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ARTICLE

The Status of Nonagreeing *Don't* and Theories of Root Infinitives

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This paper examines two issues concerning nonagreeing *don't* in child English, e.g., *He don't fit*. (1) Do children know that *don't* consists of auxiliary *do* plus sentential negation, or do they misanalyze it simply as negation? I argue that the former claim yields both empirical (distributional) and conceptual advantages, while the latter does not explain what it was designed to explain. (2) If it is not misanalyzed, why does this form fail to agree? I consider two accounts that assume it is part of the Root Infinitive stage—one based on a misset parameter involving how agreement is spelled out (Guasti & Rizzi 2002), and the other based on underspecification of Infl features in syntax (my alternative proposal)—and explore their divergent predictions. I argue that the underspecification approach requires fewer stipulations about how children differ from adults, particularly for capturing *do*-omissions in "medial neg" environments.

1. INTRODUCTION

This paper examines two issues surrounding the status of the form *don't* when used with a 3rd person singular (3sg) subject as a declarative in child English, as in (1b), which is ungrammatical in adult Standard English.[1] I refer to this use as "nonagreeing *don't*," not intending thereby to presage the analysis. In the developmental stage of interest, utterances like (1b) may be in apparent free alternation with their grammatical counterparts with *doesn't*, as in (1a). (The examples are from file 28 of a set of transcripts in the CHILDES database (MacWhinney 2000) of a child studied by Brown 1973 whose pseudonym is Adam.)

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[1]See note 7 for the status of this usage in the input to the children being studied here.

(1) *Examples of correct use of* doesn't *and nonagreeing* don't *(from the same file)*
    a. so Paul doesn't wake up (adam28)
    b. Robin don't play with pens (adam28)

The first issue to be addressed is whether children who are producing nonagreeing *don't* have the knowledge that *don't* consists of an auxiliary *do* plus a sentential negation morpheme, or whether they misanalyze it simply as negation (section 2). I argue that the former claim yields both empirical and conceptual advantages. This raises the second issue: what grammatical features underlie this form, and in particular, why does it apparently fail to agree? I consider two possible accounts that both assume that nonagreeing *don't* should be related to matrix nonfinite main verbs in child English more generally—the Root Infinitive[2] (RI) stage (Rizzi 1994; Wexler 1994, i.a.)—and is not indicative of misanalysis of any lexical items (section 3). Both of these approaches account for certain distributional intricacies of the various *do* forms, but their predictions also diverge in several respects that will be explored (section 4). A subsidiary goal of this exploration is to illustrate how hypotheses about acquisition that are based in linguistic theory inherit the complex interdependencies within that theory, leading directly to quite specific empirical predictions. Acquisitional studies that ignore or deny the existence of the structured knowledge embodied in linguistic theory do not lead to the same sorts of predictions. I argue that one of these grammar-based approaches requires fewer stipulations about how children differ from adults than the other.

2.   AGAINST MISANALYSIS

2.1.   Previous Claims

Numerous accounts over the past decades have proposed that in children's English language development *don't* is first misanalyzed as a Neg(ation) head and not an Aux(iliary), because it emerges earlier than most other auxiliaries and is used incorrectly with 3sg subjects, as in (1b). For example, Bellugi (1967) makes these remarks: "In [Period B], however, we will argue that [*don't* and *can't*] do not occur as part of the auxiliary verb system, but in a more limited way as lexical representatives of the negative element" (59); "[*Don't* and *can't*] occur only before nonprogressive main verbs" (61); and "These two items are considered as separately learned vocabulary items (rather than as part of the complex auxiliary system of English)" (63). Bellugi's second point is meant to contrast the distribution of *don't* with that of *not*, which does occur before progressive main verbs (and elsewhere). She delineates Period B for the three children studied by Brown (1973): in terms of the transcripts in CHILDES (MacWhinney

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[2]The terms Root Infinitive and Optional Infinitive are both in common use to refer to this phenomenon. Each evokes an implication on which I do not wish to take a stand, namely that the non-adultlike nonfiniteness characteristics of this stage are limited to root contexts or optional, respectively (though in the latter case, Wexler in many works makes clear that no such claim is intended). Both terms also imply that infinitives are criterial, which is clearly false in the present context since *don't* could not be an infinitive under any reasonable definition. Nonetheless, in order to avoid the awkward use of a more accurate term, I have arbitrarily opted to use "Root Infinitive" as a descriptive label.

2000), it encompasses Adam's files 17–19 and Sarah's files 35–45, which are within the range I analyze below. (Eve's files 10–12, ages 1;10,00–1;11,00, also fall in this period but are not relevant here because Eve does not use nonagreeing *don't* during that period.[3]) Bellugi also suggests that children learn *don't want*, *don't need* (and also *can't find*, *can't reach*), etc. as "a negative form" of each verb individually. This is to explain why children do not inappropriately substitute *don't* for *can't* or vice versa, errors one might expect if these are simply variants of Neg. Klima and Bellugi (1966: 195) formalize this idea using a phrase structure rule containing Aux[neg], which rewrites as Neg or V[neg]; the latter category consists of *can't* and *don't*, and there are no other auxiliary verbs posited in the child's grammar at this stage. They explain that *can't* and *don't* "are considered as lexical representations of V[neg] since there are no occurrences of [positive *can* etc.]." Similarly, Menyuk (1969: 82) states, "In the earlier sentences various contracted forms are probably ... memorized items ('can't' and 'don't')," although she does not say what the morphosyntactic analysis of the contracted forms is.[4]

Bloom (1970: 213) is more explicit about the syntactic relationship between the contracted forms and the bare negation[5]: "The forms 'can't,' 'don't,' and 'didn't' appeared to have been learned as alternants of the forms 'no' and 'not'." (She does discuss some semantic trends that will not be pursued here, e.g., that *not* is more often used to signal denial while *don't* is more often used to signal rejection.) Hyams (1986: 85) adopts essentially this view using slightly different technical machinery: "By hypothesis, the modals are unanalyzable during [Bellugi's Period B], and hence filtered out. Thus, *can't* and *don't* cannot be analyzed as appearing in AUX. Unlike their non-negative counterparts, however, they can be analyzed as negative markers, as Bellugi suggests ... it is easy to see how the child would extend the class of negative markers to include *can't* and *don't*." Hyams puts *don't* in a form class with *no* and *not* under NEG, immediately preceding the VP in the child grammar, and not under AUX where the adult grammar would have them (or at least their auxiliary portion). Similarly, Capdevila i Batet & Llinàs i Grau (1995) assert that "children seem to use [*can't* and *don't*] as unanalyzed units or formulaic expressions ... evidence for this claim comes from the observation that at this stage [around 19–26 months] children do not use modals without the negative contraction *n't*. This way, *can't* and *don't* seem to be unitary negative words" (39). Stromswold (1990: 229) adopts this point of view and expands it to cover the other two contractions of *do* plus negation: "These examples probably are caused by Adam, Nina, and Ross having mis-analyzed *didn't*, *don't*, and *doesn't* as untensed negation elements."[6] I refer to her suggestion as the Broad Misanalysis Hypothesis, while those that implicate only *don't*

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[3]In Eve's entire transcript there are at most two instances: *Everybody don't like the fan* (2;01,00) and *She don't do it again* (2;03,00). At 1;10,00 she is already producing *doesn't*.

[4]Menyuk is discussing a rather heterogeneous set of data she collected. It is not completely clear what age range she intends to associate with "the earlier sentences"; my best guess from the surrounding discussion is that it is 2;10–3;00.

[5]Bloom is discussing transcripts from Stage VI of Gia's acquisition of English, when she was 2;03,01 with an MLU of 2.75 morphemes, i.e., toward the early end of the age ranges in Table 1.

[6]At this point Stromswold is discussing tense doubling errors (described in section 2.3), which seem to be her motivation for positing these misanalyses. Nonetheless, the quote is clearly intended to be a general statement about these children's grammars. The instances she is alluding to all come from files in the ranges listed in Table 1.

instantiate the Narrow Misanalysis Hypothesis; when neither modifier is used, both versions are intended.

2.2. Testing the Predictions

Any misanalysis that classes *don't* with *not* as containing no auxiliary must in principle predict some distributional errors involving this form, if the claim is to have any empirical consequences. Indeed, we saw that Bellugi already needed a stipulation about progressives to avoid predicting the occurrence of unattested errors like *Chris don't singing*, which we would otherwise expect to be in free variation with the attested type *Chris not singing*. But this is not the only kind of error that would be predicted: utterances like the invented ones in (2) should be expected under the Misanalysis Hypothesis as well.

> (2) *Schematic examples of error types predicted by the Misanalysis Hypothesis*
>   a. *He('s) don't happy.
>   b. *He might don't laugh.
>   c. *He did don't laugh.
>   d. *He('s) don't singing.

That is, *don't* should appear (ungrammatically) in environments where sentential *not* can appear, assuming (as Bellugi apparently does) that the child has the position of sentential negation correct in her grammar. (Under the Broad Misanalysis Hypothesis, *doesn't* and *didn't* should too.)

These predictions are tested below by carrying out a quantitative analysis over the period during which errors involving negation are produced; I define such errors as the class of utterances involving either nonagreeing *don't*[7] or incorrect placement of either *not* (e.g., *She not will go*) or one of the contracted forms *don't*, *doesn't,* or *didn't* (for ease of exposition I refer to the latter three as the "d-words"), as in (2). I limit the set of transcripts in this way in order to be able to estimate the rate of such errors, which could otherwise be diluted by including later

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[7]While nonagreeing *don't* is ungrammatical in standard English, it is found in several nonstandard dialects, so we would like to know whether any of the children were hearing it. We can never completely exclude that possibility, because we have records of only a tiny fraction of the input they are exposed to, generally limited to speakers who were in the child's home at the time recordings were being made. Nonetheless, I carried out automated searches on the utterances by people other than the target child in the entire transcripts of the five children (not just the files listed in Table 1), looking for sequences of the form "{he/she/it} {don't/doesn't}" and filtering the results by hand. (For practical reasons I assumed that if people were using nonagreeing *don't* it would occur with pronominal subjects.) The totals of such utterances are as follows: Abe: 0 *don't*, 43 *doesn't*; Adam: 0 *don't*, 140 *doesn't*; Sarah: 38 *don't*, 102 *doesn't*; Nina: 0 *don't*, 94 *doesn't*; Ross: 0 *don't*, 18 *doesn't*. Thus, based on this limited sample, the only child whom we know to be hearing nonagreeing *don't* is Sarah, whose mother produces it about one quarter of the time, in apparent free variation with *doesn't* (the vast majority of these utterances from Sarah's files are her mother's). This was not noted by Guasti & Rizzi. (Even in the Sarah transcripts there are no adult instances of the inverted order "don't {he/she/it}," so I excluded the corresponding inverted agreeing forms from all baseline counts.) The question of how this observation might bear on the interpretation of the results will be dealt with as they are presented below. (Thanks to anonymous referees for encouraging me to look into this issue.)

TABLE 1
Ages and MLUs (in Words) of Children Analyzed
in Sections 2.3 and 4.3

Child	Files	Ages	1st/Last MLU
Abe	3–84	2;05,07–3;03,08	3.87–7.27
Adam	1–55	2;03,04–4;10,23	2.10–4.53
Sarah	30–138	2;09,20–5;00,30	1.99–3.95
Nina	7–55	2;00,24–3;03,08	2.15–4.13
Ross	19–58	2;06,17–5;02,04	2.60–4.27

files when errors have disappeared.[8] Thus, the distribution of these four negative words was tabulated. The question that these data are meant to answer is whether word order errors such as those in (2) are as common as the Misanalysis Hypothesis would lead us to expect. The data come from five transcripts of spontaneous child speech from CHILDES (MacWhinney 2000). In addition to Adam and Sarah, already mentioned, they included Abe (Kuczaj 1976a), Nina (Suppes 1974), and Ross (MacWhinney 2000). The children were chosen because they produced nonagreeing *don't* in reasonable quantities,[9] and because they will be relevant to the second part of this study. Summary data for the transcripts used are given in Table 1.[10]

   The following coding conventions were adopted. Single word utterances were excluded. Utterances consisting wholly of the sequence *not XP*, where XP is a constituent of any category, were excluded because they could represent constituent negation, while the focus here is on sentential negation. If *not XP* was embedded within a larger sentence context, that utterance

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[8]An anonymous referee suggests that this time frame is still too long, because the Misanalysis Hypothesis "is relevant only for the period before [the children] are productively producing modals." This stance would seem to imply that if we find nonagreeing *don't* after modals are being productively used, it could not be treated under the Misanalysis Hypothesis, but would require some entirely different explanation. I reject such an approach as unparsimonious, absent any evidence that the nature of nonagreeing *don't* changes when modals become productive. I also am not certain what notion of productivity would be considered relevant, but if we use the first clear non-imitative non-formulaic use as the landmark, then the quoted suggestion would render the Misanalysis Hypothesis entirely inapplicable for two of the children under study here: as detailed in section 3.5, Sarah's and Adam's first such use of (nonnegated) *can* is not later than their first use of *don't* (for Adam it is two files earlier).

   Of course, we cannot exclude the possibility of a stage earlier than the transcripts cover when the Misanalysis Hypothesis would have captured the children's grammar. But with regard to Adam and Sarah at least, the hypothesis was proposed by Bellugi specifically to account for their data in files within the range I analyzed, so it is legitimate to test it on these files.

   [9]An anonymous referee suggests that this targeted sampling procedure is improper, and children should have been selected based on some general measure of stage of development. But the goal of this study is to understand the reasons for the production of nonagreeing *don't*, not to document its prevalence in the population. We are unlikely to advance that understanding by studying children who produce it too infrequently for distributional generalizations to be drawn. Once we have a grasp of why the children who produce it frequently do so, then we could be in a position to ask why other children seem to do so relatively infrequently (so far as we can tell from existing samples). That issue is beyond the scope of this paper; see also section 3.5.

   [10]MLU in words was calculated using the CLAN software from CHILDES. Abe's figures are much higher than the other children's because in his transcripts very long stretches of speech (apparently multiple sentences) are notated as a single utterance.

TABLE 2
Distribution of D-Words: Abe, Files 3–84 (2;05,07–3;03,08)

Word Order	Form Produced		
	don't	doesn't	didn't
Grammatical	317	14	152
Correct agreement	308	14	N/A
Incorrect agreement	9	0	N/A
Tense doubling	11	1	23
Correct agreement	0	1	N/A
Incorrect agreement	11	0	N/A
Ungrammatical	3 (0.9%)	0	0
Good as *not*	1	0	0

was kept in the counts, and counted as a word order error involving *not* whenever *not* was in the wrong position for sentential negation; this biases the procedure toward overrepresenting word order errors, because some of these would have been grammatical if they were intended as constituent negation. Finally, examples with *don't* lacking an overt subject were excluded as potential imperatives (if they were grammatical as such) unless the context made clear that they were not so intended; imperatives could artificially inflate the correct usage rate for *don't*.[11] These conventions are illustrated in (3) using invented examples.

    (3) *Schematic examples illustrating coding principles*
        a. not tired   potential constituent negation—excluded
        b. mommy not will swim   counted as word order error for *not*
        c. mommy hungry not tired   counted as word order error for *not*[12]
        d. mommy not tired   counted as medial neg (see section 4.3)
        e. don't take it mommy   potential imperative—excluded
        f. mommy will don't swim   counted as word order error for *don't*

2.3. Results

The results are presented in Tables 2–6, which show the distribution of the d-words, and further below in Table 7, which shows the distribution of sentential *not*. Crucially, in Tables 2–6

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[11]The *don't* of English negative imperatives arguably is not a composition of *do* + sentential negation (Beukema & Coopmans 1989), in light of facts like those in (i) (but see Flagg 2002 for an alternative explanation).

    (i) a.   Don't you touch that!
       b. *Do not you touch that!
       c. *Do you not touch that!

[12]This could have been grammatical as constituent negation if the target was *Mommy is hungry, not tired*, but the child was not given the benefit of this doubt in the counts.

TABLE 3
Distribution of D-Words: Adam, Files 1–55 (2;03,04–4;10,23)*

Word Order	Form Produced		
	don't	doesn't	didn't
Grammatical	652	126	92
Correct agreement	620	122	N/A
Incorrect agreement	32	4	N/A
Tense doubling	1	0	2
Correct agreement	0	0	N/A
Incorrect agreement	1	0	N/A
Ungrammatical	7 (1%)	0	1 (1%)
Good as *not*	1	0	0

*A complication arises in Adam's data due to his well-known proclivity to use *its* apparently as a subject pronoun (Brown 1973), where adult English calls for *it*. For the purposes of this table, I counted his utterances as if they contained *it* in place of *its* as the subject when doing so rendered them grammatical (modulo agreement). Without this adjustment, there would be an additional 17 ungrammatical cases, most involving *doesn't*.

nonagreement errors such as (1b) were counted as having grammatical word order if the placement of the d-word was correct, i.e., if replacing *don't* with *doesn't* (or vice versa) would yield a grammatical string. Ignoring the middle section of each table for the moment, we see that the ratio of ungrammatical (bottom section) to grammatical (top section) instances is extremely low, and none of the error rates exceed 5% of total productions. Moreover, for *doesn't* and *didn't*, when they are misordered at all, the error rates are proportionally of the same order of magnitude as the corresponding rate for *don't*: for Tables 2, 3, 4, and 6, there is no significant difference by one-tailed Fisher Exact Test ($ps > .10$); only for Table 5 are there significantly more errors with *don't* ($p < .025$). In other words, the word order error rates for the use of *don't* and the other d-words are within the range usually attributed

TABLE 4
Distribution of D-Words: Sarah, Files 30–138 (2;09,20–5;00,30)

Word Order	Form Produced		
	don't	doesn't	didn't
Grammatical	299	62	156
Correct agreement	265	62	N/A
Incorrect agreement	34	0	N/A
Tense doubling	2	1	10
Correct agreement	1	1	N/A
Incorrect agreement	1	0	N/A
Ungrammatical	5 (1.6%)	0	1 (0.6%)
Good as *not*	0	0	1

TABLE 5
Distribution of D-Words: Nina, Files 7–55 (2;00,24–3;03,08)

Word Order	Form Produced		
	don't	doesn't	didn't
Grammatical	239	82	43
Correct agreement	167	82	N/A
Incorrect agreement	72	0	N/A
Tense doubling	1	1	0
Correct agreement	1	1	N/A
Incorrect agreement	0	0	N/A
Ungrammatical	13 (5%)	1 (1%)	0
Good as *not*	2	0	0

TABLE 6
Distribution of D-Words: Ross, Files 19–58 (2;06,17–5;02,04)*

Word Order	Form Produced		
	don't	doesn't	didn't
Grammatical	450	118	204
Correct agreement	429	117	N/A
Incorrect agreement	21	1	N/A
Tense doubling	2	1	1
Correct agreement	1	1	N/A
Incorrect agreement	1	0	N/A
Ungrammatical	6 (1.3%)	0 (0.5%)	1
Good as *not*	1	0	0

*The Ungrammatical *don't* cases for Ross exclude seven utterances of the form "*Let's don't* VP," a locution that is possible colloquially in some dialects (though it was not produced by the adults in his transcripts). Since *Let's do not* … is impossible even colloquially, *Let's don't* plausibly contains an instance of imperative *don't* (cf. note 11), and hence is properly excluded from the table on grounds discussed in the text.

Similarly, the following utterance was excluded from the Ungrammatical count in the table:

(i)   Marky doesn't want to go out and get switched # and so don't I

The final clause is ungrammatical in Standard English, which prefers *neither do I*, although *so don't I* is attested dialectally. Whether Ross had ever heard this variant or not, I do not think that (i) betrays any lack of knowledge about *don't* per se; at most, it would involve a failure to appreciate the relationship between *so/neither* and the polarity of the conjoined clauses.

to noise in such corpus data by acquisition researchers working in the generative grammar paradigm.

Now consider the row of each table labeled "good as *not*." This tells us how many of the ungrammatical d-word uses tabulated immediately above it would have been grammatical if the d-word were replaced with *not*. These represent the subset of word order errors directly predicted by the Misanalysis Hypothesis, cf. (2). This is always a small minority. Thus, not only does the Misanalysis Hypothesis overpredict errors with d-words in general, it also fails to explain most of the errors that do occur.[13] A further observation is that the word order errors that do arise are quite heterogeneous, as exemplified in (4), and thus are not likely to fall under one generalization.

(4) *Examples of word order errors with d-words*
    a. no we have ta don't make those because we have ta make ginger (abe058)
    b. don't fighting me (adam09)
    c. don't off (sarah089)
    d. he don't trunk move (nina14)
    e. I didn't me you (ross49)

One qualification should be put on these conclusions; it concerns the middle section of data in Tables 2–6, labeled "Tense Doubling." These are errors in which Tense was expressed twice—on the d-word and on another verb, as in (5) (cf. Kuczaj 1976b; Prideaux 1976; Maratsos & Kuczaj 1978; Fay 1978; Stromswold 1990; see Hiramatsu 2000 for review).

(5) *Examples of tense doubling*
    a. why does Superman doesn't wear underoos on his bottom? (ross36)
    b. see # I didn't spilled it (sarah86)
    c. do they don't eat people up? (nina34)

These utterances are ungrammatical in adult English, and some of them would be rendered grammatical if we interpreted the d-words as *not*[14]—thus, (5a) and (5c) would become the gram-

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[13] As observed in note 7, Sarah sometimes hears nonagreeing *don't* from adults. I do not believe that fact makes her data irrelevant for the argument in this section, however. The hypotheses in the literature have not tied children's purported misanalysis of *don't* to any distributional property in the input to begin with. Furthermore, pre-theoretically one might expect that inconsistent use of *don't* in the input (i.e., hearing it in apparent free variation with *doesn't*, as Sarah does) should make it more likely to be misanalyzed, if anything, not less likely. As Table 4 shows, however, this is not the case: her word order errors are very similar in frequency to those of the other children, and the proportion of her uses of *don't* that occur with 3sg subjects is much lower than that of Nina. Even her ratio of *don't* to *doesn't* in 3sg contexts is not the highest among these children: Abe's and Nina's are higher. Thus, Sarah's apparently unique input among this group of children does not appear to have made her an outlier in terms of her own production, so I will not exclude her data from subsequent analyses.

[14] Indeed, Stromswold (1990: 229) reports that this analysis has been proposed in the literature, though I was unable to find it in the sources she mentions.

matical *Why does Superman not wear underoos. . . ?* and *Do they not eat people up?* respectively—
though others, such as (5b), would still be ill-formed: **I not spilled it*. I have not combined tense
doubling utterances with the other ungrammatical cases because they can already be explained
by whatever accounts for tense doubling errors in general (which need not involve a d-word at
all). I assume that much of the literature is correct in analyzing these via movement as copying,
with failure to eliminate a copy that is not at the head of the chain. (cf. Hurford 1975; Mayer,
Erreich & Valian 1978; Nakayama 1987; Hiramatsu 1999; Thornton 1993; Guasti, Thornton
& Wexler 1995, and sources cited therein; for an alternative approach see Hiramatsu 2003.)
If so then tense doubling errors do not provide strong support for the Misanalysis Hypothesis.
Furthermore, as can be seen in the tables, the errors of this type tend to involve *didn't* more
often than *don't*, counter to the expectations of the Narrow Misanalysis Hypothesis. This is
why Stromswold (1990), whose focus was tense doubling, advocated the Broad Misanalysis
hypothesis.

Thus, I conclude from Tables 2–6 that the errors predicted by the Misanalysis Hypothesis
are extraordinarily rare. An objection one might raise against this conclusion is that, while
we have seen that *don't* is not used incorrectly when it is produced, it could still be that the
environments in which it would be ungrammatical did not occur in these transcripts; these
would be environments whose grammatical version contains sentential *not*. But we can see that
this is not so by looking at Table 7, which summarizes the productions of *not* in the same files
covered by Tables 2–6.[15] (The data summarized in Table 7 are broken down in greater detail
in Tables 13–17 below.) As is evident in the table, uncontracted *not* is well attested for all five
children. Furthermore, errors in using *not* are also rare, in the same frequency ballpark as the
error rates for d-words: 5% or less; examples of these errors are given in (6). (Recall that some
potentially grammatical constituent negations count as errors, so these rates are upper bound
estimates.)

(6) *Examples of word order errors with* not
    a. I not you do (abe065)
    b. dat go not in dere (adam26)
    c. but not you can (sarah099)
    d. no you don't not to (nina37)
    e. not my back hurts (ross19)

The fact that both *not* and *don't* are used correctly the vast majority of the time makes it
unlikely that children are confusing them.

From the data collected in Tables 2–6 it can also be determined that even though nonagreeing
don't was common, the children were not simply confused about how to establish agreement
in general; this finding is consonant with previous literature on English acquisition (e.g., Harris

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[15]Table 7 excludes a substantial number of productions of *not*, those that occurred in "medial neg" environments,
discussed in section 4.3. These are temporarily omitted because their classification as grammatical versus ungrammatical
is not immediately obvious. They constitute the one environment where these children superficially appear to be using
don't and *not* in free variation, but I will argue that this is not the correct characterization of the data.

TABLE 7
Distribution of *Not*

Child	Word Order	
	Grammatical	*Ungrammatical*
Abe	186	3 (1.6%)
Adam	201	10 (5%)
Sarah	128	7 (5%)
Nina	178	4 (2%)
Ross	314	3 (0.9%)

& Wexler 1996). Specifically, summing across the five children there are only 5 cases of *doesn't* with a non-3sg subject (the subentries for "incorrect agreement" under Grammatical and Tense Doubling word orders), as against 401 correct uses of *doesn't* (the subentries for "correct agreement")—just 1.2% incorrect usage, and four of the errors are in a single transcript of Adam's (file 35)—three of the children never used *doesn't* in a non-3sg context, clearly demonstrating knowledge that *doesn't* requires a 3sg subject. They would not be able to sustain such a consistent pattern if they could not both identify the features of the subject and match them to the features of Infl. This contrasts with the use of *don't*: it occurs with a 3sg subject 182 times and with all other subjects 1,792 times (9.2% incorrect usage). That is, there are plenty of instances where *don't* is used with an inappropriate (3sg) subject. The difference between the two incorrect agreement rates is significant ($\chi^2(1) = 28.61$, $p < .00001$); this difference is significant for Sarah, Nina, and Ross individually by one-tailed Fisher's Exact test ($p < .0025$, $p < .0001$, $p < .04$, respectively). In the RI literature, when agreeing verb forms are used, the frequency with which they are inconsistent with their subject is almost always closer to 1% than to 9%. For example, Phillips's (1995) survey reports rates of incorrect use of 0% and 2% for German (2sg and 3sg forms) and 1.5%, 1.6%, and 3.3% for Italian (all agreeing forms).

The asymmetry in this pattern of erroneous use (*don't* is overextended, *doesn't* is not) means that there is something special that licenses the particular combination of *don't* plus a 3sg subject in the children's grammars, which is not target-like (at least for four of them).[16] If we compare the above error rates to the word order error rates in the tables, we see that the nonagreeing *don't* rate is typically much higher (ranging from 4.9%–30%), while incorrectly agreeing *doesn't* occurs at around the same rate as ungrammatical word orders (at most 3.2%, for Adam), consistent with the claim that the word order errors and misuses of *doesn't* are noise (i.e., not generated by the child's grammar), while nonagreeing *don't* is a grammatical option for the child. This asymmetry argues against extending the Misanalysis Hypothesis to *doesn't* (i.e., from the Narrow to the Broad version).

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[16]Anonymous reviewers have asked why the relevant comparison is not between uses of *doesn't* versus *don't* in 3sg subject contexts. The reason is that those numbers would tell us nothing about the children's overall ability to systematically relate verbal inflections to features of the subject. For that we must look beyond just 3sg contexts.

2.4. Summary

I have argued from the distribution of d-words and *not* for the following conclusions about the stage in the acquisition of English when children are saying things like *He don't like it*, which encompasses the period for which the Misanalysis Hypothesis was proposed:

- children do not produce *don't* with the same distribution as *not*, contra both versions of the Misanalysis Hypothesis;
- children do not produce *doesn't* and *didn't* with the same distribution as *not*, contra the Broad Misanalysis Hypothesis;
- children do not produce *don't* with the same distribution as *doesn't*, contra the Broad Misanalysis Hypothesis—they know that *doesn't* requires a 3sg subject;
- aside from the possibility of the subject being 3sg, *don't* is very rarely used in an ungrammatical (i.e., nonadult) syntactic position; on the few occasions when it is, it can often be accounted for as an instance of tense doubling, a phenomenon that exists independent of d-words; otherwise, it usually cannot be accounted for by the Misanalysis Hypothesis, because it is not in a position where *not* could occur in adult English, and children do not produce *not* in nonadult syntactic positions. That is, tense doubling is the only place where children's distributions of d-words and *not* systematically overlap.

My general conclusion is that the Misanalysis Hypothesis is not useful in explaining the existence of nonagreeing *don't*. A fortiori it cannot be part of the explanation for why *don't* and *can't* tend to be produced earlier than other modals/auxiliaries. See section 3.5 for an empirical assessment of the developmental progression, and how it might be explained under the sort of analysis advocated here.

The Misanalysis Hypothesis also has a basic conceptual problem: what would lead a child to misanalyze *don't* as equivalent to *not* in the first place? The hypothesis was designed to account for productions like (1b) and (5c), but to my knowledge no one has proposed why this particular misanalysis should be available and tempting to the child. There is nothing in the input that would make it so: the adult distributions of *don't* and *not* are virtually disjoint, and to the extent that one can attribute meaning to present tense, their meanings are always different. Hyams (1986) proposes that the adult analysis of *don't/can't* is not available to the child at the relevant stage, because the child's syntax includes an incorrect parameter setting (of the pro-drop parameter), blocking overt material from appearing under AUX. But no argument is offered for why classifying *don't/can't* with *not* is the compromise that a child must reach given such a grammar, as opposed to treating it as an adverb, or a semi-auxiliary verb like *have to* that takes a VP complement. It is also unclear how the child recovers from her misanalysis. *Doesn't* and nonagreeing *don't* co-exist in these children's speech for anywhere between five months and over two years,[17] so it seems as if the mere fact that the required syntactic position becomes available at a certain point, accommodating *doesn't* (on the Narrow Misanalysis Hypothesis), is not sufficient to trigger reanalysis of *don't*, assuming Hyams's proposal. Likewise, this

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[17]Specifically, the portion of the non-agreeing *don't* stage during which *doesn't* is also attested is as follows (earliest and latest occurrence): Abe, files 43–79; Adam, files 9–55; Sarah, files 50–128; Nina, files 12–51; Ross, files 24–45.

prolonged overlap implies that an appeal to an anti-synonymy heuristic (e.g., Clark's 1990 Principle of Contrast), which would force *don't* out of the 3sg cell of the paradigm when *doesn't* is mastered, cannot be right.

3. GRAMMAR-BASED EXPLANATIONS

Why do children say *Robin don't play with pens*, if they have not misanalyzed *don't* as simple negation, and what more can we determine about the syntactic and morphological structure underlying such nonagreeing uses of *don't*? In the rest of this paper I explore the possibility that children analyze nonagreeing *don't* as a combination of a form of dummy *do* and a (clitic/affixal) form of negation *n't*, and that their "agreement error" is attributable not to something nonadult about their lexicon (thus avoiding the aforementioned synonymy and reanalysis problems) but rather to something nonadult about the way their grammar handles Infl features. I outline two implementations of this idea, one proposed by Guasti & Rizzi (2002) and one that I offer here as an alternative, and explore how their empirical predictions diverge. The latter discussion is important because it allows me to go beyond the specific phenomenon under discussion to illustrate a more general point: the richly interconnected structure of generative theories of syntax and morphology allows numerous subtle but precise predictions to be derived from an extremely small number of grammatically framed hypotheses (often just one) about how children differ from adults linguistically. This approach to language acquisition builds on the vast amount we have learned about human language using linguistic theory. By contrast, if one approaches language acquisition without this theoretical foundation, it is much more difficult to generate hypotheses that have any bearing on phenomena beyond those that they were designed to explain—one generally has to invent the parameters for generalization and extrapolation, and as a result these parameters are (too) easy to retreat from in the face of recalcitrant data.

3.1. Guasti & Rizzi (2002): The Spell-Out Account

Guasti & Rizzi (2002)[18] propose that the child's syntax for nonagreeing *don't* is identical to that of the adult target *doesn't*. Specifically, they suggest that the Tense and Agreement features of Infl are fully and correctly specified. The reason why children do not always realize those features is because their Spell-Out system does not match the adult target. In particular, the child's Spell-Out system allows features to fail to be phonetically realized, just in case the syntactic checking of those features happens post-Spell-Out, that is, covertly (in the framework of Chomsky 1995; as Guasti & Rizzi point out, this can be rendered in the terms of Chomsky 2000 as Agree versus Move (= Agree + Merge)). In other words, the Spell-Out component of the grammar can see the difference between features that have already been checked syntactically and those that remain unchecked at the point where the derivation branches to Spell-Out. For ease of exposition I refer to this as the Spell-Out Account. Importantly, Guasti

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[18]This proposal was initially proffered by Rizzi (1997).

& Rizzi assume that all of the child utterances in question result from convergent derivations, and therefore that the φ-features of Infl are eventually checked in all cases; what is at issue is purely the timing of that checking operation relative to when a syntactic representation is sent to be spelled out. Here they posit a parameter of crosslinguistic variation (they refer to it as a rule)[19]: some languages require full morphophonological expression of φ-features regardless of when the syntax checks those features ("compulsory agreement"); other languages realize fewer (perhaps none) of the φ-features of Infl if those features have not yet undergone checking in the (narrow) syntax, but more of them if checking has already happened ("variable agreement"). Their proposal can be summarized thus, paraphrased slightly:

(i) If a feature is checked in the overt syntax, then it is expressed in the morphology.
(ii) If a feature is left unchecked in the overt syntax, whether it is morphologically expressed or not is a property of the language-specific system of morphological rules.

In the framework of Chomsky (1995), which Guasti & Rizzi assume, the difference between overt versus covert checking corresponds to a higher versus a lower syntactic position of the phrase (here, the subject) that checks Infl's features. That is, a DP that has overtly moved to Spec-IP[20] (and subsequently perhaps further) is expected to trigger fuller agreement than one that is below that position at Spell-Out. Guasti & Rizzi cite numerous cases of adult languages/dialects that display this contingency, which include Fiorentino and Trentino (Brandi & Cordin 1989) and Anconetano (Cardinaletti 1997), as shown in (7): (7a) demonstrates that in Verb–Subject order, number agreement with the subject is not found, while (7b) shows that in Subject–Verb order it is. On the other hand, there are numerous languages that allow various positions for the subject but do not show any changes in agreement morphology correlating with them, such as Standard Italian (8). These two kinds of patterns instantiate the options mentioned in (ii) above. (See Manzini & Savoia 2002 and Samek-Lodovici 2002 for surveys of such agreement alternations.)

(7) *Anconetano*
    a. Questo, lo fa   sempre i   bambini.
       this   it do-3sg always the children
    b. Questo, i   bambini lo fanno sempre.
       this   the children it do-3pl always
       'This, the children always do.'

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[19]It is not clear to me why they eschew characterizing this as a parametric choice, saying rather that in situations where checking has not happened overtly, "the morphological expression of agreement is a matter of a language specific morphological rule, one that must be learned under no special UG guidance. We thus expect the observed fluctuation ... for a fairly long period" (183); this rule "is not enforced by the core system of UG principles and parameters" (189). I do not see what the difficulty for the child is in this forced choice situation, nor why the available options cannot be part of UG, therefore it does not seem to me that the prediction of an extended period of uncertainty is justified. I shall put this issue aside, and for expository convenience I will discuss their approach in terms of parameter setting.

[20]The exact identity of the functional categories involved is not relevant, what matters is which features are checked there.

(8) *Standard Italian*

    a. Sono venute   le tue   sorelle.
       are   come-f.pl the your-f.pl sisters-f.pl

    b. Le tue   sorelle   sono venute.
       the your-f.pl sisters-f.pl are   come-f.pl

       'Your sisters came.'

Against this backdrop, Guasti & Rizzi can account for children's nonagreeing *don't* in two steps:

(i) by proposing that learners of English at the relevant stage have not (i.e., not fully or not with certainty) set the agreement parameter to its adult value (compulsory); as a result, they waver—φ-features are always present in the syntax,[21] but sometimes they are morphophonologically realized, other times not, yielding alternations like (1).

(ii) by claiming that in English (both child and adult), auxiliary *do* in its various forms does not have to overtly head-raise all the way up to the position whose specifier contains the subject in a declarative sentence. For concreteness we can state this using the particular tree structure that Guasti & Rizzi employ, though the idea is compatible with alternatives. They argue that inflected dummy *do* raises only to the Tense head overtly, whereas the subject is in the specifier of the next higher head, AgrS.[22] Thus, no spec-head configuration is formed between the subject and Infl as of Spell-Out[23]; rather, the φ-features expressed on *do* will have to be checked covertly by raising it or its features to the AgrS position.

Independent evidence that *do* is not in the head whose specifier holds the subject is taken from the possibility of intervening adverbs:

(9) [$_{AgrSP}$ He [$_{TP}$ probably [$_{TP}$ does [$_{NegP}$ not [$_{VP}$ know the answer]]]]].

On common assumptions, the adverb must be either adjoined to a maximal projection or in the specifier of one, so there can be no adverb position between Spec-AgrSP and AgrS.[24]

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[21] See section 4.4 for a minor exception.

[22] In this subsection I follow Guasti & Rizzi in assuming the older version of Minimalist clause structure (Chomsky 1993) in which AgrS heads a separate projection from Tense, since this is crucial to their account.

[23] Guasti & Rizzi apparently assume that the subject does not move through Spec-TP on the way from its VP-internal base position to Spec-AgrSP. For the sake of discussion I grant that this can be ensured by some technical means.

[24] The same word order is of course possible for other auxiliaries, in particular *be*: *He probably is not sick*. This would seem to predict that nonagreement should be possible with *be*, contra most of the RI literature and Guasti & Rizzi's own counts. They escape this incorrect implication by positing that in finite clauses *be* must always raise to AgrS overtly, due to its rich morphological agreement paradigm (which marks more distinctions than *do*), extending Vikner's (1995) crosslinguistic parameterization to language-internal differences among verbs. This forces them to treat the word order where *probably* precedes *is* by assuming that the subject has raised higher than Spec-AgrSP, so that the adverb can be adjoined to AgrSP. But availing themselves of this option obviously undermines the relevance of (9) as evidence for the lower position of *does*. For a different approach to the absence of nonfinite *be* in the RI stage within the general framework assumed here, see Schütze (2004b).

Putting the two pieces together: English dummy *do* does not overtly head-raise as high as it might have, thus creating at Spell-Out a configuration that in some languages yields reduced φ-feature realization; the children are uncertain as to whether they are learning such a variable agreement language, so they have the option of not realizing the φ-features of *do*, in which case we expect the form *don't* to sometimes surface with 3sg subjects, because it is the expression of Tense without Agreement.

3.2.   An Alternative: The Underspecification Account

I now explore an alternative approach for analyzing nonagreeing *don't*, which I refer to as the Underspecification Account, based on the idea that the RI phenomenon involves underspecification of features of the Infl system within the narrow syntax, but no missing structure and no nonadult spell-out principles. This general approach has been advocated by, among others, Wexler (1994 and later versions), Hoekstra & Hyams (1995 and later versions), and (allowing for some impoverishment of structure) Clahsen, Eisenbeiss & Penke (1996). What is crucial to my proposal is that an underspecified Infl (with a 3sg subject) can yield a zero spell-out, as in *Doggie bark* and *Doggie not bark*. This kind of theory is opposite to the Spell-Out Account in that it posits adult-like morphology/spell-out and non-adult-like (featural) syntax, rather than the other way around.

Critical for this proposal are certain details of the analysis of *do*-support (in both adult and child English), which I adopt from Schütze (2004a), where they are motivated on the basis of adult data. The idea is that *do* (the stem of the "dummy" verb) is the realization of a syntactic head that is always present in the relevant clause types (indicatives) and which is separate from the head(s) where Tense and Agreement features reside (hereafter referred to as Infl), the more traditional home for *do*. I refer to the head where *do* appears as Mood (not intending thereby to make a strong claim as to the semantic contribution of the elements that can be found there).

Any of the morphemes 3sg present *-s*, past tense *-ed*, or present *-Ø* can be inserted under Infl when it is affixed to a Mood that will be spelled out as *do*. The former two suffixes trigger a phonological readjustment (see Halle & Marantz 1993) of the stem vowel, giving us [dʌz] from /du+z/ and [dɪd] from /du+d/ (another readjustment rule will derive [dont] from /du+Ø$_{Infl}$+nt/), but these readjustments are no argument for claiming that *do* itself is a realization of Infl. On the contrary, the suffixal portions of these words are completely regular, which is evidence for the separation of the head/stem *do* from the Infl features.

Do is an allomorph of the indicative Mood head M$_{Indic}$, alternating with a null allomorph. The choice between the *do* and *Ø* allomorphs of M$_{Indic}$ is conditioned by whether there is an adjacent element in need of morphological support (a clitic or affix). In adult English this situation will arise when Infl is prevented from affixing to a verb to its right because of the intervention of a nondefault (perhaps phonologically contentful) Polarity (a.k.a. Σ) head (cf. Laka 1990)—sentential negation or emphatic positive polarity, as in *He does not cry, He DOES cry*—or the subject, as in *Does he cry?*[25] The *Ø* allomorph will occur in contexts like

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[25]This account does not rely crucially on an adjacency-based account of Infl-to-V lowering in English (like that hinted at in the main text, inspired by Bobaljik 1994). As long as Infl does not get affixed to a base-generated verb or auxiliary, for whatever reason, it will be a "stray" affix in need of a host.

He Ø cries.[26] Systems of this kind, in which an otherwise phonologically null head becomes pronounced in order to support "weak" morphemes, have precedents in the literature (see Schütze 1994 and works cited therein).

In child English, the possibility of underspecifying Infl during the RI stage, which then receives a null (nonaffixal) spell-out, creates an additional circumstance where a morphologically dependent element can find itself in need of a host, namely the contracted clitic/affix *n't*. That is, the syntax of a child English utterance such as *He don't cry* will be as in (10) (ignoring the VP-internal origin of the subject).

(10) He M_{Indic} [$_I$ Ø] n't [$_{VP}$ cry]

Extending an idea from Harris & Wexler (1996), I suggest that children may choose to produce negation in its clitic/affixal[27] (*n't*) rather than its tonic (*not*) form independently of the feature (under)specification of Infl. This creates a problem if Infl spells out as Ø, leaving the negative clitic with no host, as in (10). But under the independently needed conditioning factors for M_{Indic}, *do* will be the allomorph chosen in such circumstances, since its use is triggered by the need for an adjacent morphologically dependent element to have a host word.[28]

Thus, it is the clitic/affixal nature of *n't* combined with featural underspecification of Infl that results in nonagreeing *do*. The reason why the difference between *n't* and *not* is relevant in child English but not in adult English is that it happens to be true of adult English that all environments where *n't* is possible are also environments where Infl itself is affixal, so the need for morphological support will arise independently when negation blocks the lowering of this affix onto a verb. Children's ability to underspecify Infl results in Infl sometimes not being affixal in these same environments, at which point the difference between clitic *n't* and nonclitic *not* becomes relevant for the distribution of *do*.

In the above proposal I assume the view, explicitly defended by Halle & Marantz (1993), that there are null affixes, i.e. phonologically empty inflections that can nonetheless require something overt to host them. This explains why *do*-support is needed in contexts like *They do not smile*, even though there is no overt 3pl present tense marking in English: Infl in this sentence is -Ø. Additionally, because of underspecification of Infl features in their syntactic representations, children have to find a way to spell-out Infls that they have not encountered in their input. If a zero morpheme is a universal default, as suggested by Halle & Marantz, and children's initial hypothesis about zero morphemes is that they are nonaffixal, then children will automatically spell-out underspecified Infl as Ø, as assumed above. (If the hypothesis of non-affixhood turns out to be wrong in other situations, children will eventually encounter positive evidence for revising the hypothesis, such as the occurrence of *do*-support in an English sentence.) Nonaffixal zero morphemes are already needed for the analysis of adult English.
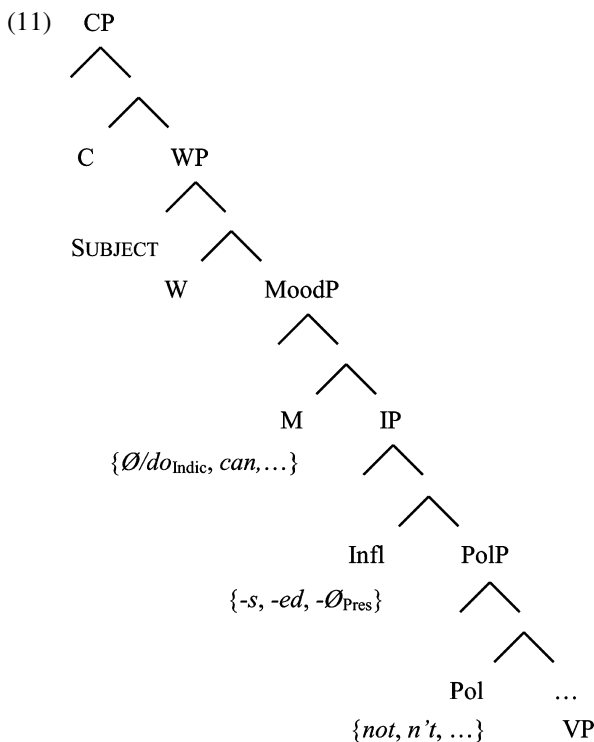
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[26]Other M heads in English will include the mandative subjunctive (*It is vital that she* [$_M$ Ø$_{Subjunc}$] *leave now*) and the traditional modal auxiliaries (*can, must, should*, etc.), encoding the fact that these are all in complementary distribution. Thus, my approach could be characterized as a "dummy modal" approach to *do*.

[27]See Zwicky & Pullum (1983) for arguments in a traditional framework as to whether *n't* is a verbal affix as opposed to simply a clitic counterpart of *not*. This choice is immaterial for my analysis.

[28]This is close to Thornton's (1993) treatment of tense-doubled questions like *Did he didn't go*, where the second instance of *did* is a realization of Aspect, inserted to support *n't*. It is also close to Tesan & Thornton's (2005) assumption that the *do* portion of nonagreeing *don't* "does not represent the tense category, it is only a morphological host" (270).

Depending on one's syntactic assumptions, their number could be very large, but even on conservative assumptions the existence of some is widely accepted in Principles and Parameters syntax, e.g., the null counterpart(s) of the relative pronouns *who(m)/which*.

The syntactic structure of the top of the clause prior to head movements is schematized in (11), with some of the vocabulary items listed for the relevant heads. This general approach to the adult Infl system is expounded in Schütze (2004a).

(11)

```
            CP
           /\
          /  \
         C    WP
             /\
            /  \
      SUBJECT   \
             W   MoodP
                 /\
                /  \
               M    IP
    {Ø/do_Indic, can,…}  /\
                        /  \
                    Infl    PolP
             {-s, -ed, -Ø_Pres}  /\
                               /  \
                             Pol   …
                        {not, n't, …}  VP
```

The head movements work out as follows. Infl must either (i) lower onto V (when it is not blocked from doing so by a nondefault element in the Pol(arity) head, or by the subject after Infl has raised to C (via M and W)) or (ii) combine with an auxiliary or Mood. Scenario (ii) can happen either by Infl raising on its own to adjoin to M (obligatory when M contains a modal and in I-to-C clauses), or by Infl being "picked up" by auxiliary *be* or *have* as they raise by successive head movement from VP up to M (possible only when M is Indicative). *Do*-support, i.e. the non-zero spell-out of M_{Indic}, will occur when scenario (i) does not happen and scenario (ii) involves neither a modal in M (which would block M_{Indic} altogether and provide a host for the Infl affix[29]) nor an auxiliary raised to M via Infl (providing a host for the Infl affix).

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[29]I assume that English modals always bear an Infl suffix, in keeping with their distributional restriction to finite clauses. They select a zero allomorph of the 3sg present suffix, and their past tense forms often have idiosyncratic meanings, but *could* and *would* can be simply the past forms of *can* and *will*, confirming that the modal+past combination is possible.

TABLE 8
Distribution of Agreement on *Do* with 3sg Subjects in Negative Declaratives
Versus Nonnegative Questions with Inversion, Pooled from Five Children
(Incorporating Data from Table 6-3 in Guasti & Rizzi 2002)

	Form Produced	
Environment	do	does
Question with inversion	5	211
Before *n't*	146	220

Guasti, Maria Teresa & Luigi Rizzi. 2002. Agreement and tense as distinct syntactic positions: Evidence from acquisition. In Guglielmo Cinque (ed.), *Functional structure in DP and IP: The cartography of syntactic structures*, vol. 1, 167–194. Oxford, UK: Oxford University Press. By permission of Oxford University Press, Inc.

The specifier of WP is the subject position; the exact content of W is not relevant here—with suitable assumptions it could be AgrS, in which case Infl would be simply Tense. Adverbs like *probably* in (9) adjoin to MoodP; M can optionally raise to W to get an auxiliary or modal to the left of such adverbs, as in *He can probably find the answer*; this is impossible when M contains just its default value Indicative, however: **He does probably not know the answer*[30] (cf. Pesetsky 1989).

3.3.   An Important Distributional Asymmetry

For the Spell-Out Account the crucial link in the logical chain that allows children learning English to not realize agreement is the overt position of *do*, lower than AgrS. As a result, this account predicts that when *do* is required to move higher (to AgrS or beyond), thereby creating a checking configuration with the subject overtly, the nonagreement option should disappear. This situation arises with Subject-Aux(iliary) Inversion in matrix questions, where *do* surfaces in Comp and, in line with the Head Movement Constraint (Travis 1984), cannot skip AgrS on the way. Guasti & Rizzi (2002) demonstrate that this prediction is correct: with inverted word order, agreement is obligatory and nonagreement is no longer found. Table 8 shows this for data pooled from the five children studied in this paper. Individual figures and ages are found below in Table 12; the pattern is significant for each child individually.

In (12) this pattern is illustrated with examples; notice that the words being counted in inversion environments are not the d-words but rather nonnegated *do* versus *does*.

(12) *Guasti & Rizzi's findings*
    a.   so Paul doesn't wake up (adam28)
    b.   Robin don't play with pens (adam28)
    c.   Does dis write? (adam28)
    d. # Do Robin like that? *(unattested)*

The finding evinced in Table 8 is thus that children who are producing *don't* with 3sg subjects

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[30]This string is grammatical only with emphasis on *does*, in which case *not* is most likely constituent VP negation.

do not produce *do* in questions with 3sg subjects, they uniformly produce *does*. The reason why this pattern is not tested solely with d-words is that negative questions are mastered late in child English (Guasti, Thornton & Wexler 1995, i.a.); as a result, d-words are rare in inverted word orders at this stage of development (but see Table 9).

Table 8 portrays a striking asymmetry that clearly calls for an explanation. Under the theory of agreement that Guasti & Rizzi develop, this pattern follows immediately. Under the Underspecification Account, however, the presence or absence of features of Infl is unaffected by head movement. My explanation relies instead on the presence versus absence of a clitic/affix (*n't*) in need of a host; in a nonnegative question with inversion there is no such clitic/affix except the *-s* 3sg affix. When Infl is underspecified, it is a nonaffixal Ø, which will trigger the Ø allomorph of M_{Indic}. This situation would yield the utterance *Robin like that?* in place of the unattested (12d); this would of course not be identified as a Subject-Aux Inversion utterance at all. Thus, the crucial difference between *n't* and inversion, under the Underspecification Account, is this: *n't* needs a phonological host, therefore it demands that M_{Indic} be overt; underspecified Infl does not demand an overt host.

For completeness, Table 9 reproduces the data from negative questions, where Guasti & Rizzi find that agreement is always used when Subject-Aux Inversion applies, but only sometimes when Aux does not invert; this difference is just significant by two-tailed Fisher Exact test ($p < .048$). At first glance, Table 9 appears to reproduce the pattern seen in Table 8, whereby inversion forces agreement. As Guasti & Rizzi remark, however, there is reason to be quite wary of the Table 9 data: the number of exemplars is very small, only two children produce inverted questions, and six of those are tags with a pronoun subject, which Guasti & Rizzi consider "quasi-formulaic."[31] For these reasons, I follow them in ignoring these utterances hereafter; "inverted" will thus imply "nonnegative." (Adding them into Table 12 below would not change the picture anyway.)

[31] Despite expressing these caveats, Guasti & Rizzi (184) suggest that the data in Table 9 constitute an argument against the kind of analysis I propose in this paper: "These facts suggest that *do* cannot be simply a host for negation. If it were, it would have such function both in uninverted and in inverted positions, and we would expect to find examples like [*Why don't he go*]." But if we break Table 9 down by which children contribute to which cells, as in Table I, we can see that no individual child demonstrates the relevant pattern, namely, production of both agreeing and nonagreeing d-words and both inverted and uninverted questions. Therefore, the data do not make the point they are supposed to make, and the empirical issue is open.

TABLE I
Distribution of Agreement in Negative Questions With Inversion versus Without Inversion, Children Contributing to Each Cell (based on the Appendix in Guasti & Rizzi 2002)

	Form Produced	
Word Order	don't	doesn't
Inverted	N/A	Ross, Sarah
Uninverted	Adam	Adam, Sarah, Nina

Guasti, Maria Teresa & Luigi Rizzi. 2002. Agreement and tense as distinct syntactic positions: Evidence from acquisition. In Guglielmo Cinque (ed.), *Functional structure in DP and IP: The cartography of syntactic structures*, vol. 1, 167–194. Oxford, UK: Oxford University Press. By permission of Oxford University Press, Inc.

TABLE 9
Distribution of Agreement in Negative Questions With Inversion versus Without
Inversion, Pooled from Five Children (Table 6-4 in Guasti & Rizzi 2002)

	Form Produced	
Word Order	don't	doesn't
Inverted	0	14
Uninverted	3	6

Guasti, Maria Teresa & Luigi Rizzi. 2002. Agreement and tense as distinct syntactic
positions: Evidence from acquisition. In Guglielmo Cinque (ed.), *Functional structure in
DP and IP: The cartography of syntactic structures*, vol. 1, 167–194. Oxford, UK: Oxford
University Press. By permission of Oxford University Press, Inc.

TABLE 10
Distribution of 3sg Pronoun Subject Case as a Function of Auxiliary Form,
Pooled from Five Children (Table 6-5 in Guasti & Rizzi 2002)

	Form Produced	
Subject Case	don't	doesn't
Nominative	46	79
Non-nominative	13	0

Guasti, Maria Teresa & Luigi Rizzi. 2002. Agreement and tense as distinct syntactic
positions: Evidence from acquisition. In Guglielmo Cinque (ed.), *Functional structure in
DP and IP: The cartography of syntactic structures*, vol. 1, 167–194. Oxford, UK: Oxford
University Press. By permission of Oxford University Press, Inc.

3.4. Nonagreement Crosscuts Subject Case

Guasti & Rizzi present the data in Table 10 to show that the form of animate subject pronoun
that co-occurs with nonagreeing *don't* is most often the nominative (adult) form *he* or *she*,
and relatively infrequently the non-nominative form *him* or *her*. Adopting the assumptions
of the Agreement–Tense Omission Model (ATOM) (Schütze 1997; Wexler, Schütze & Rice
1998), they take a nominative subject as evidence that agreement features are syntactically
specified. This is an important part of their central claim that nonagreement is purely a Spell-
Out phenomenon and does not involve nonadult (narrow) syntax: they conclude from Table 10
that most instances of nonagreeing *don't* come from syntactic structures with agreement features
specified, so that their lack of morphological marking of agreement cannot be explained by
syntactic feature underspecification (although it would be consistent with that possibility for
the 13 instances with non-nominative subjects[32]). As noted by Guasti & Rizzi, the zero in the
bottom right cell of Table 10 supports the ATOM analysis of case/agreement patterns in child
English: *doesn't*, which contains 3sg *-s*, must have agreement features specified, which ATOM
predicts should force the subject to be nominative. Their presumption about the case of the

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[32]In fact they tentatively propose a Truncation analysis of those cases. I return to this proposal in section 4.4.

subject, which I share, is that child utterances such as *He don't eat this* and *Him don't eat this*, both of which represent attested patterns, must have featurally different Infls, both realized phonologically as Ø. The accounts disagree on how these featural differences arise, however: see section 4.3.

Harris and Wexler's (1996) original proposal about nonagreeing *don't* was that it arises from an Infl that lacks both Tense and Agreement specifications. But then we would not expect nominative subjects to co-occur with this form, contrary to the data in Table 10. Therefore, their account was insufficient. By contrast, the framework adopted here, consistent with the ATOM, allows that other varieties of underspecified Infl can also yield nonagreeing *don't*. Guasti & Rizzi suggest that the co-occurrence of nominative subjects with nonagreeing *don't* is problematic for an ATOM-based account because the presence of a form of *do* should mean that Tense is specified, in which case the only possible Infl when the subject is *he/she* should be specified for both Tense and Agreement, which would yield *doesn't*. In other words, according to them, the top left cell of Table 10 would be predicted to be unattested. The account proposed here does not make that incorrect prediction, because it does not rely on the traditional assumption that dummy *do* is a realization of, or presupposes the presence of, a Tense specification. Rather, it correctly predicts that only the bottom right cell should be unattested, because that would involve a fully specified Infl without nominative case assignment/checking; the two cells under *don't* both involve underspecified Infls, one with Agr features, the other without, neither containing a Tense feature.

3.5. Developmental Patterns

Misanalysis was originally proposed to explain a developmental observation: *can't* and *don't* were supposed to be the first auxiliary/modal verbs produced by English-learning children. However, the misanalysis approach did not *explain* this developmental pattern—it could just as easily have turned out that *won't*, for example, was misanalyzed as Neg and therefore produced early. Bellugi's original proposal and Hyams's recasting of it actually predict that any word that contains sentential negation as a subpart could be misanalyzed and hence produced early (for Hyams, because the NEG position is available before the AUX position is). So although the grammar-based accounts of nonagreeing *don't* described in sections 3.1 and 3.2 do not predict that *don't* and *can't* are the earliest auxiliaries, they are no worse off in this regard than the earlier alternatives.

Moreover, the facts are not as the literature has assumed. Specifically, *can't* and *don't* are not always the earliest auxiliaries produced: this tendency is violated for two of the children in Brown's (1973) study. Sarah's first non-imitative use of *can* occurs in file 15 (with a possible earlier instance in file 8), while her first *can't* is in file 32. Likewise, Adam's first non-imitative use of *can* is in file 1, while his first clear instance of *can't* is in file 13 (a possible one appears in file 4). (These first instances of *can* also pre-date the first productions of nonagreeing *don't* for both children, which are in files 30 and 3, respectively.) Given the sparseness of the phenomena, this could be an artifact of sampling error—earlier uses of *can't* might simply have been missed. What is odd is that Sarah and Adam were two of the children for whom the Misanalysis Hypothesis was put forward in the first place. Still, this does not necessarily mean that misanalysis is the wrong explanation for why they produce nonagreeing *don't*. It does mean, however, that failing to predict that *can't* must be one of the earliest

auxiliaries is actually a virtue, shared by all of the theories under discussion. On the other hand, none of the five children studied here show auxiliary *do*, *does*, *did*, *doesn't*, or *didn't* being produced earlier than *don't*. This remains an observation that needs to be explained—see section 4.3.

One other developmental issue concerns the distribution of the phenomenon across children. As formulated, both of the grammar-based theories predict that *all* children should produce nonagreeing *don't* for at least part of the period when they are producing RIs, if they produce *n't* with 3sg subjects at all. This prediction is unfalsifiable with the kind of corpora currently available; at most, we could test whether a child ever produced it during the recorded sessions, and consider how many opportunities she had to do so. But there are no theories of how to interpret such numbers for individual children; generally, claims that a phenomenon does not occur in child language are based on its lack of attestation across the transcripts of several children, so that the chances of sampling artifacts are reduced. Given this limitation, I have not attempted to test the prediction for all English transcripts that cover the RI stage, but I would note that Guasti & Rizzi's claim (2002: 169) that Eve never produces nonagreeing *don't* is not strictly true, as pointed out in note 3; they also make this claim for the Shem corpus (Clark 1982) on CHILDES, which I have not attempted to verify.

3.6.   Summary

In this section we have seen that both of the grammar-based explanations of nonagreeing *don't* account for the basic facts, including a critical distributional asymmetry observed by Guasti & Rizzi, and that certain purported facts related to this phenomenon turn out to lack empirical support. So far the two proposals fare equally well. Now we can explore what happens when their predictions diverge.

4.   DISTINGUISHING THE GRAMMAR-BASED THEORIES

This section outlines a number of respects in which the Spell-Out and Underspecification Accounts make different empirical predictions. These include the possibility of nonagreeing *do* in environments other than inversion and (clitic) negation; the possible temporal interpretations of nonagreeing *don't*; the omission of *do* in obligatory contexts; and the way the two theories extend to main verb RIs.

4.1.   Other *Do*-Support Contexts

The Spell-Out Account makes an empirical prediction not discussed by Guasti & Rizzi, namely that we should find utterances like *He do . . .* in contexts other than before *n't*. This prediction arises because their account does not give any explanatory role to negation in general, or *n't* in particular—it just happens to supply a frequent context for *do*-support (without Subject-Aux Inversion). But there are other contexts where we find *do*-support without Subject-Aux Inversion in English, and the Spell-Out Account predicts that failure to express φ-features should be an option there too, for the same children at the same stage of acquisition as the data in section 3.

There are (at least) three relevant environments, schematized in (13): VP-ellipsis, emphatic affirmatives,[33] and full (uncontracted) negation.

(13) *Further prediction of the Spell-Out Account*
    a. (Yes), he does/do (too/...).
    b. She DOES/DO like it.
    c. It does/do not work.

The Spell-Out Account predicts the alternations shown in (13), because these uses of *do* are like the d-words in that they do not raise all the way to AgrS overtly, according to Guasti & Rizzi's criterion. Although they are far from plentiful, VP ellipsis (13a) and emphatic *do* (13b) are indeed found in the transcripts analyzed by Guasti & Rizzi; these are exemplified in (14), and mostly involve a child (CHI) responding to an utterance by an adult. (There was only a single instance of the noninterrogative type (13c) with a 3sg subject, and it contained *does*.)

(14) *Examples of uninverted nonnegative dummy* do
    a. MOT: who calls you yucky?
        CHI: Amara does Amara does. (abe059)
    b. URS: who else does?
        CHI: Ricky does. (adam14)
    c. MEL: are they scared if you have a scary costume?
        CHI: uhuh. Mark does. (sarah099)
    d. MOT: does he squeak now?
        CHI: yes he does.
        MOT: he does?
        CHI: he does squeak. (nina37)
    e. FAT: why does Marky hate dominos # Ross?
        CHI: because # he always does. (ross47)

I searched for such cases in four of the transcripts that Guasti & Rizzi analyzed (Nina, Ross, Sarah, and Adam)[34]; a fifth transcript, that of Abe, was added because Sano (1999) found that Abe showed the same asymmetry of agreement and inversion that Guasti & Rizzi found (cf. Table 8 above).[35] I used the same subset of files and the same general counting criteria that Guasti & Rizzi did; background information is summarized in Table 11. The most important of Guasti & Rizzi's criteria was that the child must have demonstrated productive use of the two relevant forms (*don't*, *doesn't*); counting was stopped at the last file containing an instance of

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[33]It is well-known that some English-speaking children can use dummy *do* without emphatic prosody and apparently without intended emphatic meaning (Hollebrandse & Roeper 1996; Zukowski 1996; Bohnacker 1999; Thornton 2010; i.a.). For simplicity of exposition, in the main text "emphatic *do*" is meant to encompass such cases.

[34]Their fifth child, Peter (Bloom 1970), was excluded here because the number of instances counted by Guasti & Rizzi was already small.

[35]My counts for Abe do not cover the same range of files as Sano's, because his criteria for determining start and stop points are different from Guasti & Rizzi's, and I follow the latter. Also, as can be seen by comparing Tables 1 and 11, Abe is the only child for whom nonagreement errors were found in later files than the last word order error involving negation. This results from a single instance of nonagreeing *don't* in file 94, after a stretch of no such instances in files 78–93.

TABLE 11
Ages and MLUs (in Words) of Children Analyzed in Section 4.1

Child	Files	Ages	1st/Last MLU
Abe	19–94	2;07,00–3;04,15	5.55–9.26
Adam	11–33	2;08,00–3;05,29	2.65–3.85
Sarah	50–137	3;02,23–5;00,25	3.13–3.48
Nina	12–51	2;01,29–3;02,12	2.39–4.41
Ross	24–50	2;06,18–4;03,15	3.19–3.80

nonagreeing *don't*. Utterances had to contain a form of *do* and an overt 3sg subject; utterances with tense doubling were excluded.[36]

Results are reported in Table 12, where the bottom row of figures for each child contains my counts of utterances of the types in (13), labeled "Other" to mean "not inverted and no *n't* attached." In the data for Adam, Sarah, Nina, and Ross in Table 12, the first two rows, which provide baselines for (non)agreement in inversion and pre-*n't* contexts, simply report Guasti & Rizzi's counts, because there was no reason to redo those; in Abe's data the first two rows contain my own counts.

The Spell-Out Account predicts that the bottom ("Other") row for each child should look like the middle ("Before *n't*") row in terms of proportions, because both rows represent non-inversion environments where overt feature checking will not be forced. In contrast, the Underspecification Account predicts that the bottom row for each child should look like the top ("Subj-Aux Inversion") row, because both rows represent non-*n't* environments where *do*-support might not be triggered. Thus, each account can be tested by considering a 2×2 matrix of values for each child and asking whether the proportions of agreeing versus nonagreeing *do* in its two rows are the same, i.e., whether the column effect is independent of the choice of row. The absence of an interaction is consistent with the account being tested, while a significant interaction is evidence against the account.

The raw numbers are small (unsurprisingly), and the results are not as clear-cut as one might hope. If we adopt a conservative α level of .01, the only significant difference among these ten comparisons is in Nina's data, showing that the rows predicted by the Spell-Out Account to be similar are actually significantly different ($p < .001$ by two-tailed Fisher Exact test), while the rows predicted by the Underspecification Account to be similar are not significantly different ($p > .30$). That is, Nina's data are consistent only with the Underspecification Account, the other four children's data are consistent with both accounts. On the other hand, if we adopt a more liberal criterion of $\alpha = .05$, then Abe's data in addition to Nina's data show evidence against the Spell-Out Account ($p < .03$) and consistent with the Underspecification

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[36]We can see from Tables 3–6 that the exclusion of tense doubling utterances from Guasti & Rizzi's counts had almost no impact, because there were extremely few of these in their children's transcripts. However, Table 2 shows that Abe, whom Guasti & Rizzi did not examine, has 11 instances of *don't* in tense doubling sentences with 3sg subjects. (These turn out all to be in the age range covered by Abe's data in Table 12.) None of them are inverted, and all are followed by an inflected main verb; an example is *This don't works*. I suggest that these involve only one set of Infl features, which are expressed on the main verb; then *do* is again occurring entirely to support *n't*, and such cases are correctly captured by the Underspecification Account.

TABLE 12
Distribution of *Do* versus *Does* with 3sg Subjects*
(Incorporating Parts of Table 6-3 from Guasti & Rizzi 2002)

Environment	Form Produced	
	do	does
Abe, Files 19–94 (2;07,00–3;04,15)		
Subj-Aux Inversion	0	26
Before *n't*	9	11
Other	0	8
Adam, Files 11–33 (2;08,00–3;05,29)		
Subj-Aux Inversion	3	78
Before *n't*	12	8
Other	2	2
Sarah, Files 50–137 (3;02,23–5;00,25)		
Subj-Aux Inversion	1	76
Before *n't*	40	55
Other	2	5
Nina, Files 12–51 (2;01,29–3;02,12)		
Subj-Aux Inversion	0	62
Before *n't*	65	65
Other	1	28
Ross, Files 24–50 (2;06,18–4;03,15)		
Subj-Aux Inversion	1	51
Before *n't*	20	72
Other	3	11

*The cells where the column labeled "*do*" intersects a row labeled "Before *n't*" refer to productions of the word *don't*.

Guasti, Maria Teresa & Luigi Rizzi. 2002. Agreement and tense as distinct syntactic positions: Evidence from acquisition. In Guglielmo Cinque (ed.), *Functional structure in DP and IP: The cartography of syntactic structures*, vol. 1, 167–194. Oxford, UK: Oxford Univeristy Press. By permission of Oxford University Press, Inc.

Account ($p = 1$), while the data for Adam, Sarah, and Ross are consistent with Spell-Out ($p = 1$, $p > .65$, and $p = 1$, respectively) and show evidence against Underspecification ($p < .016$, $p < .017$, and $p < .03$, respectively).[37] In summary, by this measure three of the

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[37]Once more we should ask, given the aforementioned presence of 3sg *don't* in Sarah's input, whether her data in Table 12 should be treated specially. If it had turned out that Sarah never produced nonagreeing *do* in inversion or "Other" contexts, one might have attributed that to the idea that in her grammar *don't* is fully inflected, as it apparently is in her mother's grammar, and thus there would be no evidence that she is in a stage of Infl underspecification at all. The fact that she produces a few nonagreeing *do* forms, along with the fact that her ratio of 3sg *don't* to *doesn't* is much higher than what is found in her input, suggests instead that nonagreeing *don't* may have a different analysis in her grammar from what it has in her mother's.

children behave as the Spell-Out Account predicts and two behave as the Underspecification Account predicts.

Obviously the conclusions we can draw at this point are limited. Taken at face value, we have suggestive evidence that the Spell-Out Account cannot explain all children's uses of nonagreeing *don't*; the Underspecification Account, or something with the same consequences, is needed for some children. But that would seem an unsatisfying conclusion. Stepping back, it is possible that these corpus data may simply be too sparse to provide a solid empirical test of these hypotheses—elicited production is probably needed. Thornton & Tesan (2007) have developed a paradigm for eliciting d-words that looks promising for this purpose.[38] Nevertheless, I believe it has been worthwhile to follow through the details of these analyses as an illustration of the point made at the beginning of section 3: thanks to the theory of grammar, the two proposals about acquisition described in sections 3.1 and 3.2 make immediate contrasting predictions about phenomena that neither was designed to explain, that had not been studied before (to my knowledge), and about which data clearly can be collected from children at the relevant stage of acquisition. Eventually the facts should yield an answer.

4.2. Temporal Interpretations

Part of Guasti & Rizzi's claim of full syntactic specification is that Tense is always fully specified when nonagreeing *don't* is produced. They base this assertion on the simple fact that in (adult) English *do* is limited to tensed environments (as opposed to infinitives, gerunds, etc.). From the perspective of the Underspecification Account, I must assume that RI clauses are sufficiently like adult finite clauses, even in the absence of a tense feature specification, that they can allow *do*. This I accomplish by making *do* an expression of indicative Mood, rather than an expression of Tense, and assuming that children's Mood is adult-like in the relevant respect.

This difference between the two theories yields an additional diverging prediction (not discussed by Guasti & Rizzi): according to the Spell-Out Account, nonagreeing *don't* should not be used in past tense contexts. This follows because they take the very presence of *do* as indicating the presence of Tense, and since these children are also producing *didn't* (see Tables 2–6, rightmost columns), *don't* must be the realization of a distinct tense value, namely [present] (or [–past]). The Underspecification Account once again makes the opposite prediction: *don't* should sometimes appear in past tense contexts, on the assumption that at least some RI utterances are un(der)specified for Tense. I have not attempted to test this prediction on the corpora discussed here, and this would probably best be done experimentally. However, Thornton (1999) has attempted to discern the intended tense of d-word contexts for part of the Nina corpus (files 1–31, ages 1;11,16–2;05,28) on CHILDES. She reports that out of 17 past tense non-interrogative contexts, Nina uses *don't* in 9 of them and *didn't* in 8, suggesting that *don't* may be compatible with past meaning, and may indeed lack a Tense specification. If this result scales up it would favor the Underspecification Account.

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[38]Thornton (1999) reports a single child's data (age 2;05) from elicitation sessions that focused on VP-ellipsis with 3sg subjects. In non-negated VP-ellipsis utterances the child used *does* 27 times, *do* 0 times; with contracted negation she used an idiosyncratic inflected form *don'ts* 11 times, *doesn't* 11 times, and nonagreeing *don't* 12 times. This is as predicted by the Underspecification Account but not by the Spell-Out Account.

4.3.   *Do*-Omissions and Medial Neg

The Underspecification Account directly predicts that *do*-omission is possible in contexts where *do*-support is not demanded by a clitic or affix. (15) exemplifies such contexts with invented child English examples. These consist of inversion contexts and non-clitic negation.

(15)   *Schematic examples of potential* do-*omissions*
    a.   Ø she/her like baseball?
    b.   Who Ø he/him like?
    c.   She/Her Ø not like baseball.

In principle the same prediction would be made for the other environments in (13), namely VP ellipsis and emphatic positive polarity, but in practice those environments are very hard to detect if *do* is omitted: such omission could leave a grammatical fragment like *Mary, too* in the former case, and the emphasis-bearing word would be deleted in the latter. Polar question structures like (15a) are hard to detect as well, since declarative word order with question intonation is a valid way to ask a question in colloquial English. That is, (15a) could be the RI counterpart to *She likes baseball?*, and since colloquial English also allows initial auxiliary drop in questions (Fitzpatrick 2006), another possible model for (15a) would be adults' *She like baseball?* (Unlike adult nonagreeing *don't* mentioned in note 7, this kind of auxiliary drop is pervasive in North American colloquial speech.)

This leaves only (15b) and (15c) as environments where such counts can be undertaken in practice. *Do*-omission in *wh*-questions like (15b) has been reported in the literature (e.g., Stromswold 1990; Guasti & Rizzi 1996); Rowland, Pine, Lieven & Theakston (2005) report mean rates of *do*-omission in *wh*-questions of approximately 35–50% for the Manchester corpus (Theakston, Lieven, Pine & Rowland 2001) on CHILDES, which contains longitudinal recordings of 12 children learning British English, from about age 2 to 3. I have attempted these counts for Abe, Adam, and Sarah, and come up with omission rates ranging from 45% to 65%, but these numbers are highly dependent on whether one includes in the denominator certain questions that are uttered over and over again, such as *What does this say?* Still, the possibility of omitting *do* is clear. (15c) is one subtype of "medial neg," a well-known phenomenon discussed just below.

At least for structures like (15b) and (15c), then, the Underspecification Account correctly predicts detectable non–adult-like *do*-omissions, whereas the Spell-Out Account has nothing to say about *do*-omissions and no apparent way to relate them to nonagreeing *don't* in the same environments. In other work adopting the general framework of Guasti & Rizzi, Guasti (2000)[39] asserts that utterances like (15b) are explained via a finite null auxiliary, licensed in a manner analogous to the way null constants are licensed in the specifier of the root of the sentence in the original Truncation theory (Rizzi 1994), assuming a split CP analysis involving ForceP

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[39]Guasti's description of the mechanism underlying forms that lack finiteness for purely morphological/spell-out reasons appears to be different from that in Guasti & Rizzi (2002), which was written earlier. Guasti (2000) says that nonagreeing *don't* and the relevant uninflected root main verbs have a *-Ø* suffix instead of *-s*, but she does not explain why the "wrong" suffix is chosen. This is not a trivial re-statement, because *-Ø* Infl triggers *do*-support when it lacks a host (for adults, at least). My discussion in the main text assumes that Guasti & Rizzi's (2002) formulation is compatible with Guasti's (2000) other claims.

that contains FocusP, with truncation removing the ForceP projection in utterances like (15b) (cf. Guasti & Rizzi 1996). These utterances are therefore totally unrelated to the account of nonagreeing *don't*, which itself relies on two independent mechanisms: variable morphological spell-out when the subject gets nominative case, and truncation below AgrSP when it does not. Thus, Guasti's account requires the child's grammar to differ from the adult's in three distinct ways in order to capture the range of facts that are accounted for within my analysis (cf. Guasti 2000: note 13). What she would predict about the relative developmental course of *do*-omission versus nonagreeing *don't* in a given child would depend on the overall account of why these varied mechanisms all seem to be found at roughly the same stage of acquisition; I am not aware of any proposals that have been made about this.

As for omissions of the type (15c), as mentioned just above, these form part of a class of systematic exceptions to children's grammatical use of *not*: *not* sometimes appears without a preceding auxiliary, as in (16).

(16) *Examples of auxiliary omission—medial neg*
    a. URS: alright I think I have one.
       CHI: you not have one. (adam19)
    b. the cow not doing anything. (abe010)

This phenomenon, the medial neg(ative), was noted by Klima & Bellugi (1966): *not* appears between the subject and the predicate (which need not be of category VP). Following much prior literature I take it that this is not indicative of a problem with negation, but rather part of the larger phenomenon of auxiliary/copula omission at this stage in the acquisition of English. Thus, medial neg utterances should be counted as having correct word order as far as the placement of *not* is concerned. This is done in Tables 13–17, which expand and elaborate on Table 7 by including all uses of sentential *not*. (Like Table 7, these tables are based on the files listed in Table 1, so that they encompass all word order errors involving *not*.) The middle section of each table, "Medial neg," sums all the occurrences of *not* as sentential negation without a preceding auxiliary, copula, or modal. The first two subentries distinguish *do*-omission from *be*-omission, cf. (16a) vs. (16b). Corresponding suben-

TABLE 13
Word Order with *Not*: Abe, Files 3–84 (2;05,07–3;03,08)

Word Order	Productions of not
Grammatical	186
Following *be*	168
Following *do*	5
Other	13
Medial neg (finite V omitted)	10
Missing *be*	9
Missing *do*	0
Indeterminate	1
Ungrammatical	3 (1.5%)

TABLE 14
Word Order with *Not*: Adam, Files 1–55 (2;03,04–4;10,23)*

Word Order	Productions of not
Grammatical	201
Following *be*	172
Following *do*	2
Other	27
Medial neg (finite V omitted)	142
Missing *be*	110
Missing *do*	27
Indeterminate	5
Ungrammatical	10 (3%)

*As before, I counted an utterance of Adam's as if it contained *it* as the subject in place of *its* when doing so rendered the utterance (closer to) grammatical. Without this adjustment, there would be one additional ungrammatical case in this table.

TABLE 15
Word Order with *Not*: Sarah, Files 30–138 (2;09,20–5;00,30)

Word Order	Productions of not
Grammatical	128
Following *be*	126
Following *do*	0
Other	2
Medial neg (finite V omitted)	43
Missing *be*	36
Missing *do*	6
Indeterminate	1
Ungrammatical	7 (4%)

TABLE 16
Word Order with *Not*: Nina, Files 7–55 (2;00,24–3;03,08)

Word Order	Productions of not
Grammatical	178
Following *be*	174
Following *do*	0
Other	4
Medial neg (finite V omitted)	18
Missing *be*	13
Missing *do*	0
Indeterminate	5
Ungrammatical	4 (2%)

TABLE 17
Word Order with *Not*: Ross, Files 19–58 (2;06,17–5;02,04)

Word Order	Productions of not
Grammatical	314
Following *be*	301
Following *do*	7
Other	6
Medial neg (finite V omitted)	12
Missing *be*	10
Missing *do*	2
Indeterminate	0
Ungrammatical	3 (0.9%)

tries in the top section, "Grammatical," provide a baseline count of *not* following overt *do* and *be*; the third subcategory, "Other," includes *not* following a modal. The bottom section, "Ungrammatical,"[40] shows the extremely small number of utterances that are not grammatical in the adult language and not of the type in (16), i.e., not medial neg.[41]

What we find is that three of the five children omit *do* in these obligatory contexts (preceding *not*) at least once (Adam, Sarah, and Ross). Nina has no relevant contexts, and Abe has the fewest contexts among the others, so his lack of omissions could be a sampling artifact. Among the four children who have at least one context, the mean omission rate is 54%.[42] Thus, although the raw number of *do*-omissions is small, they are proportionally rather frequent. I take this as preliminary evidence suggesting that we should pursue a theory that relates *do*-omission in negative sentences to nonagreeing *don't*, as the Underspecification Account does—children who are doing the latter are generally also doing the former, and one can provide a unified explanation for both. Neither Guasti & Rizzi (2002) nor Guasti (2000) make any explicit proposal about *do*-omission in non-question environments, but it is conceivable that their null auxiliary idea could be extended from *wh*-questions to these medial neg cases, if the latter involve truncation that would leave (the silent counterpart of) *do* in the head of the root.

[40]The Ungrammatical category includes "inflected medial neg" examples (Tesan & Thornton 2005), where the main verb following *not* is inflected with 3sg *-s* or past tense. These are claimed by Harris & Wexler (1996) to be virtually unattested in corpus data because they would violate the Head Movement Constraint, and indeed, there turned out to be only two such examples, Abe's *It not works Mom* and Ross's *My tummy not hurts*. But see Tesan & Thornton (2005) for elicited data where inflected medial neg is more frequent. Also, I observed in note 36 the existence of 11 utterances like *This don't works* in Abe's speech, which are just as unexpected for Harris & Wexler.

[41]Stromswold (1997) independently analyzed the distribution of *not* in many of these same transcripts, along with those of several other children. Details aside, she reached the same conclusion as I do: word order errors involving the placement of *not* are exceedingly rare.

[42]As is evident from the raw numbers in the tables, this mean belies a large range across children, potentially an artifact of very small sample sizes. A common way to attempt to deal with this problem is to pool the number of tokens across children, assuming for the sake of calculation that each child provides a sample representing the same developing grammar (given that they are all producing a common set of utterance types), and that larger samples are more informative. Pooling these four children's data yields a *do*-omission rate of 71%, which I take to further support the claim that this is not a negligible phenomenon.

In section 3.5 it was noted that all five of the children studied in this paper start producing *don't* before nonnegated forms of *do*, so we should ask if either theory can derive this prediction. In the Underspecification approach, *do* would surface without *n't* just in case there was an affix it needed to support, i.e. when Infl is affixal. By hypothesis that is true only when Infl is fully specified (cf. section 3.2). Therefore, nonnegated *do* would be guaranteed not to occur as long as fully specified Infl was guaranteed not to occur. This would be true at the beginning of the RI stage, on the assumption that all clauses are underspecified at first, with the option of full specification emerging later. (Of course, nonnegated *do* might continue not to occur once the period of optional finiteness has begun—nothing is really known about what governs the choice of finite versus nonfinite Infl on an utterance by utterance basis.) So, the Underspecification approach could derive the observed sequence in a fairly natural way. In the Spell-Out approach, it would be harder to prevent the child from producing *doesn't*, *didn't*, or *do/does/did* early on, because featurally these are not different from *don't* (except for the value of [±past]), truncation below TP would exclude *do* altogether, and the choice of whether to morphologically express agreement features is supposed to be unsystematic until that parameter is set, at the end of the RI stage.

4.4. Nonfinite Main Verbs

Guasti & Rizzi suggest that the Spell-Out Account can be extended to main verbs in a way that would help explain why RIs in child English seem not to conform to some of the generalizations about RIs crosslinguistically. Since main verbs in English clearly do not raise as high as dummy *do*, let alone up to AgrS, they represent another instance where φ-feature checking happens post-Spell-Out. Thus the Spell-Out Account predicts that until the morphological parameter setting has been nailed down by children learning English, they are expected to produce utterances like *He cry* that are generated by a fully specified, adult-like syntax. These utterances will of course not display the syntactic properties of nonfinite clauses. Guasti & Rizzi suggest that these utterances represent a subset of main verb RIs; the remainder are generated from a nonadult syntax, one that is missing functional projections due to Truncation, whereby AgrSP is absent from the syntax altogether.[43] Thus, what have been characterized as RIs in child speech in English consist of counterparts to (nonfinite) RIs in other languages *plus* nontruncated structures whose syntax is finite. Clearly we do not expect uniform behavior when these two sets are pooled; Guasti & Rizzi suggest that this is the right result. For instance, they argue that this heterogeneous view of English children's RIs can explain why the RI stage appears to last past the null subject stage in English but not in other languages with RIs (an observation they attribute to Ingham 1992).

The ATOM, with which the Underspecification Account is compatible, shares the property that RIs are claimed to be syntactically heterogeneous (cf. Schütze 1997): underspecification of Tense versus underspecification of Agr is predicted to correlate with different properties of the clause. Unlike the Spell-Out Account, however, in the Underspecification Account none of the structures that yield an RI are fully adult clauses in terms of their syntactic feature

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[43]It is unclear what should allow the subject to surface in Spec-TP, which is otherwise not an available position in English (cf. **There have some people crashed the party*).

specification. The scope of these claims obviously exceeds that of this paper, but in principle the predictions of the two accounts once again diverge.

4.5. Summary

I have shown that the Spell-Out and Underspecification Accounts make opposing predictions about whether non-agreeing *do* will be found in non-inverted, non-negated contexts; the data on this point so far are mixed, but do not unequivocally support the Spell-Out Account. I have argued that Underspecification predicts that nonagreeing *don't* can occur with intended past reference while Spell-Out predicts that it cannot; a small sample of data analyzed by Thornton supports the former claim. I found that the children under study omit *do* from *wh*-questions and from declaratives with uncontracted *not*, a fact that falls out immediately from the proposed Underspecification analysis but requires at least one additional mechanism in the Spell-Out analysis. Finally, I pointed out that the two accounts differ in their treatment of both nonagreeing *don't* and main verb RIs as to whether these ever have a fully specified (adult) featural underpinning: under Spell-Out they sometimes do, under Underspecification they never do. Empirical consequences of this difference are left for future work.

5. CONCLUDING REMARKS

I have argued that there is no empirical support for the claim that *don't* with a 3sg subject is misanalyzed by children as negation without an auxiliary—to the contrary, this claim wrongly predicts unattested distributional errors. Misanalysis is also a weak hypothesis theoretically, in that it declares that children's use of *he/she don't* is unrelated to any other nonadult features of their language during the same developmental period, because it relies entirely on the lexical entry of a particular word. For both of these reasons—incorrect predictions on the one hand and absence of predictions on the other—I have advocated that grammar-based explanations are to be preferred.

I have considered in detail the properties of two such proposals, both of which avoid the pitfalls just mentioned by hypothesizing that children's syntax for nonagreeing *don't* is close or identical to that of adults, and that its residual nonadultness is part of a more general phenomenon that also affects clausal inflection more generally. In this regard I have been arguing in favor of both the Spell-Out Account and the Underspecification Account. Beyond that, I have drawn attention to several points on which the predictions of these two theories diverge, and examined the empirical evidence on these points of divergence. I have highlighted several areas where additional data collection should advance our understanding. I have also pointed out that, given our current state of knowledge, the Underspecification Account covers the facts more parsimoniously, i.e., with fewer separate stipulations and nonadult mechanisms. I conclude now with some conceptual considerations that are also relevant in choosing between these models.

Any input-driven theory of developmental progressions in language has to answer certain basic questions, whether it is labeled as parameter setting or not. The question regarding the Spell-Out Account is, What sort of input will eventually prompt the child to change her grammar, and why does that input not trigger the change earlier? On the Spell-Out

Account a child learning English evidently does not start out with the correct parameter setting (compulsory agreement), otherwise no errors would be expected. On the other hand, if the learner had the parameter firmly set (by default, say) in the wrong direction (variable agreement) she ought to always omit agreement when *do* is not inverted, but Table 8 informs us that there is a protracted period when this is not what transpires either. Evidently, the learner must be in some intermediate state. Guasti & Rizzi apparently allow for such a state of affairs in adult languages too: "When a feature is not checked in the overt syntax, UG makes it possible to leave its morphological realization fluctuating" (2002: 178). It is crucial, then, that children be able to remain in this fluctuating state for as long as a year, before finally escaping the uncertainty and recognizing that English has compulsory agreement. This would apparently involve the child determining that agreement marking does not vary as a function of the surface structural positions of Infl or the subject.

The Underspecification Account does not involve parameter missetting in the same sense. For all we know, by the time multi-word utterances start being produced, English children already know their target language has compulsory agreement. The reason why they do not produce uniform agreement patterns is because they do not fully implement the target grammar; presumably they *cannot*, for maturational and/or computational complexity reasons, though nothing hinges on that question here (see Schütze 1997 for discussion in the context of the ATOM). Their ability to do so increases over time in a way that is not dependent on the input. This scenario does not fully equate early child English agreement errors with the grammar of some (possible) adult language. Although the same structures may be computed, this happens for different reasons: not because the child believes agreement should be absent, but because her grammatical system prevents her from making agreement part of those structures consistently. This approach blames the long period of variable expression of agreement on properties internal to the child, not on her attempt to learn something from the input. Whether this rather fundamental difference of approaches can lead to more ways to empirically distinguish the Spell-Out and Underspecification Accounts of RI phenomena is a question that awaits further research.

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