1-1-2005

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1 Introduction

A cursory look at the production of sentences with negation in child English reveals that children use forms that they could not be copying from the input. One salient feature of children's early negative sentences is the absence of inflected *do* (i.e., *doesn't/does not*) and the use of the forms *no* and *not*. This paper attempts to explain the absence of inflected *do* from children's speech despite its pervasiveness in the ambient adult language.

The study of negation in child English began with Klima and Bellugi (1966) who observed that the three children (Adam, Eve, and Sarah) from the Brown corpus did not produce inflected *do* in negative sentences at the earliest stages of language development. Alternatives to adult expressions with negation, such as (1a), included uninflected forms with *no* or *not*, as in (1b), as well as a form of *do* that did not agree with the subject, as in (1c). An analysis was given within the generative framework of the time. The proposal was that children had not yet acquired the rule for *do*-support. Lacking this, children used *no*, *not*, and *don't*, which Klima and Bellugi considered to be 'lexical representatives' of the Negation category.

(1) a. He doesn't scare you
    b. He no/not scare you
    c. He don't scare you

In more recent research, the absence of inflected *do* or, rather, its optionality, has been viewed as the product of an Optional Infinitive (OI) stage of language development (Harris and Wexler, 1996; Wexler, 1994). According to Wexler (1994), children optionally omit the Tense projection at this stage of development. In utterances without a tense projection, insertion of *do* is not required, and its use is barred by economy considerations. When Tense is projected, children produce inflected *do* (e.g., in 3rd person contexts, *does* is produced). Besides the occasional failures to project Tense, this view assumes that child grammars have the same properties as those of adult grammars. As Harris and Wexler (1996) (H&W) remark, "The deficit is clearly not morphological (defined on word formation), but must be rooted in a difference in the child's representation of the sentence." That is, children "know both the relevant UG principles and the parametric values of the adult language" (Wexler, 1994).

In this paper, we present evidence that Tense is present in both children's affirmative and negative sentences during the stage at which inflected *do* is absent or little used in children's negative sentences. Second, we argue that (some) English-speaking children produce *finite* negative sentences without *do*; specifically these children use *not* in combination with an inflected verb. Moreover, once inflected *do* is used productively in obligatory contexts, children's grammars converge on the adult grammar of English — verbs are reliably inflected in affirmative sentences but uninflected in negative sentences because inflected *do* takes care of the inflectional features. Although children's morphological knowledge is not adult-like on our analysis, we differ from Klima and Bellugi (1966) about the source of children's misanalysis. Children do not exhibit a more 'limited grammar' than that of adults, on our view. Rather, children mastering English adopt a *parametric variant* of UG, with different parametric values for inflection and for negation. We conclude, therefore, that children's non-adult behavior is consistent with the Continuity hypothesis, according to which early grammars are UG-compatible, but do not match the local language.

The paper is organized as follows: In §2 we introduce and analyze H&W's proposal for the development of *do*-support in negative sentences. In §3, we evaluate their predictions and findings in light of a new data set. We show that H&W's predictions do not hold: Early OI grammars go through a stage in which *do*-support is absent, while allowing inflected verbs in negative utterances. In §4, we present a parametric account for these data. §5 concludes our study.

2 The Optional Infinitive Stage and Do-support

Based on ideas developed in Wexler (1992, 1994), H&W argue that the omission pattern of *do* in child English reflects the Optional Infinitive stage. Basically, the child's derivations that do not contain inflectional features, in particular Tense, lack these features because *do*-insertion is not triggered in negative sentences. Tense is not lacking because children cannot project functional categories. Data from Romance and Germanic languages show that children's grammars can project the full cohort of functional categories, including IP and CP. The distribution of infinitive forms in Romance and Germanic can be used to illustrate sensitivity to feature checking. For instance, in German infinitive verbs (i.e. verbs that lack tense and agreement features) do not move to verb-second position, while finite verbs do. German speaking children are aware of the V2 properties of German, and they know that verbs in V2 position must be finite. They also know that infinitive forms do not raise. But children apparently do not know that infinitives are not

permitted in matrix (or 'root') clauses, as shown in (2b) (Poeppel and Wexler, 1993). The appearance of examples like (2b) led to the conclusion that there is an Optional Infinitive Stage.

(2) a. Ich hab ein dossen Ball
        I   have a big   ball
        'I have a big ball'
    b. du   das haben
        you that have-inf
        'you have that'

It is more difficult, however, to show that English-speaking children pass through an OI stage, in light of the lack of any contrast in the morphological paradigm. Putting aside modals and auxiliaries, simple tenses show little morphological differentiation in person, number, and tense. Only two morphemes express information about finiteness, and they appear in restricted contexts; the past morpheme [-ed] for person and number, and the agreement (present) morpheme [-s] for 3rd person singular. A further problem is that the uninflected verb in English is not distinct from the infinitival form or the bare form, as illustrated in (3a) and (3b). In (3a), *want* takes an infinitival complement, but no infinitival marker appears on the embedded verb *read*; in (3b), the verb *make* selects a tenseless small clause, but no morphological marking appears on the bare verb *read*.

(3) a. John wants the student to read the letters on the air
    b. John made the student read the letters on the air

Although there are no special morphological forms to prove that children are using infinitival verb forms, Wexler assumes that when children produce bare forms (with 3rd person subjects), these are infinitival. Fortunately, the morphological distinction between uninflected and inflected verbs is more apparent in negative sentences. In the framework adopted by H&W, it is assumed that the tense and agreement features of a finite verb cannot raise past negation (Neg) to be checked on Tense (T) without incurring a Head Movement Constraint violation (Travis, 1984; Chomsky, 1991). A finite verb that moved to T would have to move through Neg first. But English does not allow the negative markers *not* and *n't* to raise to T along with the finite verb, hence the ungrammaticality of (4a) and (4b). In Romance languages, by contrast, the finite verb picks up Neg en route to the head of TP (Pollock, 1989). In French, for example, the verb picks up *ne* from the NEG head as it moves past *pas* to T.

(4) a. *George not-likes tomatoes
    b. *George n't-likes tomatoes
    c. George n'aime pas les tomates.

The fact that NEG cannot cliticize onto the verb in English forces insertion of the dummy verbal auxiliary *do* under AGR (which is a complement of NEGP, following Pollock's (1989) split IP hypothesis). As shown in (5a) below; *do* moves to NEG on its way to T. Given that *do* is semantically deficient, it has to move overtly to T, as do other modals and auxiliaries, in order to be interpreted at LF (Chomsky, 1991). Assuming that all these grammatical properties are known to the child (viz., feature checking, non-NEG cliticization, *do*-insertion), it is predicted that each time tense (and agreement) features are present in a derivation containing Neg, *do* should be inserted under the AGR head, as in (5a). On the other hand, if the tense features are omitted, inflected *do* will be omitted as well. In this case, (5b) is generated instead. The omission of inflected *do* is allowed by the same mechanism that allows for omissions in affirmative sentences: OI grammars optionally project T features.

(5) a. $[_{TP}$ George $[_T$ does$_i$ $[_{NegP}$ t$_i$ not $[_{AgrP}$ t$_i$ [like[tomatoes]]]]]]
    b. $[_{?P}$ George $[_{NegP}$ not [like [tomatoes]]]]

Factoring out omissions of inflectional morphology, OI grammars should look like adult grammars, provided that other UG principles and parameters are in place. Concretely, H&W predict that children in the OI stage do not produce sentences that violate the grammatical rules of adult English, namely (4a) and (4b). And, given that omission of Tense is not sensitive to any context in particular (for instance, affirmative vs. negative contexts), it is predicted that the rate of *do*-support in negative sentences should be the same as the rate of overt inflection in affirmative sentences. Our data, presented in section 3.2, challenge this prediction.

To evaluate their hypothesis, H&W searched the transcripts of 10 children (1;6 to 4;1) from the CHILDES database. Only those files that contained instances of *bare negation* were probed further for *bare medial negation* (e.g. *He not like it*), *inflected medial negation* (e.g. *He not likes it*), and *do*-support in negative contexts, including any form of the auxiliary *do*, namely, *do not, don't, does, doesn't, does not,* and *did not*. The main finding was that out of the 52 medial negation utterances produced by the 10 children, only 5 utterances contained a tensed verb following *not*. That is, only 9.6% of the medial negation sentences had an inflected verb. The rest were instances of *bare medial negation*.

To test the prediction that the rate of *do*-support in negative sentences is the same as the rate of inflection in affirmative sentences, H&W divided the children in two subgroups (Young and Old): the groups were divided at age 2;6, roughly the age at which children cease to show OI characteristics (Table 1). According to these calculations, their prediction holds — in general, children produce inflection to the same degree in affirmative and negative sentences. The prediction also holds for each subgroup: The younger group shows only a 3% difference in rate of inflection in affirmative and negative sentences; for the older group the difference is 12%.

Conditions	Total	Young (1;6-2;6)	Old (2;7-4;1)
Proportion of *do* used in negative contexts	56%	37%	73%
Proportion of inflected verbs in affirmative contexts	43%	34%	61%

Table 1: Proportions of *do*-support and inflection (Adapted from Table 11 in Harris and Wexler, 1996:21)

One of the main drawbacks of this study is that these children's transcripts, which are recordings of spontaneous speech, do not provide a significant number of utterances containing *negation*.

Overall, H&W report 127 negative sentences for the 10 children, approximately 13 tokens per child. With so few tokens, it is difficult to draw reliable conclusions about the nature of negation in their grammars. In addition, H&W chose to investigate use of inflection just in those files that contained instances of medial negation; files without any medial negation were excluded. This move undermines the conclusions they draw. First, the files that were not included may have contained instances of *do* in negative sentences, so the proportion of *do* in negative sentences could be higher than the proportion of inflection in affirmatives in these files. If so, these files could count against their prediction. Aware of this potential confound (i.e. *do* is 'more often required in negatives'), they propose that a higher proportion of uninflected *do* may be motivated by requirements of the affix negative marker *n't*: "Once the child has selected *n't* in production, she will have to use a verb to attach it, since she knows that *n't* is an affix. Thus since there is no other auxiliary, the properties of English will force the use of *do*" (Harris and Wexler, 1996:22). In other words, they rely on a morphological fact about *n't* to level off the proportions of *do* in negatives and inflected verbs in affirmatives.

Finally, in comparing the use of *do* in negative sentences and the use of tense, H&W count the *bare* forms of *do* (*do not, don't*) in 3rd person singular

contexts as instances of overt inflection, i.e., as evidence for the presence of T. Given that the forms *do not* and *don 't* are ambiguous with respect to person and number, it is not clear why these bare forms of *do* do not count as agreement mistakes or as T/Agr omissions in their study.

One could argue that since children do not make agreement mistakes in affirmatives (i.e. they do not use the morpheme *–s* with other than 3rd person singular subjects, they should not make agreement mistakes in negatives either. The problem is that H&W take the presence of *some* form of *do* in a negative sentence as evidence that T has been checked (i.e. T was not omitted), even if it lacks appropriate 3rd person agreement. But then one could extend this analysis and claim that because there is *some* evidence of T in affirmatives (e.g. nominative case subjects in root infinitives), affirmative bare sentences also have T checked (cf. Schütze, 1997). To avoid this problematic conclusion, we excluded examples with uninflected *do* from the counts of children's use of inflection, thereby avoiding an unfair bias in the count of inflected *do* in negative sentences.

One could simply accept H&W's proposal that uninflected *do* is used as a verbal host for Neg. However if uninflected *do* is introduced to satisfy the morphological requirements of *n 't*, it should not to be included as an instance of finiteness: *uninflected do* does not represent the tense category, it is only a morphological host.

3 Negative Sentences in Child English

Given our concerns about H&W's analysis of their data, we re-evaluate their predictions in the light of new data drawn from a longitudinal study of three monolingual English-speaking children. The data set we collected using elicited production techniques contains a significantly higher number of negative sentences. The more robust data set allows us to paint a more accurate picture of children's logical hypotheses about negation and their interaction with the inflectional stage.

3.1 Summary of Predictions

The predictions of Harris and Wexler can be summarized as follows. With the exception of optional Tense, children's knowledge of principles and parametric values is the same as adults'. Thus, children should never produce utterances like *He not fits*, given that it violates a (UG) checking requirement: T features (realized by the *-s* morpheme) cannot be checked before LF without violating the HMC. A second prediction involves a comparison of the proportion of (overt) inflection in affirmative and negative sentences.

The same proportion of use is expected in the two conditions. For the OI Hypothesis, furthermore, *do*-support is optional, to the extent that Tense is optional in affirmatives. Since NEG marker cannot cliticize onto main verbs, only the insertion of inflected *do* bypasses the problem as inflected auxiliaries (e.g *could, can, have, be, etc.)* can host Neg (i.e. tolerate NEG-cliticization), and raise to check T features. If T is omitted in negative sentences, there is no need for *do*-support. But, *do*-support is expected any time the child chooses to realize T.

3.2 Proportion of inflected *do* in negative sentences

We present longitudinal data for three children whose inflectional development was studied for roughly a year: SL (1;10.23-2;8.20), CM (1;9.4-2;8.29) and CW (2;0.12-3;0.8). Using elicitation techniques (Thornton, 1996), we targeted constructions with 3rd person singular subjects in simple present contexts. We divided the files into two periods using the criterion that H&W established for their CHILDES study: Period 1-Young ($\geq$1;10-2;6) and Period 2-Older (2;6-$\leq$2;11). The data were divided into affirmative and negative utterances. The affirmative utterances were further classified into *inflected* and *uninflected*, as illustrated by (6a) and (6b) respectively. Negative sentences were classified according to the way the categories NEG and T are realized. As (7) shows, *inflected* includes examples with *doesn't/does not*, the term *uninflected* refers to examples with *don't/do not* as shown in (6b), *bare medial negation* is used to refer to examples like (6c), and (6d) shows an example of an utterance termed *inflected medial negation*. For the purpose of this study, we treat uninflected *do* as bare negation; only utterances containing inflected *do* as in (7a) or a verb overtly inflected with 3rd person singular morpheme *-s* as in (7d) are considered to be instances of finite negative sentences, in keeping with our criticism of H&W.

(6) a. He fits
    b. He fit
(7) a. He doesn't fit
    b. He don't fit
    c. He not fit
    d. He not fits

Once the contentious instances of uninflected *do* are removed from the count, we find that two of the children produced a significantly smaller proportion of inflected *do* during the purported OI period (Period 1). A further finding is that two of the three children produced a total of 20 *inflected medial negation* examples, contra the prediction of H&W.

If the data are collapsed across the entire time period, the ratio of inflection in negative sentences realized by means of *doesn't* is smaller than the ratio of inflection in affirmative sentences. Once the data are broken down into the 2 time periods, it can be seen that, in the early period, children produced inflected *do* in only 37% of their productions, while they used inflected verbs in 64% of their affirmative sentences.

Conditions	Total	Young (Period 1)	Old (Period 2)
Proportion of *do* used in negative sentences	45%	37%	86%
Proportion of inflected verbs in affirmative sentences	68%	64%	90%

Table 2: Proportions of inflection in negative and affirmative sentences

Comparing negative and affirmative sentences and the finite/non-finite distinction, we observe statistically significant differences (Table 3). In the *Finite* category, we include all instances of inflected *do* in negative contexts, and all instances of inflected verbs in affirmative contexts. Examples of *inflected medial negation* utterances are not included in this comparison. Children produced significantly fewer *inflected* negative sentences than inflected affirmatives ($p<0.001$), contra H&W.

	Finite	Non-finite
Negation	87	86
Affirmative	1058	495
Total= 1726, $df=$ 1, χ^2 =22.14, $p<0.001$		

Table 3: Finite and non-finite negative and affirmative sentences

We turn next to individual children's proportions of correct inflection in affirmative and negative utterances. As shown in Table 4, SL and CW used inflected *do* much less in negative sentences. The difference in the ratio varies from 50% for SL to 35% for CW.

	INFL in aff	*DOES* in neg
SL (1;10-2;6.18)	60 %	10 %
CW (2;0-2;6.21)	73 %	38 %
CM (1;9-2;6.14)	63 %	60 %

Table 4: Proportion of inflected verbs and *do*-support for each child

For one child, CM, the proportion of inflected *do* and inflection in affirmatives is about the same, 63% for affirmatives and 60% for negative sentences. On first examination, this child appears to conform to H&W's predictions. However, this child was quite precocious linguistically-speaking, and by age 1;11 was using inflection almost at ceiling. On average, CM produced 84% of verbs with inflection in affirmative sentences from 1;1.11 onwards (up to 2;8.29, the last session). Looking at the early stages (1;9-1;11), CM is seen to go through a period in which she produced a large number of omissions in affirmative sentences; 72% of her affirmative sentences had no inflection. For H&W, CM's negative sentences should have also been mostly uninflected at this time. That was not the case, however. Only 11% of CM's negative sentences lacked inflection during this period. In sum, the proportion of overt inflection in affirmatives (28%) is well below that of inflection in negatives (89%).

If H&W are correct, we still expect CM to produce inflected *do* during this period. However, CM produced inflected *do* in only 35% of her negative utterances. This low rate of inflected *do* is due to the fact that CM is one of the two children who produced *inflected medial negation* (e.g. *He not goes*). We turn to medial negation next, having concluded that, for the three children we tested, inflected *do* is not obligatory, in the sense that the presence of tense and agreement features force its insertion. As we will see, the distribution of inflected *do* suggests that children can well do without it.

3.3 Inflected Medial Negation in Child English

Harris and Wexler assume that child grammars differ from adult grammars in the *optionality* of the tense features and not in the particular properties of UG. For example, *inflected medial negation* is ruled out by UG principles (i.e., the Head Movement Constraint, feature checking, etc.) as well as by language specific principles (e.g., NEG-cliticization) in both adult and child grammars. Whenever tense features are inserted, inflected *do* should be used. However, as we saw above, inflected *do* is not used early in children's grammars. Moreover, we found that two of our three child subjects, CM and CW, produced a number of the unpredicted *inflected medial negation*, as in (8).

(8) a. It not goes here! (CM: 1;10)
    b. He not fits (CW: 2;2)

If we limit our attention to the age period up to 2;6, these *inflected medial negation* examples make up 12% of the negative sentences (20/163), and 33% of inflected negative sentences (20/82) for the same time period.

The arbitrary 2;6 cut-off in the data conceals an interesting fact. For CM, the production of *inflected medial negation* coincides with the period in which *do*-support is almost absent. As Table 5 shows, CM's use of *medial negation* reaches 52% during the period in which she consistently omits inflection in affirmatives. Interestingly, *inflected medial negation* drops to 8% in the second period, in which inflected *do* becomes the predominant form of negation (73%).

	Bare Neg	*Doesn't*	Infl-Med-NEG
1;9-1;11	2 (11%)	6 (35%)	9 (52%)
1;11.25-2;8	6 (17%)	25 (73%)	3 (8%)

Table 5: Negation types in CM's Grammar

The case of CW is slightly different. During the entire time span, this child does not omit inflection very frequently. Across all sessions 76% of her affirmative sentences are inflected, and the same proportion holds for her negative sentences. However, only 48% of her negative sentences contain inflected *do*. Out of the total proportion of negative sentences that are inflected, 12% correspond to *medial negation* and 14% of the negative utterances contain a displaced morpheme –*s*, as exemplified by (9) below.

(9) He s not fit in there

Although there is not a sharp contrast between inflected and uninflected utterances in the grammar of this child, the non-adult variants are produced mostly during the period in which *do*-support is not very productive. To show this, we establish the cut-off period as the first session in which the number of inflected *do* reaches a threshold of 70%. The resulting breakdown of the data is shown in Table 6.

	Bare Neg	*Doesn't*	Infl-Med-NEG	He -s not V
2;0-2;4	16 (40%)	5 (12%)	7 (17%)	9 (23%)
2;4.18-2;11	6 (11%)	41(78%)	2 (3%)	5 (9%)

Table 6: Negation types in CW's grammar

Observe that the production of inflected *do* jumps from 12% during the first period, to 78% for the second period. By contrast, the alternative means of

expressing negation decrease; *medial negation* drops from an initial 17% to 3% for the second period. As in the case of CM, the emergence of inflected *do* does not seem to be directly tied to the obligatoriness of tense features, as H&W claim.

The third child SL does not produce significant numbers of *inflected medial negation*. We only found two instances, reproduced in (10). Her negative utterances consisted mostly of displaced –*s* + *don't* as in (11).

(10) a. It don't squeaks
    b. No, not Gina likes corn
(11) Pooh s don't like corn

To conclude, we observe that children who lack inflected *do* can produce *inflected medial negation*, whereas the adult grammar forbids this option. Next, we attempt to explain the source of this non-adult behavior.

4 Towards a Parametric Explanation

Considering the evidence, we conclude that the realization of inflection and negation in child English varies from the target language in more ways than the OI Hypothesis tolerates. The differences between child and adult grammars at this stage do not all reduce to the optionality of Tense.

The main claim of the OI model for English is that children know the different properties of finite and non-finite forms because they have UG at their disposal. However, we have shown that two English-speaking children in the OI stage can produce an inflected verb form in negative sentences (i.e., *inflected medial negation*), an option that is banned in the adult grammar. This suggests that finite and non-finite forms are not distinguished in negative sentences in the same way as in the adult grammar. Furthermore, inflected *do* is initially *absent* in the three grammars we studied, but a corresponding absence of tense is not predicted by Harris and Wexler (1996:22): "*do*-omission is clearly optional, just like –*s* omission." When stricter criteria were imposed, and a more robust data set examined, we did not replicate H&W's findings. The three children who participated in our study initially lacked *do*-support and the distribution of finite/non-finite forms was different from the adult.

The issue at hand is to identify the source of this variation. We propose that (some) child grammars do not initially *require* the insertion of inflected *do*, because of the particular parametric choices they select for the functional categories in question. That is, we claim that the differences are consistent with the Continuity hypothesis: that child grammars can differ from adult

grammars only in ways in which adult grammars differ from each other (Crain and Pietroski, 2001). We now turn to discuss this proposal in more detail.

Consider a language that, like English, does not have verb movement to T/INFL but lacks *do*-support. Among the Mainland Scandinavian family, there is a set of V2 languages that do not raise the verb to INFL if there is an element occupying the C position. According to Vikner (1995) V2 can be understood as V-to-C movement. Consider, for instance, the Swedish examples in (12). The presence of the negative marker *inte* to the left of the verb in (12a) shows that the verb has not moved past Neg (example from Vikner, 1995:46). Compare this case with a regular main clause, as in (12b), where the C position is free for the verb to move into. In this case, the inflected verb *tror* is to the left of *inte*.

(12) a. Kanske Lena inte kopte en ny   bok igar
        Maybe Lena no   bought a new book yesterday
        'Maybe Lena did not buy a new book yesterday'
     b. Jag tror inte Mary är det
        I   think not Mary is glad
        'I don't think Mary is glad'

In Swedish, the verb moves to C only if the position is vacant, otherwise, the verb remains *in situ*. The word order in (12a) suggests that even with the verb *in situ*, the features of the verb can be checked in negative sentences. That is, tense features can move past Neg. Adult English does not allow this; it requires insertion of a dummy verb like *do* to support the features. So, Swedish is like English in that it does not move the verb overtly, but it is unlike English in that the NEG category is not a barrier for feature checking. The difference in grammaticality between (12a) above and (13) below stems from the particular properties that NEG assumes in each language. Following Bobaljik (1995), we assume that *inte* is an adjunct, and consequently does not have direct effect on the derivation of the sentence, whereas in English, *not/don't* is a head, which is governed by the Head Movement Constraint.

(13) *He not goes

Our proposal is that the children who produce examples like (13), CM and CW, have selected the *Swedish* value for NEG and consequently, check tense features at LF. Under this assumption, (13) is a grammatical derivation for child English. Moreover, assuming that NEG is not a barrier for feature

checking, *do*-support is not required. It follows that while children consider the Swedish value for NEG, inflected *do* is a superfluous operation.

A second factor may influence the production of inflection and its interaction with negation. This involves children's parametric hypotheses about INFL (Tense and Agreement) itself. For reasons of space, we cannot develop a full analysis of the parametric choices that children confront for the INFL category. Briefly, when children produce sentences like *He's not fit*, they are selecting a parametric choice for INFL that is not the correct one for adult English. We refer the reader to Tesan and Thornton (2003) for more extensive analysis.

5 Conclusion

The data from our longitudinal study of 3 children show that the omission rate of inflected *do* is significantly smaller during the early stages of development. This finding does not confirm H&W's prediction that the proportion of omission of inflection should be about the same throughout the OI stage. We also found that two of the children produced sentences with *inflected medial negation*, a fact unexpected on H&W's account. An alternative account was advanced, based on the Continuity hypothesis.

References

Bobaljik, Jonathan. 1995. Morphosyntax: The Syntax of Verbal Inflection. Doctoral dissertation, MIT.

Chomsky, Noam. 1991. Some notes on economy of derivation and representation. In: Friedin, R., ed., *Principles and Parameters in Comparative Grammar*. Cambridge, Mass.: MIT Press.

Crain, Stephen and Paul Pietroski. 2001. Nature, nurture and Universal Grammar. *Linguistics and Philosophy* 24:139–185.

Harris, Tony and Kenneth Wexler. 1996. The optional infinitive stage in child English: Evidence from negation. In Clahsen, H., ed., *Generative Perspectives on Language Acquisition*. Amsterdam/Philadelphia: John Benjamins. 1–42.

Klima, Edward and Ursula Bellugi. 1966. Syntactic regularities in the speech of children. In Lyons, J., and Wales, R., eds., *Psycholinguistic Papers: The Proceedings of the 1966 Edinburgh Conference*. Edinburgh: Edinburgh University Press, 181–208.

Poeppel, David and Kenneth Wexler. 1993. The full competence hypothesis of clausal structure in early German. *Language* 69:1-33.

Pollock, Jean-Yves. 1989. Verb movement, Universal Grammar, and the structure of IP. *Linguistic Inquiry* 20:365–424.

Schütze, Carson. 1997. INFL in Child and Adult Language: Agreement, Case and Li-

censing. Doctoral dissertation, MIT.

Tesan Graciela and Rosalind Thornton. 2003. Small children's big clauses. In Otsu, Y., ed., *The Proceedings of the Fourth Tokyo Conference on Psycholinguistics.* Tokyo: Hituzi Syobo, 239–263.

Thornton, Rosalind. 1996. Elicited production. In McDaniel, D., McKee, C., and Cairns, H.S., eds., *Methods for Assessing Children's Syntax.* Cambridge, Mass.: MIT Press, 77–102.

Travis, Lisa. 1984. Parameters and the Effects of Word Order Variation. Doctoral dissertation, MIT.

Vikner, Sten. 1995. *Verb Movement and Expletive Subjects in the Germanic Languages.* Oxford: Oxford University Press.

Wexler, Kenneth. 1992. Optional infinitives, head movement, and the economy of derivations in child grammar. Occasional Paper #45. MIT Dept. of Brain and Cognitive Sciences.

Wexler, Kenneth. 1994. Optional infinitives, head movement and the economy of derivation. In Lightfoot, D., and Hornstein, N., eds., *Verb Movement.* Cambridge, Mass.: Cambridge University Press, 305–382.

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