphological Deficit Hypothesis* (Haznedar and Schwartz, 1997; Lardiere, 1998; Prévost and White, 2000) cannot explain these finiteness patterns.

## I Introduction

Recent acquisition work demonstrates that nonfinite root predicates ('root infinitives', or RIs) are a robust phenomenon in child

second language (L2) grammars of English, French and German (Gavruseva and Lardiere, 1996; Grondin and White, 1996; Rohde, 1996; Armon-Lotem, 1997; Haznedar and Schwartz, 1997; Prévost, 1997; Paradis *et al.*, 1998; Paradis and Crago, 2000; Prévost & White, 2000; Haznedar, 2001; Ionin and Wexler, 2002). The main approaches currently used to analyse the properties of RIs in child L2 are Rizzi's (1993/94) *Truncation Hypothesis* (TH) and the *Morphological Deficit Hypothesis* (MDH) (Phillips, 1995; Haznedar and Schwartz, 1997; Lardiere, 1998; Prévost and White, 2000).<sup>1</sup> The TH argues for the absence of the 'Root = CP' Principle from emergent grammars and predicts clear-cut syntactic consequences for finite and nonfinite verb forms (e.g., their different positioning in relation to negation, the absence of nonfinite verbs from *wh*-questions and other CP contexts). The MDH attributes learners' extensive use of nonfinite forms to the sub-component of grammar responsible for a proper morphological spell-out of finiteness features (Agr and Tns).

An important difference between the two approaches lies in the treatment of nonfinite clauses in terms of syntactic structure. Under the TH, children's syntactic competence is argued to be deficient in the principle that ensures consistent projection of the CP layer and functional projections subordinate to it (such as AgrSP, TP, NegP, with possible parametric variation in the dominance order). A consequence of lacking this principle is that early clause structure is much more varied in child grammars, with derivations consisting of the VP shell (minimally), or the VP and any number of its 'extended' functional projections (the term is due to Grimshaw, 1994). If the functional layer of clausal architecture is not part of a syntactic derivation, VP predicates surface in a (default) nonfinite form (for example, an infinitive in child German or French, or a stem in child English). Furthermore, children's learning of verbal morphology is argued not to lie at the

<sup>1</sup>The 'Morphological Deficit Hypothesis' is a broad cover term for a number of accounts of morphological variability in the use of VP predicates ('Missing Inflection Hypothesis', as in Haznedar and Schwarz (1997), 'Missing Surface Inflection Hypothesis', as in Prévost and White (2000), 'dissociation between the development of inflectional affixation and syntactic knowledge of formal features', as in Lardiere (1998: 370)). Phillips (1995: 347) offers the following conclusion with respect to child L1 data: 'two-year-old syntax tolerates the representation of finiteness features, whether in Infl or C, which do not get spelled-out'.

core of the RI phenomenon, although some ongoing learning of morphology is typically assumed; (cf. Rizzi's (1993/94: 374) formulation: '...this isn't just a morphological problem.'). On the other hand, the MDH argues that learners' syntactic competence is adult-like (i.e., early clause structure is comprised of all the relevant functional categories), and therefore nonfinite forms must be analysed as underlyingly finite. The RI phenomenon, then, is strictly a 'morphological problem', with learners substituting nonfinite morphology for finite morphology when needed.

Another difference between the two positions concerns the assumption about what aspect of UG knowledge ensures the availability of functional architecture in clausal structure. Rizzi (1993/94) approaches the issue in terms of an innate syntactic principle acting as a constraint on syntactic derivations (the 'Root = CP' ensures that clauses are projected to CP in adult grammar). The availability of this principle in a child's grammar is argued to be subject to maturation. In early stages of syntactic development, the 'Root = CP' is assumed not to apply to all syntactic derivations. Once it matures, however, RIs are predicted to disappear from children's productions. Depending on the specifics of a maturational timetable, Rizzi's line of analysis predicts a sharp decline in the use of RIs.

The morphological deficit accounts assume that finiteness features are syntactically active at the initial state  $S_0$ . The knowledge of the functional layer is not treated as a constraint subject to maturation but as an innate 'clausal template' wired into the language faculty. As pointed out earlier, the prevalence of RIs is argued to reflect deficiencies in the feature-to-morpheme 'mapping mechanism' at the syntax/morphology interface. On the MDH approach, it is less obvious what developmental status RIs have in child language.

This article is concerned with two developmental facts in child L2 English that cannot be easily accommodated within the TH and MDH frameworks, namely:

- finiteness rates of thematic verbs vary by *Aktionsart* (for example, eventives with punctual semantics and statives are much more likely to be marked for past tense than other aspectual verb types); and

- RIs are primarily comprised of ‘aspectually transient’ eventives, a subclass of thematic verbs that derives an aspectual interpretation from the semantics of NP arguments and/or prepositional complements/adjuncts.

Gavruseva (2002; 2003) develops a framework for an analysis of RIs that provides an account of these central developmental tendencies in child L2 English. The framework views syntactic (functional) aspectual features as one of the core components of finiteness and attributes the RI effect to the underspecified nature of aspectual heads in a syntactic temporal chain (T-chain). Furthermore, Gavruseva proposes that the syntactic licensing of T-chains is subject to the constraint in (1) (where a T-chain consists of CP, TP, AspP (or AktP), and VP):

- 1) A Tense Operator cannot bind T unless a VP predicate is specified for syntactic aspectual features.

The idea behind this constraint is that each finite predicate is first and foremost placed into a temporal interval (via Asp) and subsequently placed into a temporal domain (via Tns). Therefore, syntactic finiteness is best expressed by the dependence of Tns upon Asp. The constraint in (1) predicts that children’s root clauses will contain nonfinite forms if predicates fail to check aspectual features in the appropriate syntactic projections (AspP and/or AktP). The ‘underspecification of AspP hypothesis’ also argues that Asp features are parameterized across languages and that children’s acquisition of finiteness hinges on the morpho-syntactic and semantic specifics of an aspectual system in a given language.

In this article, we pursue the idea of aspectual features parameterization further. We argue that the acquisition of finiteness markers in child L2 English is delayed due to a complex distribution of aspectual features in the inflectional paradigms of present and past tenses. The data used to support this claim come from a longitudinal study of five children (ages 6–9, mean age 7;5) acquiring English as a second language consecutively. The organization of the article is as follows: Section II provides a theoretical background on the crosslinguistic variation in syntactic aspectual features. It also outlines an approach to aspectual classes in English in terms of inherent and noninherent telicity features. Section III

outlines the predictions for the acquisition of finiteness in child L2 within the proposed framework. Section IV discusses the data and coding procedures. Section V presents the results and argues that they are largely compatible with the ‘underspecification of AspP hypothesis’. Section VI concludes the article.

## II Crosslinguistic variation in aspectual features

### 1 Present tense and an imperfective morpheme

There are two departure points to our discussion of the crosslinguistic variation in aspectual functional features. The first is an assumption that an inflectional paradigm in a given tense (present or past, for example) consists of finite forms with tempo-aspectual interpretations. Some of these are semantically dominant or unmarked and can be induced through minimal linguistic (or contextual) resources. Other interpretations are semantically ‘peripheral’ or marked and can be induced only through pragmatic aspectual coercion (de Swart, 1998). The second is an assumption that feature contents of functional aspectual morphemes are independent of lexical semantics of verbal roots (i.e., *Aktionsart*) (Guéron, 2002: 102).

In this subsection, we present evidence that suggests the absence of an imperfective (IMP) syntactic aspectual head in the grammar of English. (The consequences of this syntactico-semantic property of the English aspectual system for language acquisition is discussed separately.) If a grammar avails itself of an IMP morpheme in a present tense inflectional paradigm, for example, finite verbs can typically have at least three (if not more) core tempo-aspectual meanings:

- ongoing/progressive;
- ‘expanded’ present, when a temporal interval is not just a single point on a time axis but also includes an adjacent temporal frame, for example, past; and
- ‘abstract’ (nondeictic) present, or ‘characterizing’ (habitual) aspect (Joos, 1964).

Consider the examples from French and Russian in (2) and (3) and notice that all three interpretations are conveyed by the same morpho-syntactic verb form:

French:

- 2) a. Marie mange une pomme maintenant.  
 Marie eats an apple now  
 'Mary is eating an apple now.'
- b. Marie mange une pomme depuis hier.  
 Marie eats an apple since yesterday  
 'Mary has been eating an apple since yesterday.'
- c. Marie mange des pommes chaque jour.  
 Marie eats DET-indefinite apples every day  
 'Mary eats apples every day.'

Russian:

- 3) a. Masha yest yabloko seychas.  
 Mary eats apple now  
 'Mary is eating an apple now.'
- b. Masha yest yabloko so vcherashnego dnia.  
 Mary eats apple since yesterday's day  
 'Mary has been eating an apple since yesterday.'
- c. Masha yest yabloki kazhdyj den'.  
 Mary eats apples every day  
 'Mary eats apples every day.'

The simple present tense forms in French and Russian (*mange*-3PSg and *yest*-3PSg, respectively) can be used as an answer to the question *What is Mary doing now?* to express a progressive interpretation. In addition, *mange* and *yest* can combine with *since*-adverbials and thereby 'stretch' present tense to include a past temporal interval (hence, the label 'expanded' present), as in (2b) and (3b). Finally, the same forms can express abstract/nondeictic present when combined with the adverbials like *every day*.<sup>2</sup> In all three cases, the tempo-aspectual readings of predicates can be described as semantically unmarked because minimal lexical resources (i.e., adverbials) are used to disambiguate and convey the relevant interpretations. (Notice that adverbials are not required to appear in these present tense contexts if the preceding discourse makes an intended tempo-aspectual interpretation clear.)

Guéron (2002) argues that the syntactic representations of predicates in (2) and (3) include an IMP aspectual morpheme that

<sup>2</sup>Notice that it is more natural to use a plural object in examples (2c) and (3c), which is also true of the English equivalent. In fact, a plural object is the more preferred response in the non-deictic present context, as shown in (i):

- i) A: What does she eat every day?  
 B: Apples/??An apple.

The same also holds for Russian and French. We return to the significance of this point later in the discussion.

consists of the features [+extended, –bounded] (henceforth [+EXT], [–BND]).<sup>3</sup> In French (and other Romance languages) an IMP aspectual morpheme is null in the present tense inflectional paradigm. However, it is overt in the domain of past tense as it has a distinct set of inflectional suffixes (known as *Imparfait*). In Russian (and other Slavic languages) an IMP morpheme is encoded in a verb stem, or it can be expressed by means of imperfectivizing suffixes.

English, on the other hand, is argued to lack an IMP aspectual morpheme because ongoing and expanded present (the two core IMP meanings) cannot be conveyed by present tense forms (Guéron, 2002). The semantics of abstract/nondeictic present can be conveyed, however. This is shown in (4):

- 4) a. What is Mary doing now? \*She eats an apple (now).  
 b. \*Mary eats an apple since yesterday.  
 c. Mary eats apples every day.

The aspectual system of English makes a morpho-syntactic distinction between nondeictic present and deictic present (progressive), as evidenced in the opposition *eat vs. be eating* (Joos, 1964):

- 5) Mary is eating an apple (now).

Observe, however, that the tempo-aspectual semantics encoded by *be ... -ing* forms is not identical to the range of meanings associated with the IMP morpheme in Romance and Slavic. If we add a *since*-adverbial to sentence (5) and thereby expand the predicate's temporal interval, we get an ungrammatical result. As shown by the contrasts in (6), an aspectual auxiliary *have* is necessary to convey the semantics of expanded present:

- 6) a. \*Mary is eating an apple since yesterday.  
 b. Mary has been eating an apple since yesterday.

The ungrammaticality of 6(a) nicely illustrates the relevance of our earlier point, namely, that the semantics of verb forms must be viewed in tempo-aspectual terms. An aspectual component of the progressive meaning is also defined by a temporal property that can be expressed as R = E: Reference Time (= 'now' in (5)) over-

<sup>3</sup>These notations correspond to the French *+étendu* (+extended), *–borné* (–bounded) (Guéron, 2002).



laps with Event Time. When an Event Time precedes and overlaps with Reference Time (i.e.,  $E \leq R$ , where  $R =$  ‘yesterday and now’, as in 6(b)), a tempo-aspectual interpretation of the predicate is signalled by the auxiliary *have* and the participial form of *be* (notice that *been* agrees semantically with the past tense meaning of *since yesterday*, whereas the present tense features of auxiliary *has* convey the ‘now’ meaning of the predicate). To sum up, the morpho-syntactic content of the present tense paradigm in English can be expressed as follows:

- 7) a. *eat* (nondeictic present)
- b. *be eating* (deictic/progressive)
- c. *have been eating* (expanded present)

Unlike in Romance or Slavic where the three meanings in (7) are combined in a single IMP morpheme, English uses a verb stem and two periphrastic constructions to convey the same range of tempo-aspectual interpretations. In the morpho-syntactic opposition in (7), a verb stem functions as an unmarked member (default form) because it can take on a progressive meaning in certain contexts (as in online sports broadcasting) through the process of pragmatic coercion.

How are we to capture the differences in tempo-aspectual semantics of present tense forms between Slavic/Romance and English in syntactic structure? We can safely assume that the *Aktionsart* of *eat* is the same in French, Russian and English (let us describe it simply as ‘eventive’ for now). It follows, then, that the differences must reside in the specifications of an aspectual morpheme that determines the range of tempo-aspectual semantics of *eat* when it is inflected for present tense (recall Guéron’s (2002) point that the feature contents of syntactic aspectual morphemes are language-specific and independent of *Aktionsart*-level semantics).

In Gavrusseva’s (2002; 2003) framework, syntactic features project aspectual heads, some of which can be f-selected by Tns and some of which are situated within the VP shell. Let us assume that T in Slavic/Romance f-selects an Asp head specified as [+IMP], whereas in English, the composite features of the IMP morpheme (+EXT, –BND) are distributed over several functional heads. For example,  $T_{[-past]}$  can f-select an Asp head specified as [–BND] to yield a progressive interpretation. Following

Joos (1964), we define progressive tempo-aspectual semantics as ‘unlimited duration’. Consider the representation in (8):

8) [TP [T<sub>[-past]</sub> [AspP [ASP<sub>[-BND]</sub> (be) [PartP eating]]]]]

Notice that the Asp head in (8) has no [+EXT] value, which accounts for the ungrammaticality of (6a).<sup>4</sup>

Structure (9) shows that the feature [+EXT] is encoded in the auxiliary *have* in English:

9) [TP [T<sub>[-past]</sub> [AspP[ASP [+EXT] (have) [AspP ASP [-BND] (been) [PartP eating]]]]]]]

Comparing the representations in (8) and (9), we furthermore observe that T<sub>[-past]</sub> in English f-selects a variety of aspectual heads with differing featural contents and morphological spell-outs, unlike the French/Russian T<sub>[-past]</sub> that selects a uniquely specified aspectual projection [+IMP].<sup>5</sup> The feature values of the forms with nondeictic present semantics are discussed in the next subsection, under the label of ‘characterizing aspect’.

## 2 Past tense and a perfective morpheme

In this subsection, we focus on the tempo-aspectual meanings of past tense forms and discuss the feature contents of aspectual heads when T is specified as [+past]. First, we note that the IMP features [+EXT, -BND] are carried over into the past tense

<sup>4</sup>It is widely assumed that progressive aspect in English is expressed by the discontinuous *be ... -ing* morpheme. It is a separate theoretical issue whether *ing* is to be viewed as a case of morphological or syntactic affixation, i.e., whether *ing* merges with the verb lexically or in a particular functional projection. In this article, we assume that ‘-ing forms’ are an instance of morphological affixation (for some discussion of the issue, see Baker 2003).

<sup>5</sup>It is often pointed out in aspectual literature that stative verbs in English (e.g., *want*) are compatible with the adverbial *now*:

i) What do you want now? Now I want some wine.

However, such examples do not constitute evidence for the availability of a genuine IMP morpheme because stative predicates do not combine with *since*-adverbials to express expanded present. (The possibility of this meaning is a linguistic diagnostic for the presence of an IMP aspectual head in a grammar.) This is shown in (ii):

ii) a. \*I want a cookie since yesterday.

b. I have wanted a cookie since yesterday.

Observe that the auxiliary *have* (the bearer of a [+EXT] feature) is needed to supply the tempo-aspectual semantics of expanded present. We return to the ‘special’ status of statives with respect to (iia) later in the article.

inflectional paradigms of English, French and Russian. The forms in (10) show that English maintains a three-way tempo-aspectual opposition in past tense. French has an *Imparfait* paradigm that forms an opposition with *passé composé* (e.g., *a mangé* ('have-3PSg eaten') vs. *mangeait* ('ate-3PSgIMP')). Russian maintains an imperfective/perfective contrast in its past tense paradigm (e.g., *yest'* ('to eat-IMP') vs. *poyest'* ('to eat-PERF') vs. *poyedat'* ('to eat rapidly and in large quantities-IMP')).

10) English	French [IMP]	Russian [IMP]
ate	mangeait-3Psg	yel-3PSgMasc.
was eating		poyedal-3PSgMasc.
had been eating		

It is well known, however, that the aspectual semantics of past tense forms are not limited to IMP readings. It is also possible to present a past tense eventuality from a perfective point of view, which is done in Slavic by means of a perfective stem (often distinguished morphologically by a rich set of perfectivizing prefixes and suffixes). In French, we find a combination of the auxiliary *avoir* ('have') or *être* ('be') and a past participle. Interestingly, English offers two morpho-syntactic options for referring to non-IMP past events. Let us examine the relevant facts more closely:

- 11) a. John has eaten a cake (\*yesterday)  
 b. John ate a cake (yesterday)  
 c. Jean a mangé une tarte (hier) [French]  
 Jean has eaten a pie  
 'Jean ate a pie.'

Since the perfective (PERF) aspect forms an opposition with the IMP aspect, both morpho-syntactically and semantically, it stands to reason that the feature contents of the PERF morpheme are comprised of the opposite feature values of the IMP morpheme, specifically [-EXT, +BND]. In Russian and French these features have an overt morphological spell-out: an aspectual auxiliary in French ( $a_{[+PERF]}$ -3PSg in (11c)) and a perfectivizing prefix in Russian ( $poyel_{[+PERF]}$ ). The question now is, does English have a genuine PERF morpheme?

Sentence (11a) shows that the predicate *has eaten* does not combine with the adverbial *yesterday* that indicates only a past temporal interval. This incompatibility is not surprising in light of the

previous suggestion that the auxiliary *have* in English is a spell-out of the [+EXT] aspectual feature indicating that an eventuality is not restricted to a single temporal interval (indeed, the semantics of the ‘present perfect’ in English includes both past and present temporal frames). Let us conclude, then, that present perfect structures do not count as a genuinely PERF predicate because the underlying aspectual features are as follows: *has*<sub>[+EXT]</sub> + *eaten*<sub>[+BND]</sub>. Could it be, then, that the predicate *ate an apple* has a PERF morpheme in its representation, as suggested by the possibility of the adverbial *yesterday*?

The linguistic evidence points against this conclusion. It has long been observed that an English eventive verb in simple past has no ‘fixed’ aspectual interpretation, in contrast to Slavic where it uncontroversially does (Verkuyl, 1972; 1999; Dowty, 1979; Krifka, 1989). In (12), it is shown that an aspectual interpretation of the verb form *walked* can be manipulated by means of the semantics of NP arguments and goal adjuncts (a property that Verkuyl calls ‘aspectual transience’):

- 12) a. John walked. (atelic)  
 b. John walked home. (telic)  
 c. People walked home. (atelic or telic)

The data in (12) (from Verkuyl, 1999: 97) suggest that an addition of the goal adjunct *home* imparts a telic interpretation to the predicate (without this PP, the predicate is interpreted as atelic). Interestingly, (12c) can have either telic or atelic reading, depending on how we interpret the subject NP *people*. If *people* is interpreted as a bare plural, *walked home* has atelic semantics. If, however, *people* has a partitive interpretation (e.g., *some people*) the same predicate can be telic. (These judgements were offered by native-English speakers.)

The fact that it is possible to induce both telic and atelic readings with simple past tense forms in English constitutes evidence that the latter bear no [+PERF] feature. (If finite past tense forms did have this feature, it would not be possible to alter their aspectual semantics.) Following Verkuyl (1972), Tenny (1992), Borer (1994) and Guéron (2002), we conclude that there is no genuine PERF morpheme in English simple past and that the syntactic

structure of predicates as in (12) contains an aspectual head with a different specification. Importantly, this specification needs to be ‘triggered’ in conjunction with NP arguments. In essence, then, we claim that the feature contents of the aspectual head are ‘flexible’ in the English simple past in that they easily lend themselves to local contextual manipulation. Another implication of our claim is that lexical verbs in English have ‘zero’ grammatical aspect (i.e., bear no syntactic aspectual feature) unlike their counterparts in Russian or French.

### 3 *Telicity, Aktionsarten and compositional aspect*

Thus far, we have considered an inventory of functional aspectual features in Romance, Slavic and English. Next, we turn our attention to yet another aspectual category, namely, a telic/atelic distinction (English is the focus of discussion). This syntactico-semantic category needs to be discussed for two reasons. First, it is quite distinct in morpho-syntactic and semantic terms from the IMP/PERF contrast and must therefore be represented differently in syntactic structure. Secondly, it plays an important role, as we argue below, in defining aspectual classes (or *Aktionsarten*) in languages like English.

In the previous subsection, we suggested that the specifications of an aspectual head *f*-selected by the English  $T_{[+past]}$  need to be triggered in syntactic structure (for some predicates only, as we clarify shortly). The triggering is done via the verb’s arguments or adjuncts; cf. examples in (12). Verkuyl (1999) refers to this process as ‘aspectual composition’ and Borer (1994) provides a syntactic analysis of ‘compositional aspect’ arguing for the following syntactic structure:<sup>6</sup>

- 13) [CP [TP [AspP [FP [VP]]]]]

In (13), Asp is *f*-selected by  $T_{[+past]}$  and is specified as [+EM]. This specification can be triggered by movement of the DP object with ‘specified cardinality semantics’ (Verkuyl, 1972); in other words, a count or measure NP (e.g., *a poem, three poems*). The ‘nonspecified cardinality’ NPs (for example, bare plurals or mass

<sup>6</sup>The syntax of aspectual composition is discussed in great detail in Gavrusseva (2002; 2003). For detail please refer to her and Borer’s (1994) work.

nouns) move to a lower projection (FP) to check their case features, and therefore the [+EM] feature of Asp remains inactive. A ‘characterizing aspect’ meaning (or any other ‘nonmeasure’ meaning) is induced instead (we assume that a [–EM] value of Asp imparts this interpretation). Consider examples in (14) (from Partee, 1999):<sup>7</sup>

	for 30 minutes	in 30 minutes	up
14) John ate soup.	✓	*	*
John ate the soup.	(*)	✓	✓
John ate apples.	✓	*	*
John ate two apples.	(*)	✓	✓

The compatibility of the predicate with any of the two temporal expressions and a particle indicates whether a measure or a non-measure interpretation is in effect (*in*-adverbials and the particle *up* signal a measure reading). The fact that finite past verbs in English derive their aspectual semantics from NP/PP arguments or adjuncts suggests to us that compositional aspect is a grammatical category of a different syntactic nature than the IMP–PERF contrast in Romance, for example. Not only does it not have formal grammatical encoding (there are no inflectional paradigms for compositional aspect, for example), neither does it extend to all verbs in the lexicon (again, in contrast to the IMP/PERF aspect). For instance, we do not see much of a difference in aspectual meaning between the predicates in (15) that take semantically distinct NP arguments:

- 15) a. John loved six poems (for a year/\*in a year)  
 b. John loved poetry (for a year/\*in a year)

The sentences in (15) contain a stative verb *love* and show no property of ‘aspectual transience’, as illustrated by the impossibility of using an *in*-adverbial in (15a) where a specified cardinality argument is used.

Gavrusseva (2002; 2003) proposes that English verbs can be divided into three aspectual classes based on the property of ‘aspectual transience’. She suggests that the feature that distinguishes aspectually transient verbs from those that are not is telicity (from the Greek *telos* (= ‘goal’, ‘end’)). Telicity is taken to be an aspectual feature that is either intrinsic or nonintrinsic to a verb’s lexical meaning.

<sup>7</sup>Partee’s notations are as follows: ✓ stands for ‘acceptable’, \* for ‘unacceptable’, (\*) for ‘hardly acceptable’.

Some verbs in English are inherently atelic (i.e., their lexical semantics does not imply any goal or end for an eventuality that they express). Verbs denoting emotional states and psych verbs are good examples of inherent atelics. Other verbs are inherently telic in that their lexical semantics denotes an instantaneous transition to an endpoint (e.g., *find*, *notice*, *forget*, etc.). One property of inherent telics is that they have punctuality semantics and so are generally not used with progressive interpretation (one does not normally say, *Look, he is finding a wallet*). Gavrusseva (2002; 2003) refers to these verbs as punctuals to distinguish them from nonpunctuals that pattern like the verbs *walk* or *eat* discussed earlier. She suggests that nonpunctuals have a property of aspectual transience because they have no inherent telicity feature (or, in other words, they are unspecified for telicity). Table 1 presents a typology of aspectual classes in English (based on Gavrusseva, 2002). The typology in Table 1 suggests that compositional aspect does not apply to all verbs in syntactic structure. Gavrusseva (2002; 2003) proposes that inherent telics and atelics have an interpretable syntactico-semantic feature [+ or –telic] that is checked in an AktP (AktionsartP) projection situated in the VP shell, to distinguish them from nonpunctuals. Consider representation (16):

16) [CP [TP [VP [AktP [Akt<sub>t+/-telic</sub>] VP]]]]

**Table 1** *Aktionsarten* based on intrinsic/nonintrinsic telicity features

V[–telic]	V[+telic]	V[+/-telic]
<ul style="list-style-type: none"> <li>● states and psych verbs: <i>want, love, need, fear</i>, etc.*</li> </ul>	<ul style="list-style-type: none"> <li>● ‘instantaneous transition’ verbs: <i>find, forget, notice</i>, etc.</li> </ul>	<ul style="list-style-type: none"> <li>● measurable events: <i>eat, drink, build</i>, etc.</li> <li>● directional verbs: <i>walk, go, run</i>, etc.</li> </ul>

*Note:* \*A comment on perception verbs (e.g., *see, hear*, etc.) is in order here. Perception verb semantics can be manipulated by context and therefore one and the same verb can be analysed as inherently telic or atelic. For example, the verb *see* can be used to describe a person’s eyesight (e.g., *John saw well when he was little but now he is short-sighted*). The same verb can also be used with punctual semantics (e.g., *Suddenly, John saw a snake*) when the meaning of *saw* is similar to *noticed* in denoting a sudden change in the perception of surroundings. It is most likely that a [–telic] specification is ‘default’ and the opposite value is contextually induced. This does not mean, however, that a child may necessarily start with a default value because both values are determined by the verb’s contextually specific meanings (more on the child’s acquisition of telicity features is said in Section V).

To summarize, just as in the case of simple present, the aspectual features of the English past tense paradigm are diverse and, furthermore, some of them have no overt morphological spell-out (telicity features were a case in point). A unique property of the English past tense is compositional aspect that is syntactically distinct from the IMP–PERF aspect in that its feature specification needs to be triggered by a verb's arguments/adjuncts (as opposed to being 'permanently' encoded in a thematic or nonthematic verb). In addition, there are aspectual verb classes that do not fall into the scope of compositional aspect because they bear an inherent telicity feature. This feature can be simply checked via head movement to AktP.<sup>8</sup>

### III Predictions for the acquisition of finiteness in child L2

Given the analysis of the English aspectual features and Gavrusseva's (2002; 2003) constraint on the syntactic licensing of T, what patterns of verb usage do we expect in children's early productions? First, let us summarize the typology of aspectual features that we arrived at in the course of our discussion. We propose to distinguish between the following kinds of features:

- 1) Syntactico-semantic *Aktionsart*-based features encoded in lexical verb roots (cf. inherent telics/atelics); these features have no morphological spell-out.
- 2) Syntactic (formal) aspectual features that are morphologically spelled-out on lexical verbal categories (e.g., the *Imparfait* paradigm in the French past tense).
- 3) Syntactic (formal) aspectual features that are morphologically spelled out on nonthematic verbs (e.g., the aspectual auxiliaries *be* and *have* in English and French).

<sup>8</sup>The reader should bear in mind that some punctual (+ telic) verbs (e.g., *fall*) can be compatible with a [-EM] functional head. Consider the contrasts in (i):

- i) a. The tree fell on the roof. (telic)
- b. Trees fell silently for hours. (habitual)

The data in (i) show that an intrinsic telicity feature can remain as part of the verb's meaning, while the sentence as a whole receives a habitual interpretation (due to a change in the cardinality semantics of the NP subject). Such examples also underscore the fact that intrinsic telicity (atelicity) interacts in complex ways with functional aspectual heads in syntactic structure. Interactions of this sort create some extra complexity for a language learner who is trying to figure out an aspectual system of the target language.



- 4) Syntactic (formal) aspectual features that need to be triggered via the verb's arguments/adjuncts.

We have seen in the preceding discussion that the aspectual features of English fall into categories (1, 3, and 4), as the morpho-syntactic expression of grammatical (nonlexical) aspect in English extends beyond the domain of lexical V to include nonthematic verbs and nonverbal categories (NPs and PPs, *inter alia*). The next question to ask is, could the features in (1–4) form a hierarchy from the point of view of learnability?

In discussing French and Russian, we have shown that a lexical V is the centre of aspectuality in these languages in the sense that it encodes grammatical aspectual information (e.g., thematic verbs in French and Russian can bear an IMP feature unlike their English counterparts of the same *Aktionsart*). We propose, further, that French and Russian may better reflect a universal tendency of languages to put as much aspectual information into V as possible. A child who acquires English may be inclined to do the same because he or she cannot know that formal aspectual features in English are quite 'removed' from a universal centre of aspectuality.

By hypothesis, then, child learners may start by distinguishing aspectual features in VP shell before aspectual features in higher functional categories. Also, by hypothesis, +/–telic are universally features of the Akt category. Therefore, verbs with these features will be the first to display a finite/nonfinite contrast, by the principle in (1). Children will be slower in acquiring formal features associated with progressive aspect and compositional telicity. This developmental scenario applies to primary language acquisition. It would also apply to consecutive child L2 if the aspectual heads are assumed to be underspecified at the onset of language development. On the 'underspecification of AspP' approach, we expect to observe similarities in the acquisition of finiteness across child L2 learners and between child L1/child L2 learners.

Naturally, another developmental scenario is possible as well in the context of L2 acquisition. For example, L2 children may transfer L1 (the first language) specifications of aspectual heads into L2 grammar. On the transfer approach, we may expect more differences between child L1/child L2 learners. In addition, we may

expect more differences across L2 learners if their native languages differ with respect to syntactic aspect encoding. In this article, we put to an empirical test the predictions of the 'underspecification of Asp' approach. We leave an investigation of the L2 data from the perspective of L1 transfer for future work, as such an approach requires a detailed analysis and comparison of aspectual parameterization across Russian, Japanese, English, and Azerbaijani.

#### IV Data

The data for an analysis come from a longitudinal study of five children learning English as L2 in the USA, in a naturalistic setting. The children's ages at the onset of the study, their L1s, and the data collection schedules are given in Table 2. The participants (all female) were tape-recorded approximately every three to four weeks in spontaneous play at their homes. The audio-recordings were transcribed and checked for accuracy by two research assistants. The children came to the USA with their parents who enrolled them in American elementary schools within the first two to three months of arrival. Thus, we started to document children's linguistic development from the earliest stages, when their language consisted of single words (predominantly nouns) and a few formulaic phrases (e.g., *I don't know*, *What's that?*, etc.). All children were therefore at comparable developmental stages at the beginning of the study. In the later files, the children progressed to two- and multi-word utterances.

**Table 2** Data collection schedules

File	Toshiko (6.4) L1: Japanese	Dasha (8.1) L1: Russian	Alla (6.9) L1: Russian	Tamara (7.10) and Sultana (9.2) L1: Azerbaijani
File 1	Oct. 4, '00	Nov. 14, '94	July 13, '00	Oct. 5, '00
File 2	Oct. 25, '00	Nov. 30, '94	Aug. 30, '00	Nov. 27, '00
File 3	Nov. 29, '00	Dec. 7, '94	Sept.14, '00	Jan. 14, '01
File 4	Dec. 15, '00	Dec. 18, '94	Sept.28, '00	Mar. 31, '01
File 5	Jan. 24, '01	Jan. 13, '95	Nov. 5, '00	Apr. 21, '01
File 6	Feb. 21, '01	Jan. 20, '95	Dec. 3, '00	May 19, '01
File 7	Mar. 21, '01	Jan. 27, '95	Jan. 14, '01	June 10, '01
File 8	Apr. 11, '01	Feb. 10, '95	Mar. 4, '01	
File 9	May 2, '01	Feb. 17, '95	Mar.24, '01	
File 10	May 23, '01	Mar. 3, '95	Apr. 4, '01	

The child data analysed here consist of fully intelligible utterances with a lexical V as a predicate (negative root utterances without *do*-support were also included). All self-repetitions in the same context, repetitions of others' utterances, and unintelligible utterances were excluded from the analysis. Each lexical verb predicate was coded for *Aktionsart* (with respect to telicity), the absence or presence of inflection, and temporal/aspectual interpretation (the latter was determined based on the discourse context immediately preceding and following the children's utterances). We used the coding procedure in Shirai and Andersen (1995: 749) to code lexical Vs by aspectual class.<sup>9</sup> Two coders independently coded the verbs' *Aktionsart* and their temporal/aspectual interpretation (the interrater reliability was 92%). Cases of ambiguous temporal/aspectual reference were excluded from the analysis.

<sup>9</sup>Shirai and Andersen (1995: 749) (henceforth S&A) devised the following coding procedure:

- Step 1: state or nonstate: Does it have a habitual interpretation in simple present tense?
  - If no → state, e.g., *I love you*
  - If yes → nonstate, e.g., *I eat bread* → Go to Step 2
- Step 2: activity or nonactivity: Does 'X is Ving' entail 'X has Ved' without an iterative/habitual meaning? In other words, if you stop in the middle of Ving, have you done the act of V?
  - If yes → activity, e.g., *run*
  - If no → nonactivity, e.g., *run a mile* → Go to Step 3
- Step 3: accomplishment or achievement: [If test (a) does not work, apply test (b), and possibly (c).]
  - a) If 'X Ved in Y time, e.g., 10 minutes', then 'X was Ving during that time.'
    - If yes → accomplishment, e.g., *He painted a picture*
    - If no → achievement, e.g., *He noticed a picture*
  - b) Is there ambiguity with *almost*?

If yes → accomplishment, e.g., *He almost painted a picture* has two readings: 'he almost started to paint a picture/he almost finished painting a picture'.

If no → achievement, e.g., *He almost noticed a picture* has only one reading.

Please refer to S&A's (1995) work for the additional coding steps. Here we would like to clarify S&A's terminology and comment on how we used their coding procedure in this article. First off, S&A used Vendler's (1967) aspectual typology that distinguishes between activities and accomplishments on the one hand, and achievement-type verbs on the other. For example, *run* could be either an activity-type verb or an accomplishment, depending on its arguments (or a lack thereof). In our article, we treat these two aspectual types as aspectually transient predicates (notice that the same verb *run* appears in both predicates). Therefore, we applied Step 2 to single out a class of verbs with flexible telicity values. Step 3 was used to single out a class of inherent telics (or punctuals). Secondly, in applying this coding procedure, we took into account the specifics of discourse context in which a child uttered her utterance. It is not uncommon for young children to create verb meanings that are somewhat different from those found in adult language. For example, when a child said, *We made vegetables*, we interpreted this utterance to mean *We drew some vegetables* if the child was pointing to the pictures of the vegetables drawn at school. The verb *made* was categorized, then, accordingly (namely, as an aspectually transient verb).

We point out that there are some large differences in the children's recording schedules (for example, Dasha's recordings span 3.5 months, Toshiko's and Alla's recordings span, respectively, 7.5 and 8.5 months, and Tamara and Sultana were recorded over an 8-month period but with larger intervals in between the sessions). These differences necessarily constrain the ways in which the data can be interpreted. However, the focus of this study is on the interaction of finiteness with lexical/syntactic aspect in early development. The longitudinal data do allow us to investigate whether the children acquire the aspectual features in a stepwise fashion. Another point to be addressed is the difference in the children's ages at the onset of language development and whether this difference might be implicated in the developmental paths. In other words, do six- and nine-year-olds construct L2 grammars in the same way? We believe it to be an empirical question and so consider the individual child data in the discussion of results.

## V Results

First, consider Table 3, which displays the finiteness rates in past tense according to the predicate's telicity semantics (Appendix 1 gives the individual child results by each file). In comparing the overall finiteness rates by predicate type in terms of percentages, we see that inherent telics and atelics show similar finiteness rates (75% and 79%, respectively). The Wilcoxon Signed Ranks test shows that there is no significant difference between statives and punctuals, with  $p = .715$ . By contrast, statives and punctuals differ from non-punctuals in the finiteness effect (79% vs. 35% and 75% vs. 35%,

**Table 3** Overall finiteness rates by predicate type in the past tense

	Events				States	
	Nonpunctuals		Punctuals		+ finite	-finite
	+ finite	-finite	+ finite	-finite		
Dasha	19% (7)	81% (30)	68% (54)	32% (25)	18% (2)	82% (9)
Alla	50% (13)	50% (13)	100% (39)	0	100% (13)	0
Tamara	57% (4)	43% (3)	92% (24)	8% (2)	100% (2)	0
Sultana	29% (4)	71% (10)	55% (16)	45% (13)	100% (16)	0
Toshiko	41% (7)	59% (10)	61% (14)	39% (9)	100% (1)	0
Total	35% (35)	65% (66)	75% (147)	25% (49)	79% (34)	21% (9)

respectively). The Wilcoxon Signed Ranks test shows that there is a significant difference between states and nonpunctuals at  $p = .048$  and that there is a significant difference between punctuals and nonpunctuals at  $p = .042$ . We conclude, then, that the overall tendencies in the child L2 data are compatible with the hypothesis that the aspectual features situated in the VP shell will be acquired earlier than those that dominate the VP.<sup>10</sup> In addition, we note that these finiteness patterns accord with the tendencies in child L1 English, as reported in Bloom *et al.* (1980) and Shirai and Andersen (1995).

Now, we have pointed out that the observation periods varied across the children and so it is possible that some children deviate from the group means. For example, in Sultana's data finite punctuals occur at the rate of 55%, which is 20% below the group mean. On the other hand, Alla's use of inherent telics remains stable at 100% during the entire observation period and so exceeds the group mean by 25%. These divergences from the central tendencies in the group data suggest that there might be some individual variation in the acquisition of aspectual features, with some children 'hitting' on the [+telic] semantic feature and projecting it to AktP sooner than the other children. What is important, however, is that in all children's data the rate of finite punctuals exceeded the rate of finite nonpunctuals by at least 20%, which is expected on the 'underspecification of AspP' approach.<sup>11</sup>

<sup>10</sup>A file-by-file analysis of the individual child data shows that at no point in language development does the reverse pattern hold (i.e., nonpunctuals never exceed the punctuals in finiteness rates). Dasha's high rates of nonfinite statives are attributed to a possible analysis of *have* as an eventive verb (for a detailed discussion of this child's language development, see Gavrusseva, 2002).

<sup>11</sup>An anonymous reviewer points out that there is a closer similarity between punctuals and nonpunctuals rather than between punctuals and statives in Sultana's data (i.e., 55% is closer to 29% than it is to 100%). This is a reasonable suggestion because punctuals and statives are predicted to behave similarly with respect to finiteness in an ideal acquisition scenario. However, the theory of aspectual features as outlined in this article might allow for some greater difficulties with punctuals in the course of development.

For one thing, an inherently [+telic] feature does not count as a grammatical aspectual feature because it can be combined with a [-EM] head, which confers a habitual reading on the predicate (e.g., *Trees fell silently*). So, in a sense, some children are behaving conservatively in not over-relying on the [+telic] semantic feature and might simply be using it as a kind of 'crutch' in computing syntactic finiteness. (Recall that the constraint in (1) requires that the grammar use an aspectual feature in the representation of T-chains.) Alternatively, some children might not analyse verb meanings in the same way as adults (or other children), which might also explain why the finiteness rates for punctuals might be suppressed in some children's data (i.e., verbs treated as punctuals in adult grammar might not be treated as such by a child).

Within the subclass of nonpunctuals, we considered the distribution of [+EM] and [-EM] predicates by finiteness status to see if there is a tendency for one of the interpretations to be used in a finite form more frequently. In other words, the question is, do children use atelic predicates (e.g., *I ate pasta in Italy*) differently from their telic versions (e.g., *I ate some pasta*) in terms of finiteness? In our framework, there is no reason to expect one value to be acquired earlier than the other because both values are argued to be intrinsic to the same aspectual head and neither is treated as 'default' by the grammar. Consider the data in Table 4.<sup>12</sup> As the percentages in Table 4 show, we have very comparable distributions of finite and nonfinite forms within the [+EM] and [-EM] categories. The Fisher's exact test shows that a predicate's aspectual interpretation and its finiteness status are not co-dependent ( $p = .391$ ).

The individual child data appear to be in line with the group tendencies, although sometimes the number of token predicates is too low to draw any firm conclusions. Alla's (L1 Russian) development is perhaps most interesting because she is the only child who set the values of  $\text{AspP}_{[+/-EM]}$  during the 8-month observation period. From file 8 onwards, we find only two examples of nonfinite predicates with nonpunctual semantics. If we assume that this development marks the acquisition of  $\text{AspP}_{[+EM]}$ , we should be able to find instances of finite predicates with both [+EM] and [-EM] aspectual semantics. This is exactly what Alla's data show:

- 17) a. I went to my friend's house (telic, +EM) [file 8]
- b. Last time we just played on the swing (atelic, -EM) [file 8]
- c. Now we made it (telic, +EM) [file 9]
- d. Yeah, I wrote it over here (telic, +EM) [file 9]
- e. And we rode the bikes with Sally outside (atelic, -EM) [file 9]
- f. I skated with Sarah (atelic, -EM) [file 9]

**Table 4** Overall finiteness rates for [+EM] and [-EM] nonpunctual predicates

	+EM predicates	-EM Predicates
Nonfinite	63% (42)	71% (24)
Finite	37% (25)	29% (10)

<sup>12</sup>The reader can check Appendix 1 for individual child data. The aspectually transient predicates are listed with their objects and goal adjuncts under 'nonpunctuals'.

- g. I went shopping (telic, +EM) [file 10]  
 i. I shuffled them (telic, +EM) [file 10]  
 j. I just laughed and laughed (atelic, -EM) [file 10]

The earlier files (files 3–7) contain mainly nonfinite nonpunctuals and only two finite predicates, both with [+EM] semantics (*went to museum* and *Look what I wrote on back*) (see Table 10 in Appendix 1).<sup>13</sup>

Turning to the distribution of verb forms in the present tense paradigm, we have a picture as depicted in Table 5 (Appendix 2 shows the breakdown of predicates in the individual child data). Recall that stative and eventive predicates have different aspectual interpretations in the English simple present. Eventives are required to be interpreted habitually, whereas statives are not. Furthermore, children cannot rely on the inherently [+telic] feature to confer an ongoing interpretation on punctuals, simply because this feature is semantically incompatible with deictic (ongoing) present. As we discussed in the theoretical section, a [-EM] specification is needed to supply eventive predicates with habitual (or characterizing) aspect semantics.

**Table 5** Overall finiteness rates by predicate type in present tense (3rd PSg contexts only)

Children	Events				States	
	Nonpunctuals		Punctuals			
	+ finite	-finite	+ finite	-finite	+ finite	-finite
Dasha	0	5	0	2	5	25
Alla	4	6	4	0	22	4
Tamara	2	0	2	0	12	0
Sultana	2	0	3	4	8	10
Toshiko	1	13	0	8	19	7
Total	27% (9)	73% (24)	39% (9)	61% (14)	59% (66)	41% (46)

<sup>13</sup>An anonymous reviewer observes that a [-EM] specification does not need ‘triggering’ in the same sense as a [+EM] value and so might be acquired earlier by children. In addition, bare plurals and mass objects check their Accusative case in the Spec of FP, a lower functional projection. NP-movement to Spec, FP exemplifies the Shortest Move and so children might acquire this option sooner than an NP-movement option to the Spec of AspP. This is an interesting possibility. However, it is difficult to test it against our L2 data because the tokens of nonpunctual predicates are unevenly distributed in the children’s files and are too few to draw any firm conclusions.

By hypothesis, children's early grammars are lacking the [-EM] value and so we expect to see eventives with a habitual interpretation in a nonfinite form. This is the pattern that emerges in the child L2 data: both punctuals and nonpunctuals occur in a nonfinite form at similar rates (61% and 73%, respectively). Furthermore, observe that the rates of 3PSg nonfinite nonpunctuals and punctuals are similar to the 71% rate for nonfinite past [-EM] nonpunctuals (an expected outcome, if the nonfiniteness effect here follows from the same property of grammar). The Wilcoxon Signed Ranks test shows that there is no difference between 3PSg nonpunctuals and past [-EM] nonpunctuals ( $p = .345$ ) and that there is no difference between 3PSg punctuals and past [-EM] nonpunctuals ( $p = .273$ ).

A different finiteness picture obtains with 3PSg statives. Children can use an inherently atelic feature of statives in both deictic and nondeictic simple present contexts (*I want a cookie (now)* vs. *I like cookies*) for T-chain licensing. The data in Table 5 show that statives occur more frequently in a finite form than eventives (59% vs. 27% and 39%). The finiteness rate of statives could be even higher if we exclude the verb *have* from the counts in the nonfinite category (recall our note that Dasha might not analyse *have* as a stative verb). On this analysis, the finiteness rate for statives comes to 69% (66/95), which is higher than 59% reported in the table.

Finally, we consider the emergence of progressive morphology (*be ... -ing*). The main focus here is on the acquisition of the aspectual auxiliary *be*. If *be* is a projection of an aspectual head (Ouhalla, 1990) whose feature content (-BND) is underspecified in early grammar, the T-chain cannot be licensed. Therefore, *be* is predicted to be dropped at early stages of development. The VP predicates with ongoing interpretation will be spelled out, then, either as bare stems or bare *-ing* forms. Consider the data in Tables 6 and 7 (the shaded areas show a nonfinite stage when progressive interpretation is conveyed only by bare stems and/or bare participles).<sup>14</sup>

<sup>14</sup>We were not able to identify such a stage for Tamara and Sultana, possibly due to some irregularity in the language sample. Some of the audiotapes turned out to be inaudible, and so we have fewer language files from these two girls.



**Table 6** Progressive aspectual morphology (Dasha, Alla and Toshiko)

	Dasha			Alla			Toshiko		
	stem	'bare' <i>-ing</i>	<i>be</i> + <i>-ing</i>	stem	'bare' <i>ing</i>	<i>be</i> + <i>-ing</i>	stem	'bare' <i>-ing</i>	<i>be</i> + <i>-ing</i>
File 3	15	14	0	7	0	0	0	0	0
File 4	6	6	1	7	0	0	3	0	0
File 5	0	0	0	4	0	1	2	1	4
File 6	18	8	2	0	1	6	3	0	0
File 7	2	4	0	0	0	5	0	0	2
File 8	5	9	0	0	0	4	3	0	6
File 9	4	7	2	0	0	7	1	2	4
File 10	0	1	1	0	0	14	0	4	6
Sub(total)	46% (35)	46% (35)	8% (6)	10% (4)	2% (1)	88% (37)	24% (9)	18% (7)	58% (22)

*Note:* The subtotals reflect the distribution of predicate types in the nonshaded areas only.

The data are largely consistent with our prediction. Three of the children (Dasha, Alla and Toshiko) go through a stage when they use only bare stems and bare participles to indicate ongoing events. Tamara and Sultana show a stage when *be* is omitted (cf. file 4). Consider some representative examples from Alla and Toshiko's data:

- 18) a. (boy) smile [Alla, file 4] ('What's the boy doing?')
- b. (girl) play [Alla, file 4] ('What's the girl doing?')
- c. (girl) draw [Alla, file 4] ('What's the girl doing?')
- d. (he) wash [Alla, file 4] ('What's he doing?')
- e. I kind of make house. [Toshiko, file 4] (while drawing the house)
- f. I do this. [Toshiko, file 4] (while drawing an object)

As for the acquisition of the [-BND] feature with respect to the *Aktionsart*-based features (it was predicted to lag behind the

**Table 7** Progressive aspectual morphology (Tamara and Sultana)

	Tamara			Sultana		
	stem	'bare' <i>-ing</i>	<i>be</i> + <i>-ing</i>	stem	'bare' <i>-ing</i>	<i>be</i> + <i>-ing</i>
File 3	0	0	1	0	0	0
File 4	1	5	12	1	0	2
File 5	0	0	9	0	1	4
File 6	0	1	8	0	2	13
File 7	0	0	1	0	1	11
Total	2.6% (1)	15.7% (6)	81.5% (31)	3% (1)	11% (4)	86% (30)

intrinsic +/–telic features), the child L2 data show some mixed results. Table 8 gives the distribution of finite predicates of various aspectual interpretations over the observation periods showing the omissions of auxiliary *be*.<sup>15</sup> The tendencies in the data are largely consistent with our developmental prediction. In all children’s data, past punctuals occur more frequently in a finite form than the predicates with ongoing semantics. This tendency is most distinct in the data from Alla, Dasha and Toshiko. Sultana’s and Tamara’s data show less of a difference between the two aspectual predicate types, but this might be due to a longer observation period that we considered for this type of analysis. (There was not enough data available for a shorter period of time due to some irregularities in the recording schedule.) Statives in 3PSg present contexts also occur in a finite form more frequently than ongoing predicates, in particular in Alla’s and Dasha’s data. There were too few 3PSg statives in the other children’s data, which may account for the less consistent results.

We have also included the finiteness rates of predicates requiring the [+/-EM] aspectual head. Alla’s and Dasha’s data in Table 8 show that the acquisition of the [-BND] parallels the acquisition of the [+/-EM] feature in that the finiteness rates for the predicates that rely on this feature are quite low. The results from the other children are less clear. Given some individual variation in

**Table 8** The finiteness rates by aspectual predicate types

Child [file] = months	Punctuals (past, + finite)	States (3PSg, + finite)	BE (-bnd, + finite)	Nonpunctuals (past, + finite)	Eventives (3PSg, + finite)
Alla [3–6] = 4.5	100% (9)	70% (7/10)	24% (6/25)	15% (2/13)	14% (1/7)
Dasha [1–10] = 3.5	68% (54/79)	22% (5/23)	8% (6/76)	19% (7/37)	0 (0/7)
Toshiko [3–6] = 4.5	100% (3/3)	0 (0/2)	31% (4/13)	0 (0/2)	0 (0/2)
Tamara [1–4] = 6	89% (8/9)	100% (2/2)	70.5% (12/17)	75% (3/4)	100% (1/1)
Sultana [1–4] = 6	100% (3/3)	50% (1/2)	67% (2/3)	25% (1/4)	100% (3/3)

<sup>15</sup>Note that we combined punctuals and nonpunctuals in the 3PSg category because the theory predicts that they should behave similarly with respect to finiteness in this temporal domain. The 3PSg statives in Dasha’s data exclude the verb *have*.

the acquisition data, our developmental predictions need further empirical investigation with a greater number of L2 children.

## VI Conclusions

In this article, we argued that syntactic aspectual features are an essential component of finiteness and therefore must be considered in the investigations of the initial state  $S_0$  of child L2 grammars. In a comparative analysis of the aspectual systems in French/Russian and English, we proposed that English lacks the genuine IMP and PERF morphemes, in contrast to French and Russian. Instead, English encodes the IMP features (+extended, –bounded) in separate aspectual heads and syntactically implements the PERF feature in terms of the telic/atelic distinction. These crosslinguistic differences were taken as evidence that the feature contents of syntactic aspectual heads are parameterized across languages and that children have to learn their specifications on the basis of positive evidence.

Following Gavruseva (2002; 2003), we assumed that the initial state of child L2 grammars is characterized by underspecified aspectual features. A distinction between the types of formal aspectual features led us to propose that the features intrinsic to lexical Vs should be acquired first by the children. This is because their syntax is less complex than the syntax of features that are imparted to verbs by nonverbal categories (e.g., the verbs' arguments or adjuncts). It was assumed, along the lines of Gavruseva, that English distinguishes between three major types of *Aktionssarten* (aspectual classes) on the basis of intrinsic and nonintrinsic (compositional) telicity features. In the child L2 data analysed here, the [+/-telic] values inherent to lexical Vs were shown to be acquired earlier than the predicate-based telicity features, as predicted by Gavruseva's theory. It was also emphasized that one needs to consider how aspectual features work in different temporal domains (e.g., present or past). For example, children's acquisition of the [+telic] feature may allow them to use punctuals in a finite form in deictic past but not in deictic present.

Finally, we point out that the framework of analysis developed here explains why the Root Infinitive stage shows a gradual

decline in child L2 English. If the telic/atelic distinction is firmly entrenched in the English system of *Aktionsarten*, children may take a considerable time to figure out how lexical V<sub>s</sub> with transient telicity semantics get specified for syntactic aspect. For example, the feature-setting process might require some parallel developments in the syntax/semantics of noun phrases, in particular, knowledge of the NP cardinality semantics and its contribution to compositional telicity. On the other hand, the [-BND] feature associated with progressive aspect was shown to present less difficulty for most children, presumably because this feature is encoded in a single morpheme realized as a nonthematic verb (and so is easier to discover than compositional telicity that has a variety of syntactic sources). We hope to have shown that the proposed framework presents a viable alternative to other theories of the RI stage such as the TH and the MDH.

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**Appendix 1**<sup>16</sup>**Table 9** Aspectual verb types and finiteness in past tense (Toshiko)

Date [File]	Events		States
	Nonpunctuals	Punctual	
12–15 [4]	–	say	–
01–24 [5]	–	–	–
02–21 [6]	not play make bee	said × 2	–
03–02 [7]	made a vegetables made you (= <i>drew</i> )  make a vegetables make up all the vegetables make all the vegetables draw purple	forgot stamp forgot brought this  say × 2 ask	–
04–11 [8]	made a this part × 2 made a brown (= <i>drew</i> )  wash make a light brown (= <i>drew</i> )	forgot pink forgot forgot but founded mine  miss it see it × 2	–
05–02 [9]	read it	found it said no catch tell it	–
05–23 [10]	made it made at school  read it	found it saw big ears forgot it name is forgot it	wanted

<sup>16</sup>Symbol '×' next to a verb indicates how many times this verb (or a VP predicate) appeared in the transcript. The verbs in brackets containing '=' symbol clarify a verb's meaning as defined by the context of interaction.

**Table 10** Aspectual verb types and finiteness in past tense (Alla)

Date [File]	Events		States
	Nonpunctual	Punctual	
09–14 [3]	play	–	–
09–28 [4]	read draw play yesterday show me make circle	–	–
11–05 [5]	–	got 68 candies	–
12–03 [6]	went to museum (look what I) wrote on back  think draw this color it × 2 teach me	got this × 2 looked over here guessed forgot to eat mine said... came with my black forgot to eat me	needed wanted
01–14[7]	–	saw at Olga's home forgot guessed saw this game forgot to tell something	had it
03–04 [8]	went to my friend's house played on the swing	forgot to get this forgot to put... forgot my two paydays forgot to pay my house fell down got through here	had hundred wanted × 3
03–24 [9]	made it wrote it over here rode the bikes outside skated with Sarah make them show a trick (=teach)	forgot founded came said 'maybe'	wanted had × 2
04–04 [10]	went shopping showed you that trick shuffled them made with my mom laughed	lost my tooth started fell × 2 tried it × 2 told me got rid of my pile fell off looked at you dumped it off tried to stay got it off jumped right over it started to blow	had × 2 wanted



**Table 11** Aspectual verb types and finiteness in past tense (Sultana)

Date [File]	Events		States
	Nonpunctual	Punctual	
01–14 [3]	play outside	–	–
03–31 [4]	bowled	said × 2 forgot	wanted × 4
	go library draw it		
04–21 [5]	go Ania's house copy from there go Chicago do it bad one (= draw)	forgot one saw × 2 said  look through ask × 3 see you × 2 see the castle? see it, castle come here × 2	wanted × 11
05–19 [6]	went to look  go somewhere yesterday go to Walmart	forgot this one asked you said forgot missed a one  give it × 2	wanted
06–10 [7]	drawed with this weared them  he speak it a lot	lost all of them said forgot gave presents her father ask	

**Table 12** Aspectual verb types and finiteness in past tense (Tamara)

Date [File]	Events		States
	Nonpunctual	Punctual	
03–31 [4]	played with Ania played did bubbles (=made)  read a books	did the couch (=put) sitted like that (=sat down) got some card finded blue finded baby one forgot finded Izzy finded TK	
04–21 [5]	draw it × 2	find this one  saw you saw him got piano said to me forgot saw your cards asked queen bringeded you	
05–19 [6]	did blue-green (=draw)	come to us house gave me this asked that saw it said	wanted
06–10 [7]		lost my earing put lunch brought that game finished all the rooms	had

**Table 13** Aspectual verb types and finiteness in past tense (Dasha)

Date [File]	Events		States
	Nonpunctual	Punctual	
11–30 [2]	drink it play draw pictures		
12–07 [3]	stay here × 2	said × 5 eated (= snap up)	
12–18 [4]	goes downstairs eated all of it  go to Italy go to mountain go to our house make pizza play	said × 3 saw × 6 told × 3 eated  see × 2	have
01–13 [5]	eat pizza eat macaroni × 2	saw	
01–20 [6]	wrote  go to the M's house eat snake eat some what make doing-dong (= ring) teach me play with	dropped did × 4 (= snap up) told × 2 said  call for pizza call pizza leave the cards eat her (= snap up) eat me win eat your queen eat her queen give me do here (= turn)	have × 5
01–27 [7]	play × 2 eat chicken × 2	said × 3 put did (= raise) come do for me × 2 (= cause)	wanted × 2
02–10 [8]	ate another piece ate three pizza  eat fish eat pasta × 2 go to mountain go aftercare eat this little eat all of one	gave × 2 said × 3 finished told took did × 2 (= take)  get it bring × 4 ask buy	have × 2 want

*(continued)*

**Table 13** (continued)

Date [File]	Events		States
	Nonpunctual	Punctual	
02–17 [9]	made it did pee-pee	took × 2 told said losed × 2 put did × 2 (= close) close the door do for us (= close) gave said	–       –
03–03 [10]	–	see it	

## Appendix 2

**Table 14** Aspectual verb types and finiteness in present tense (Toshiko)

Date [File]	Events		States
	Nonpunctual	Punctual	
12–15 [4]	–	–	–
01–24 [5]	–	sit down	–
02–21 [6]	sit	–	love like
03–21 [7]	round it go	–	–
04–11 [8]	–	–	want love has
05–02 [9]	do it go in a house climb up a bed sleep go in a zoo live stays play swim fly not work fly up	get out	likes × 2 goes back (= belong) loves
05–23 [10]		go out come out × 4 call (me?) apple	goes × 14 smell bad feel bad want

**Table 15** Aspectual verb types and finiteness in present tense (Alla)

Date [File]	Events		States
	Nonpunctual	Punctual	
09–14 [3]	–	–	likes
09–28 [4]	–	–	likes equals five makes 100 makes 8 like want
11–05 [5]	watch TV sit over there sleep go to the zoo go over here do like this	says	not stick
12–03 [6]	–	–	makes 12 that makes 8
01–04 [7]	–	–	looks like a hands likes has like
03–04 [8]	helps goes on and off	says	means counts knows smells like potato
03–24 [9]	lives thinks	flips says	means has knows has × 2
04–04 [10]	–	–	looks like a bridge looks like a T wants

**Table 16** Aspectual verb types and finiteness in present tense (Sultana)

Date [File]	Events		States
	Nonpunctual	Punctual	
01–14 [3]	–	–	not go here
03–31 [4]	–	says × 3	wants need
04–21 [5]	plays	say ask × 2	knows × 3 likes have × 2 mean
05–19 [6]	sits	start	have × 3 mean like
06–10 [7]	–	–	likes × 2 hurts

**Table 17** Aspectual verb types and finiteness in present tense (Tamara)

Date [File]	Events		States
	Nonpunctual	Punctual	
03–31 [4]	–	takes	wants has
04–21 [5]	–	–	means
05–19 [6]	walks sits	looks down	has × 3 knows × 2 wants
06–10 [7]	–	–	has × 2 wants

**Table 18** Aspectual verb types and finiteness in present tense (Dasha)

File [Date]	Events		States
	Nonpunctual	Punctual	
12–07 [3]	work do that × 2	–	look like dog look like egg look stupid like × 2
12–18 [4]	–	break	look like girl have know
01–20 [6]	stay	–	want have
01–27 [7]	–	–	look like have want
02–10 [8]	–	–	means × 3 has × 2 have × 2 hurt like
02–17 [9]	think	call	look like hurt want × 2 have
03–03 [10]	–	–	have × 2 like