

COPULA OMISSION IN L1 ENGLISH WH-QUESTIONS

Tobin R. Skinner
McGill University

In this study, I will examine the acquisition of the English copula *be* in early child grammar, focusing specifically on its pattern of omission in *wh*-questions. While much attention has been paid to the omission of the copula in declarative statements (see Becker 2000, Wexler 2000), these studies have incorporated relatively little or no analysis of the same or similar phenomena in children's interrogative *wh*-constructions. Copula omissions in *wh*-questions, however, are well attested in the observable data. The following examples from the CHILDES database (MacWhinney 2000) serve to illustrate that such omissions occur in children's speech¹:

- (1) a. *NIN: where my pencil Mommy? (Nina 7)
- b. *PET: where the other one? (Peter 10)
- c. *NAO: where boat? (Naomi 56)

Wh-questions often have distinct properties from declaratives, and the processes involved in *wh*-movement and I-to-C movement may interact with the requirements of the copula. The question we must inevitably ask, therefore, is will an analysis of the pattern of omission of the copula in children's *wh*-questions yield the same results as the studies on copula omission in children's declarative statements, and, if not, why? I intend to show that *wh*-questions in early child English do reflect the syntax-semantics interface relations shown in Becker (2000). Additionally, I will propose a model of *wh*-movement which reconciles these findings with Schütze's ATOM (Agreement/Tense Omission Model) of early child language. However, before we can discuss the implications of such a question and its possible answers, we must understand the previous work done on the copula *be* in declarative utterances.

1. Background: Copula omission in children's declarative phrases

Becker (2000) shows that the copula is omitted more regularly in **stage-level predicates (SL)** than in **individual-level predicates (IL)**. The semantic distinction between these two types of predicates is well documented (Kratzer 1995):

¹ The number following the child's name indicates the file number from which the data was taken.

- (2) a. John is tired. (SL)
 b. John is intelligent. (IL)

A stage-level predicate is one that describes a temporary characteristic, or a situation that is delimited in time, which has beginning and endpoints. So, *John is tired* describes a situation in which John is tired right now, but we can assume that there was a time, and will be a time, when John will cease to be tired. An individual-level predicate, on the other hand, describes a situation that has no temporal boundaries. *John is intelligent* does not describe a state that will change. Intelligence is an inherent, and thus immutable, characteristic of John.²

Becker (2000) shows that children are more likely to omit the copula in phrases that describe temporary characteristics (SL predicates), and are more likely to produce an overt copula in phrases that describe permanent characteristics (IL predicates). That is, we see the following pattern in their speech (CHILDES data reproduced from Becker 2000, (6), p. 107; predicate type distinction added by me):

- (3) a. *PET: this empty. (Peter 10) → SL
 b. *PET: this is orange. (Peter 10) → IL
 c. *NIN: her thirsty. (Nina 13) → SL
 d. *NIN: it's big. (Nina 10) → IL
 e. *NAO: you warm enough. (Naomi 62) → SL
 f. *NAO: that's green. (Naomi 47) → IL

This pattern of copula omission was found to hold statistically in children's spontaneous speech. Table 4 (re-created from Becker's Table 3) shows the rate of *overt* copulas in the speech of our three subjects:

(4) *Children's rate of overt copula in declarative utterances*

	Nina	Peter	Naomi	Average
% <i>be</i> + temp. adj. (n)	41.9% (31)	55.6% (54)	34.5% (29)	44%
% <i>be</i> + perm. adj. (n)	75% (16)	81.3% (16)	87.5% (8)	81.3%

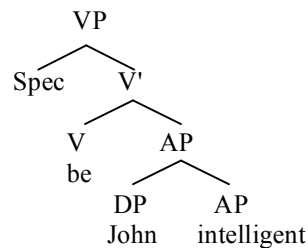
In addition to these adjectival predicatives, most locative predicatives are stage-level, as well, given that they express the temporary location of something. This yields the following zero copula examples (data from Becker, (5), p. 107):

- (5) a. *PET: my pen down there. (Peter 6)
 b. *NIN: foot in the water. (Nina 7)
 c. *NAO: Eric at Cathy house. (Naomi 60)

² For more on the stage-level v. individual-level distinction, see Kratzer (1995)

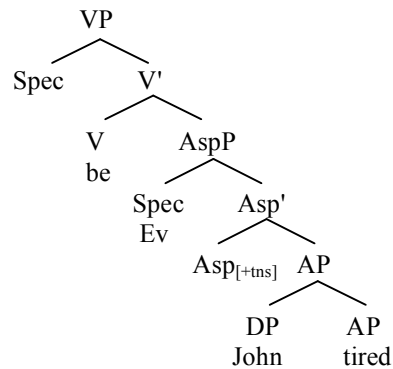
Becker (2000) proposes that an overt copula appears when there are tense features on T, but no verbal predicate. The copula is thus the overt realization of tense. Under adult-like conditions, these tense features are present on T in order to satisfy a constraint that requires tense on all clauses. In other words, all clauses must contain tense features. Becker (2000) suggests that SL predicates contain an aspectual temporal feature that can supplant this tense feature on T, thus eliminating the need for an overt copula. According to Becker, this temporal feature is realized as an aspectual phrasal projection in the small clause, and thus it suffices to provide the entire utterance with a temporal reference (p. 111). While it is not explained exactly how this aspectual feature allows for the omission of tense, we may attribute it to processing limitations in early child language that prevent an utterance from representing temporal reference via both an overt tense marker and an aspectual temporal projection. IL predicates, on the other hand, do not have this aspectual temporal feature, and so require a tense feature on T, causing an overt copula. In order to understand the underlying structural differences between these two types of clauses in copula constructions, we must keep in mind that *be* is a raising verb that takes a small clause complement, and raises the small clause subject to matrix subject position. Stage-level and individual-level predicates select for structurally different small clauses. The stage-level small clause includes an additional temporal functional projection that satisfies the phrase's need for tense. Since the individual-level small clause does not have this projection, overt tense-marking is required³:

(6) a. Individual-level small clause



³ Kratzer (1995) posits “Ev”, a Davidsonian Event argument, in the specifier of AspP. This is reflected in the structure above, but nothing in the account here hinges on details about the structural realization of the event argument.

b. Stage-level small clause



The presence or absence of the functional AspP projection depends on the temporal boundedness of the predicate; temporally bounded predicates (SL) will get this AspP, while temporally *un*bounded predicates (IL) will not. This explanatory account leads us to believe that the syntactic and semantic distinctions between these types of constructions are already known to the child. The crucial difference between the child and adult grammars is the optionality of the tense node in the child grammar, which adults require. Presumably, the child will eventually converge on the adult grammar by learning that a tense node T must be present even if the derivation contains an aspectual temporal projection.

2. Methods

All data were gathered from the CHILDES database, using the same subjects from Becker (2000) (Nina, Peter, and Naomi) at the same ages (2;0-2;3 for Nina (Suppes 1973) and Peter (Bloom 1970), 2;0-2;5 for Naomi (Sachs 1983)). All child utterances containing a *wh*-word were analyzed for zero copula. Phrases with full lexical verbs were not considered, nor were auxiliary forms of *be*, since omission of auxiliary *be* is arguably related only to the *optional infinitive* stage of language development, and not to selectional criteria of the copula in small clause predication.

The semantics of each phrase were analyzed individually to determine whether the *wh*-word had replaced a constituent of a stage-level predicate or an individual-level predicate, based on the previous description of this distinction. For example:

- (6) a. *NIN: where my pencil Mommy? (Nina 7) → no copula, SL
 b. *PET: who's that? (Peter 10) → copula, IL
 c. *NAO: what's in there? (Naomi 46) → copula, SL

Occurrences of *who*, *what*, *when*, and *where* were coded according to the type of small clause predication they represented. There were no relevant occurrences of phrases with *why*, *which*, or *how* in the data.

3. Results

Our results show a pattern of copula omission in children's *wh*-questions in many ways similar to that shown in Becker (2000) for declaratives. Specifically, the copula is omitted at a higher rate in stage-level predicates than in individual-level predicates. Table 7 shows the percentages of **overt** copula in the three subjects' production of stage-level and individual-level [+*wh*] predicates. Tables 8 and 9 compare our *wh*-question results with Becker's results for declarative utterances in stage-level and individual-level predicates, respectively:

(7) *Rate of overt copula in interrogative wh-questions*

	Nina	Peter	Naomi	Average
Stage-level	80.8% (26)	87.2% (109)	77.2% (22)	81.7%
Individual-level	100% (1)	100% (98)	100% (21)	100%

(8) *Rate comparison of overt copula in SL declaratives and SL wh-questions*

	Nina	Peter	Naomi	Average
Declaratives	41.9% (31)	55.6% (54)	34.5% (29)	44%
<i>Wh</i> -questions	80.8% (26)	87.2% (109)	77.2% (22)	81.7%

(9) *Rate comparison of overt copula in IL declaratives and IL wh-questions*

	Nina	Peter	Naomi	Average
Declaratives	75% (16)	81.3% (16)	87.5% (8)	81.3%
<i>Wh</i> -questions	100% (1)	100% (98)	100% (21)	100%

There are two aspects of our results that must be addressed. First, and most striking, is the complete absence of copula omission in IL *wh*-questions. Second, the average rate of overt copula in SL *wh*-questions is much higher than the average rate of overt copula in SL declarative utterances (81.7% for the former, compared with 44% for the latter). We will deal with the higher rate of overt copula in stage-level predicates first, and will later discuss possible explanations of the lack of copula omission in individual-level predicates.

4. Nature of the copula *be*

Our data show that rates of copula omission vary between declaratives and interrogatives in the spontaneous speech of children at the same level of development. In order to understand why this is so, we need to uncover the mechanics behind the possible omission/overtness of *be*. Prior to Becker's

(2000) results and the results of this study, one may have been tempted to attribute the possibility of omitting *be* to its semantic vacuity – it is a rather meaningless verb, and is absent in several languages – but the systematicity underlying its omission would cast doubt on this hypothesis. While its lack of robust semantic function may qualify it as a good candidate for deletion under performance pressures, it is obvious that much more is happening under the surface, and that the impetus for its deletion and retention cannot be explained away so easily.

The explanation given for early optional infinitives (OI) in Schütze and Wexler (1996) offers a starting point for our exploration of the underlying causes of copula omission in early child English. Following Chomsky (1993), Schütze and Wexler divide INFL into separate Tense and Agreement constituents. Their Agreement/Tense Omission Model (ATOM) attributes several morphosyntactic phenomena specific to child language, including optional infinitives (realized as bare verb forms in English; e.g. *Daddy go to the store.*), to the underspecification of Tense (T) or Agreement (AgrS) features. For example, when INFL is fully specified for Tense, but not Agreement ([+tns, -agr]), a tensed phrase with a non-NOM subject is produced (e.g. *him cried*). However, if INFL is fully specified for Agr, but not Tense ([-tns, +agr]), the result is an utterance with a NOM subject, but which lacks a tensed verb (e.g. *he cry*). Of course, if both Tense and Agr are fully specified ([+tns, +agr]), an adult-like phrase is produced (e.g. *he cries*).

The ATOM does well in describing children’s speech production habits when it comes to full lexical verbs, but the copula *be* (and, indeed, other forms of *be*, as well) pose a tricky problem. Namely, the morphology of *be* precludes overtness with underspecification of either Tense or Agreement features.⁴ Assuming the framework of Distributed Morphology (Halle and Marantz 1993, Bobaljik 1995), we can assume that T and AgrS are *fused* at the morphological level in English, creating one locus for vocabulary insertion.⁵ That is, after syntactic operations are complete, T and AgrS combine to form one slot into which a lexical vocabulary item may be inserted, essentially reconstituting the split-INFL. Schütze (2002) takes this idea one step further in the case of the verb *be*:

“My extension of this idea is that finite forms of *be* result from a structure in which a Verb head has fused with an INFL head. That is, there is only a single locus for vocabulary insertion of entire finite forms of *be*, a syntactic terminal node with values for person/number, tense, and lexical category [...] (10)”

We get the resulting super-structure [(Tense + AgrS) + V], which is one single fused locus for insertion of finite forms of *be*. However, what happens to

⁴ Much of the discussion on Distributed Morphology is taken from Schütze (2002)

⁵ Under DM, vocabulary insertion is assumed to occur after syntactic operations have been completed (*late insertion*).

morphological insertion of *be* when Tense and/or Agreement are underspecified in the child language? According to DM, a vocabulary item must match the features of its recipient slot. In other words, a [-agr] vocabulary item will not fit into a syntactic structure with an AgrS category. Therefore, in the event of underspecification of Tense and/or Agreement features of *be*, the finite verb form is left unpronounced in the overt syntax.

This analysis of *be* under Distributed Morphology and the ATOM implies that, in order for *be* to appear overtly in the syntax, it must be specified for both Tense and Agreement; if one or the other is underspecified, *be* will be omitted. Additionally, the subject of overt finite *be* will always be NOM, since Agr must always be fully specified. Schütze (2002) finds exactly this. In his analysis of data from the CHILDES database, non-NOM subjects appear only in cases of omitted copula, whereas subjects are NOM when finite *be* is overt.

5. Analysis

The analysis of the copula under Distributed Morphology and the ATOM has several implications for the current study, including the following:

- Most obviously, since the copula invariably appears overtly in individual-level *wh*-questions, we can conclude that these phrases must be specified for both Tense and Agreement features.
- Consequently, we can also assume that stage-level predicate *wh*-questions may be underspecified for either Tense or Agreement, since the copula may be omitted.
- If the above assumptions are correct, we may even further conclude that declarative predicates may also be underspecified for Tense and/or Agreement, since the copula may be omitted in these utterances, as well.

Given Becker's (2000) claim that an aspectual temporal feature $\text{Asp}_{[+\text{tns}]}$ ⁶ suffices to give the utterance a temporal reference, we can logically infer that the declarative stage-level predicates in which the copula is omitted are likely underspecified for Tense, given that they contain this aspectual temporal feature, and evidence shows that the copula is often omitted. Of course, this certainly does not preclude an additional underspecification of Agreement under the ATOM. Therefore, to couch Becker's language within an ATOM and DM framework, instead of saying that the temporal AspP of stage-level predicates suffices for tense, thus canceling the need for an overt tense marker (i.e. the copula *be*), we can say that the temporal AspP provokes underspecification of Tense, which, in turn, prevents the morphological insertion of a finite form of *be* into the [(Tense + AgrS) + V] super-structure. The notion of processing limitations is still operable under this view, in that the presence of both $\text{Asp}_{[+\text{tns}]}$ and a fully-specified Tense node would be redundant, and so the child

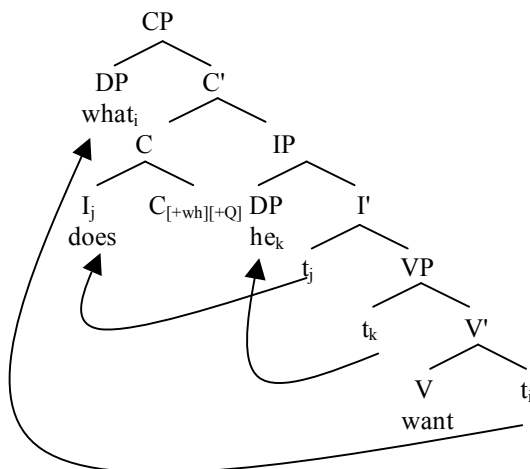
⁶ Note that while Becker (2000) refers to this head as $\text{Asp}_{[+\text{temp}]}$, for ease of reference we will refer to it as $\text{Asp}_{[+\text{tns}]}$ here, since we are working under the assumption that the aspectual feature of this head functions similarly to Tense.

underspecifies Tense when the stage-level $\text{Asp}_{[+\text{tns}]}$ head is present.

However, the case of *wh*-questions presents a possible wrench in this machinery. That is, if stage-level predicates are more likely to be underspecified for Tense, and optionally Agreement, why are the rates of copula omission in SL *wh*-questions so much lower than those of SL declaratives for the same children at the same level of development? If SL *wh*-questions were underspecified for Tense, in the same manner as SL declaratives, we would expect similar rates of omission of the copula. This is not the case, however. The copula is omitted in nearly 40% more of the total cases in SL declaratives than in SL *wh*-questions. Thus, the pattern of ATOM-type underspecification in stage-level *wh*-questions must also be different from that of stage-level declaratives. More specifically, SL *wh*-questions must be specified for both Tense and Agreement features more often than SL declaratives.

To explain this, I turn to I-to-C movement. I-to-C movement in English questions is usually explained as the $C_{[+Q]}$'s need to have an I. There is, however, a more intricate view of this phenomenon, namely that I-to-C movement is motivated by the interrogative $C_{[+Q]}$'s need for a Tense feature. That is, $C_{[+Q]}$ does not specifically require an I node, but rather it requires the Tense feature normally found in that node. If we assume that I moves to $C_{[+Q]}$ only to satisfy a need of the $C_{[+Q]}$ for Tense, then the sole driving force behind this movement operation is the $C_{[+Q]}$'s tense requirement. In other words, I itself in no way motivates its own movement to $C_{[+Q]}$. Rather, it is "pulled up" by $C_{[+Q]}$ in an AttractF function. Pesetsky and Torrego (2001) similarly explain the motivation for I-to-C movement by claiming that C bears an uninterpretable T feature with the EPP property. To illustrate this idea, I offer an example of *do*-support in an English interrogative construction. In the below tree, I has moved to $C_{[+Q]}$ only to satisfy the $C_{[+Q]}$'s need for Tense. The resulting stranded I is rescued at Phonological Form via insertion of *do*:

(11) *What does he want?*



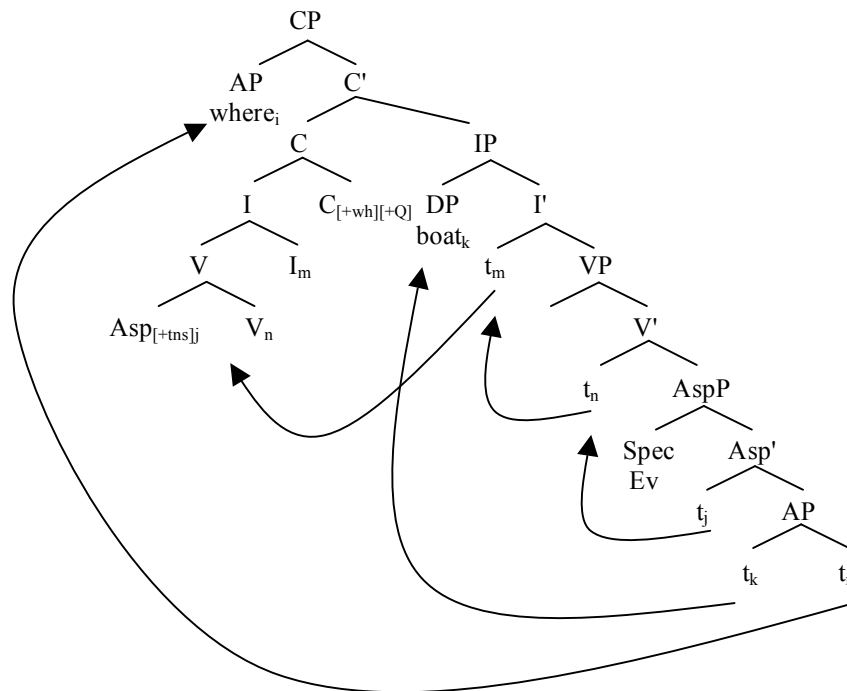
It is well documented that children master I-to-C movement very early in their language development, and that they produce utterances with *do*-support (Stromswold 1990). Therefore, the C nodes of their interrogative phrases undoubtedly exhibit this uninterpretable Tense feature. In the case of zero copula stage-level *wh*-questions, I(NFL) is underspecified for Tense, and so cannot meet the $C_{[+Q]}$'s requirement for Tense. I propose that $C_{[+Q]}$ satisfies this need by attracting the $Asp_{[+tns]}$ head of the zero copula stage-level *wh*-question. In this way, the temporal feature of the aspectual head fills in for the underspecified Tense feature of INFL.

(12) *The Tense-to-C Hypothesis*

The $C_{[+Q]}$ head checks its uninterpretable Tense feature by attracting the closest $[+tns]$ head in the derivation.

Given (12), in a normal derivation fully specified for both Tense and Agreement features, INFL will be the closest $[+tns]$ head in the derivation. Thus, the $[+tns, +agr]$ INFL is moved to $C_{[+Q]}$ to satisfy the complementizer's strong Tense feature. However, zero copula stage-level *wh*-questions are underspecified for Tense in INFL, eliminating INFL as a candidate to satisfy $C_{[+Q]}$'s strong Tense feature. $C_{[+Q]}$'s need for a $[+tns]$ feature is very strong, so it must look further into the derivation to meet this requirement, which is fulfilled by the $Asp_{[+tns]}$ head. As a result, we get the following surface-structure derivation:

(13) *Where boat?* (stage-level *wh*-questions, omitted copula) (Naomi 56)



As required by the Head Movement Constraint (HMC) (Travis 1984), the $\text{Asp}_{[+\text{tns}]}$ head may not skip any syntactic head during its progression up to $\text{C}_{[+Q]}$. Thus, its first stop is in the V head, after which it moves to I, and then finally to $\text{C}_{[+Q]}$. Therefore, in its search for a $[+\text{tns}]$ feature in the derivation, $\text{C}_{[+Q]}$ must also pull up all heads in the path between the $\text{Asp}_{[+\text{tns}]}$ head and itself, in keeping with the HMC. Crucially, when the $\text{Asp}_{[+\text{tns}]}$ head is incorporated into $\text{I}_{[-\text{tns}]}$ during this movement process, the Tense specification of INFL is altered. According to Becker’s discussion of the copula in existentials, “incorporation of the $[+\text{tns}]$ feature to Infl forces an overt realization of the copula (113).” I posit that incorporation of the $[+\text{tns}]$ feature of the Asp head to INFL does not necessarily force overtness of the copula, but rather resets the $[-\text{tns}]$ specification of INFL to $[+\text{tns}]$. The merging of a constituent having a $[+\text{tns}]$ feature with a constituent underspecified for that feature allows the two constituents to now *share* that feature. Therefore, since stage-level predicates are more likely to be underspecified for Tense in INFL at D-structure at this stage in children’s speech, I suggest that the requirements of an interrogative C, and especially the ensuing movement operations provoked by those requirements, reset the specification of Tense to a positive value, in effect changing INFL to $[+\text{tns}]$ in all stage-level *wh*-questions.

In keeping with the previous Distributed Morphology analysis of copula insertion, a significant result is that overtness of the copula in stage-level *wh*-questions depends solely on the specification of Agreement features in INFL, since Tense is necessarily fully specified. That is, an INFL fully specified for Agreement features will cause overt realization of the copula, whereas underspecification of Agreement in INFL will block insertion of an overt copula.

6. Discussion

The statistical data back up the above assumptions. In the model presented here, we get the following distribution of ATOM specifications for INFL in early child English copula constructions:

(14) *Possible INFL specifications for copula predicatives*

Stage-level	Declarative	$[+/-\text{tns}, +/-\text{agr}]$
	<i>Wh-question</i>	$[+\text{tns}, +/-\text{agr}]$
Individual-level	Declarative	$[+\text{tns}, +/-\text{agr}]$
	<i>Wh-question</i>	$[+\text{tns}, +/-?\text{agr}]$

We see from Table (14) that the only type of copula predicative for which both Tense and Agreement may possibly be underspecified is SL declaratives. We thus would expect to find in them the lowest rate of overt copulas, which is the case (an average of 44% with overt finite *be*). This indicates that the only cause for the appearance of an overt copula in SL declaratives is the independent full specification of both Tense and Agreement features in INFL, in which case the child produces an adult-like phrase. Similarly, we would expect comparable

rates of overt copula between SL *wh*-questions and IL declaratives, since both of these are specified for Tense, and thus can only be (under)specified for Agreement ([+tns, +/-agr]). We find this to be true, as well; SL *wh*-questions show an overt copula at a rate of 81.7%; IL declaratives contain an overt copula at a rate of 81.3%. The operable feature in these two types of constructions, in terms of copula omission, is Agreement.⁷

What, however, can we make of individual-level *wh*-questions? It appears that they are always fully specified for both Tense and Agreement without exception, given the 100% rate of overt copula in these constructions. Why is this so? I can offer only two possibilities: 1) our data were exceptional in that there simply happened to be no case of zero copula in the observed IL *wh*-questions – a dissatisfying conclusion; or 2) individual-level predicates may actually contain an aspectual projection, as well, that carries the feature [+agr]. Semantically, this possibility is not completely far-fetched, since IL predicates precisely specify characteristics of individuals, just as stage-level predicates specify aspects of time. We could easily construct a scenario in which, identically to Asp_[+tns], an Asp_[+agr] allowed for underspecification of Agreement features in INFL in individual-level predicates, and that this aspectual feature was possibly attracted upwards in *wh*-questions to satisfy strong Agreement features, thus making all IL *wh*-questions [+tns, +agr] in INFL. Unfortunately, investigating the semantic validity, or even feasibility, of such a projection is beyond the scope of this project. I offer it merely as a possible solution, the development of which may be pursued in future studies.

7. Conclusion

In the preceding analysis, I have presented a model of copula omission in early child English *wh*-questions illustrating the following:

- ① A temporal aspectual projection of early child English stage-level predicates (Asp_[+tns]) may provoke underspecification of Tense under ATOM.
- ② Underspecification of Tense and/or Agreement preclude the insertion of the copula, in accordance with the tenets of Distributed Morphology.

⁷ An additional test of this hypothesis would incorporate case features of subjects. Given the model put forth here, grammatical subjects of zero copula stage-level *wh*-questions should necessarily show non-NOM case features (e.g. default ACC), since it is proposed that these must be specified [+tns, -agr] in INFL. For example, “*where him?*” However, no relevant candidates were found in the data analyzed for this study. In the observed speech, children used only subjects that did not show case features, such as demonstratives, in zero copula stage-level *wh*-questions. Intuitively, hypothetical examples of child speech like “*where him?*” sound more plausible than examples like “*where he?*”, at least to my ear. Further research is needed, however.

- ③ Tense-to-C movement motivates the Asp_[+tns] head's movement to C in stage-level *wh*-questions, due to the underspecification of Tense in INFL. This essentially forcibly specifies INFL for Tense.
- ④ Specification of Agreement features in INFL therefore determines overt/omission of the copula in children's stage-level *wh*-questions.

The observable statistical data help to support this general model. Furthermore, these findings lend additional credence to the theories of the ATOM, DM, and Tense-to-C movement. I believe that further work in the realms of semantics, morphology, and syntax, in addition to analyses of broader sets of child speech data, will help to reinforce the proposed system for copula omission in early child English *wh*-questions.

References

- Becker, Misha. 2000. The Acquisition of the English Copula. In *BUCLD 24 Proceedings*, eds. S. Catherine Howell et al., 204-115. Somerville, MA: Cascadilla Press.
- Bobaljik, Jonathan David. 1995. Morphosyntax: The syntax of verbal inflection. Doctoral dissertation, M.I.T.
- Chomsky, Noam. 1993. A minimalist program for linguistic theory. In *The view from Building 20: Essays in linguistics in honor of Sylvain Bromberger*, eds. Kenneth Hale and Samuel J. Keyser. Cambridge, MA: MIT Press.
- Halle, Morris and Alec Marantz. 1993. Distributed morphology and the pieces of inflection. In *The view from Building 20: Essays in linguistics in honor of Sylvain Bromberger*, eds. Kenneth Hale and Samuel J. Keyser, 111-167. Cambridge, MA: MIT Press.
- Kratzer, Angelika. 1995. Stage-level and individual-level predicates. In *The Generic Book*, eds. G. Carlson and F. Pelletier. Chicago: University of Chicago Press.
- MacWhinney, Brian. 2000. *The CHILDES project: Tools for analyzing talk. Third Edition*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Pesetsky, David and Esther Torrego. 2001. T-to-C Movement: Causes and Consequences. In *Ken Hale: A Life in Language*, ed. Michael Kenstowicz. Cambridge, MA: MIT Press.
- Schütze, Carson. 2002. The non-omission of nonfinite *be*. Ms., UCLA.
- Schütze, Carson and Kenneth Wexler. 1996. Subject Case Licensing and English Root Infinitives. In *BUCLD 20 Proceedings*, eds. A. Stringfellow et al., 670-681. Somerville, MA: Cascadilla Press.
- Stromswold, Karin. 1990. Learnability and the Acquisition of Auxiliaries. Doctoral dissertation, M.I.T.
- Travis, Lisa. 1984. Parameters and effects of word order variation. Doctoral dissertation, M.I.T.
- Wexler, Kenneth. 2000. Three Problems in the Theory of the Optional Infinitive Stage: Stage/Individual Predicates, Eventive Verbs and Finite Null-Subjects. In *WCCFL 19 Proceedings*, eds. Billerey and Lillehaugen, 560-573. Somerville, MA: Cascadilla Press.