

The Status of *He/She don't* and Theories of Root Infinitives

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Abstract

This paper examines two issues concerning the status of the form *don't* when used with 3sg subjects in child English, e.g. *It don't fit*: 1) Do children know that *don't* consists of an auxiliary plus a negative, or do they misanalyze it as pure negation? 2) If they represent *don't* bimorphemically, what grammatical features underlie the auxiliary portion? Numerous accounts have proposed that *don't* is first misanalyzed as Neg, predicting that it should appear (ungrammatically) in environments where *not* appears; the results falsify this. If *don't* contains Aux, why does it fail to agree? Guasti and Rizzi (2001) appeal to a misset parameter involving spell-out. I demonstrate that their proposal makes incorrect empirical predictions for a subset of children, e.g. nonagreeing *do* is not found without *n't*. An underspecification approach to root/optional Infinitives better captures these facts by treating 3sg *do* when followed by *n't* as inserted purely to support the clitic.

1. Introduction

This paper examines two issues surrounding the status of the form *don't* when used with a 3sg subject in child English, as in (1b), which is ungrammatical in adult Standard English. 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) are apparently in free alternation with their grammatical counterparts with *doesn't*, as in (1a).

- (1) 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 plus a negative morpheme, or whether they misanalyze it simply as negation. If they represent *don't* as containing an auxiliary, as I argue, this raises the second issue: What grammatical features underlie the auxiliary portion? I consider two

possible accounts that both assume that this phenomenon should be related to matrix nonfinite main verbs in child English more generally (the root/optional infinitive stage), and is not indicative of misanalysis of any lexical items. Both of these approaches account for certain distributional intricacies of the various *do* forms, but their predictions diverge in several respects that will be explored.

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" (p. 59); "[*Don't* and *can't*] occur only before nonprogressive main verbs" (p. 61); "These two items are considered as separately learned vocabulary items (rather than as part of the complex auxiliary system of English)" (p. 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). Her Period B 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 also fall in this period but are not relevant here because Eve does not use nonagreeing *don't*.) 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, p. 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. They explain that "these are

considered as lexical representations of V^{neg} since there are no occurrences of [positive *can* etc.].” Similarly, Menyuk (1969, p. 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.

Hyams (1986, p. 85) adopts essentially this view using slightly different technical machinery: “By hypothesis, the modals are unanalyzable during this period, 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. Stromswold (1990, p. 229) goes along with 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.” I refer to her suggestion as the broad misanalysis hypothesis, while those that implicate only *don’t* 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 teeth. 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 *Chris not singing*. But this is not the only kind of error that would be predicted: the invented utterances in (2) should be expected under the misanalysis hypothesis as well.

- (2) 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.

These predictions are tested below by carrying out a quantitative analysis over the period during which word order errors involving negation are produced; I define such errors as the class of utterances involving misplacement 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 files in this way in order to be able to estimate the rate of such errors, which could otherwise be diluted by including later files when errors have disappeared. Thus, the distribution of these four negative words was tabulated. Crucially, nonagreement errors such as (1b) were not counted as errors here 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. 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). The children were chosen because they produced nonagreeing *don't* in reasonable quantities, and because they would be relevant to the second part of this study.

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 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 towards 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 unless the context made clear that they were not intended as such; imperatives might artificially inflate the correct usage rate for *don't*, because arguably the *don't* of English negative imperatives is not Infl *do* + sentential Neg (Beukema and Coopmans 1989), in light of facts like those in (3). These conventions are illustrated in (4) using invented examples.

- (3) a. Don't you touch that!
 b. *Do not you touch that!
 c. *Do you not touch that!
- (4) a. not tired (*potential constituent negation—excluded*)
 b. mommy not will swim (*word order error for not*)
 c. mommy hungry not tired (*word order error for not¹*)
 d. mommy not tired (*medial neg (see below)*)
 e. don't take it mommy (*potential imperative—excluded*)

2.3. Results

The results are presented in Tables 1–5 (a pair of tables for each child). The (a) tables show the distribution of the d-words. Ignoring the middle row of numbers for the moment, we see that the ratio of ungrammatical (bottom row) to grammatical (top row) instances is extremely low—none of the error rates exceed 5%. (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*. Still, the numbers are so small in absolute terms that we could not use these data to distinguish the broad versus the narrow misanalysis hypothesis.) In other words,

¹ 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.

the error rates for the use of *don't* are within the amount of noise usually found in such corpus data; this is surprising for the misanalysis hypothesis. (Recall that nonagreement itself is not treated as ungrammatical in these counts.) Moreover, 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). With the exception of Ross, this is generally 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.²

Tables 1–5: Word order with d-words and *not*

Table 1: Abe (Kuczaj 1976a), Files 3–84 (2;5.7–3;3.8)

a.				b.	
Word order	<i>don't</i>	<i>doesn't</i>	<i>didn't</i>	Word order	<i>not</i>
Grammatical	317	14	152	Grammatical	186
correct agr	308	14		following <i>be</i>	168
incorrect agr	9	0		following <i>do</i>	5
Tense doubling	11	1	23	Medial Neg (finite V omitted)	10
correct agr	0	1		missing <i>be</i>	9
incorrect agr	11	0		missing <i>do</i>	0
Ungrammatical	3 (0.9%)	0	0	Ungrammatical	3 (1.5%)
Good as <i>not</i>	1				

² Of course we cannot exclude the possibility of a stage earlier than these transcripts cover when misanalysis could have successfully characterized child utterances. However, it is not obvious whether at that stage utterances would contain enough other elements to enable us to verify/falsify this claim.

Table 2: Adam (Brown 1973), Files 1–55 (2;3.4–4;10.23)³

Word order	<i>don't</i>	<i>doesn't</i>	<i>didn't</i>
Grammatical	652	126	92
correct agr	620	122	
incorrect agr	32	4	
Tense doubling	1	0	2
correct agr	0		
incorrect agr	1		
Ungrammatical	7 (1%)	0	1 (1%)
Good as <i>not</i>	1		0

Word order	<i>not</i>
Grammatical	201
following <i>be</i>	172
following <i>do</i>	2
Medial Neg (finite V omitted)	139
missing <i>be</i>	107
missing <i>do</i>	27
Ungrammatical	10 (3%)

³ A complication arises in Adam's data due to his well-known proclivity to use *its* as a subject pronoun, where adult English calls for *it*. For the purposes of Table 2 I count his utterances as if they contained *it* in place of *its* when doing so improves the utterance's grammaticality. Without this adjustment there would be an additional 17 ungrammatical cases in Table 2a, most involving *doesn't*, and one additional ungrammatical case in Table 2b.

Table 3: Sarah (Brown 1973), Files 30–138 (2;9.20–5;0.30)

Word order	<i>don't</i>	<i>doesn't</i>	<i>didn't</i>
Grammatical	299	62	156
correct agr	265	62	
incorrect agr	34	0	
Tense doubling	2	1	10
correct agr	1	1	
incorrect agr	1	0	
Ungrammatical	5 (1.6%)	0	1 (0.6%)
Good as <i>not</i>	0		1

Word order	<i>not</i>
Grammatical	128
following <i>be</i>	126
following <i>do</i>	0
Medial Neg (finite V omitted)	43
missing <i>be</i>	36
missing <i>do</i>	6
Ungrammatical	7 (4%)

Table 4: Nina (Suppes 1974), Files 9–55 (2;1.6–3;3.8)

Word order	<i>don't</i>	<i>doesn't</i>	<i>didn't</i>
Grammatical	238	82	43
correct agr	167	82	
incorrect agr	71	0	
Tense doubling	1	1	0
correct agr	1	1	
incorrect agr	0	0	
Ungrammatical	13 (5%)	1 (1%)	0
Good as <i>not</i>	2	0	

Word order	<i>not</i>
Grammatical	178
following <i>be</i>	174
following <i>do</i>	0
Medial Neg (finite V omitted)	18
missing <i>be</i>	13
missing <i>do</i>	0
Ungrammatical	4 (2%)

Table 5: Ross (MacWhinney 2000), Files 20–58 (2;6.18– 6;1.20)⁴

Word order	<i>don't</i>	<i>doesn't</i>	<i>didn't</i>
Grammatical	444	118	203
correct agr	424	117	
incorrect agr	20	1	
Tense doubling	1	1	1
correct agr	0	1	
incorrect agr	1	0	
Ungrammatical	7 (1.5%)	0	1 (0.5%)
Good as <i>not</i>	8		0

Word order	<i>not</i>
Grammatical	312
following <i>be</i>	299
following <i>do</i>	7
Medial Neg (finite V omitted)	10
missing <i>be</i>	9
missing <i>do</i>	1
Ungrammatical	2 (0.6%)

A further observation is that the word order errors that do arise are quite heterogeneous, as exemplified in (5), and not likely to fall under one general explanation.

⁴ The ungrammatical *don't* cases for Ross (Table 5a) exclude six 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*, and hence is properly excluded from the table on grounds discussed in the text. On the other hand, the following Ross utterance was counted as ungrammatical:

- (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*. However, I do not think that (i) betrays any lack of knowledge about *don't* per se; it seems to involve a failure to appreciate the relationship between *so* and *neither*.

(5) *Examples of word order errors*

- a. I didn't me you. (ross49)
- b. don't fighting me. (adam09)
- c. no we have ta don't make those because we have ta make ginger. (abe058)
- d. but not you can. (sarah099)

One qualification should be put on these conclusions; it concerns the middle row of data in Tables 1a–5a, labelled “Tense doubling.” These are utterances in which Tense was expressed twice—on the d-word and on another verb, as in (6) (cf. Kuczaj 1976b, Prideaux 1976, Maratsos and Kuczaj 1978, Fay 1978, Stromswold 1990; see Hiramatsu 2000 for review).⁵ These utterances are by definition ungrammatical, and their grammaticality would at least improve partway if we interpreted the d-words as *not*, inasmuch as there would no longer be an extra tense marking—thus, (6a) would become the grammatical (though formal) *Does it not move?*, but (6b) would still be ungrammatical as *I not spilled it*. I have not counted these 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 and Valian 1978; Nakayama 1987; Hiramatsu 1999; Thornton 1993; Guasti, Thornton and Wexler 1995, and sources cited therein.) Thus, tense doubling errors do not provide strong support for the misanalysis hypothesis: although these errors are somewhat more plentiful than the “Ungrammatical” cases for some children, they are still proportionally rare and not all of them can be explained by the misanalysis hypothesis. Furthermore, if anything, the errors of this type involve *didn't* more often than *don't*, counter to the expectations of the narrow misanalysis hypothesis.

⁵ Some of the literature distinguishes two kinds of Tense doubling: Aux doubling, e.g. (6a), versus Aux + inflected main verb, e.g. (6b). I assume the distinction is not relevant here.

(6) *Examples of tense doubling*

- a. does it doesn't move? (nina34)
- b. see # I didn't spilled it. (sarah86)

An objection one might raise against the conclusions above 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 looking at Tables 1b–5b we see that this is not so: *not* is well attested for all five children. Furthermore, comparing the top and bottom rows of numbers we see that errors in using *not* are also rare, in the same ballpark as the error rates for d-words. (Recall that potentially grammatical constituent negation counts as an error.) 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.

There is one class of systematic exceptions to the grammatical use of *not*, shown in the middle row of Tables 1b–5b: *not* sometimes appears without a preceding auxiliary, as in (7).

(7) *Examples of verb 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 and 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 a problem with negation, but rather part of the larger phenomenon of auxiliary omission at this stage in the acquisition of English. If so, then *not*, like the d-words, is virtually always produced with correct word order.

From the data collected in Tables 1–5 it can also be determined that even though nonagreeing *don't* was common, the children were not simply confused about agreement in general; this finding is consonant with previous literature on English acquisition (e.g., Harris and Wexler 1996). Specifically, summing across the five children there are only five cases of *doesn't* with a non-3sg subject, as against 401 correct uses of *doesn't* (less than 1.3% incorrect usage), and four of the errors are in a single transcript of Adam's (file 35). This contrasts with the use of *don't*: it occurs with a 3sg subject 180 times, with all other subjects 1,786 times (8.5% incorrect usage). If we compare these rates to the word order error rates in the tables, we see that the nonagreeing *don't* rate is typically much higher, while incorrectly agreeing *doesn't* occurs at around the same rate as ungrammatical word order, supporting the claim that the word order errors are noise while nonagreeing *don't* is a grammatical option for the child.

3. Grammar-based explanations

Why do children say *Robin don't play with pens*, if they have not misanalyzed *don't* as simple negation? 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, and that this error is attributable not to something nonadult about their lexicon but rather to something nonadult about the way their grammar handles agreement features. I pursue two versions of this idea, one proposed by Guasti and Rizzi (2001) and one that I offer here as an alternative.

3.1. Guasti and Rizzi (2001): The Spell-Out Account

Guasti and Rizzi (2001)⁶ 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

⁶ This proposal was put forth in Rizzi 1997.

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 and 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 and 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)⁷: some languages require full morphophonological expression of ϕ -features regardless of when the syntax checks those features (uniform agreement); other languages realize fewer (perhaps none) of the ϕ -features of Infl if those features have not yet undergone checking in the syntax, but more of them if checking has already happened (contingent 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.

⁷ It is not clear why they do not characterize this as a parametric choice, but rather they say that in situations where checking has not happened overtly, “the morphological expression of agreement is a matter of a language specific morphological rule, one which must be learned under no special UG guidance. We thus expect the observed fluctuation ... for a fairly long period”; “... a language specific rule which is not [in?] the core system of UG principles and parameters.” I do not see what the difficulty for the child is in this forced choice situation, nor why this cannot be part of UG, therefore it does not seem to me that the prediction of an extended time course of uncertainty is justified.

- (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 and 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-IP⁸ (and subsequently perhaps further) is expected to trigger fuller agreement than one that is below that position at Spell-Out. Guasti and Rizzi cite numerous cases of adult languages that display this contingency, including Fiorentino and Anconetano (Cardinaletti 1997), the Belfast dialect of Irish English (Henry 1995) and, most celebratedly, so-called Standard Arabic (Aoun, Benmamoun and Sportiche 1994), as shown in (8): (8a) demonstrates that in VSO order, number agreement with the subject is banned, while (8b) shows that in SVO order it is required. 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, Lebanese Arabic (9), and Moroccan Arabic. These two kinds of patterns instantiate the options mentioned in (ii) above.

(8) *Standard Arabic agreement*

- a. Naama/*Naamuu l-ʔawlaad-u.
slept-3.masc.sg/*pl the-children-NOM
'The children slept.'
- b. ʔal-ʔawlaad-u naamuu/*naama.
the-children-NOM slept-3.masc.pl/*sg

⁸ The exact identity of the functional categories involved is not relevant.

(9) *Lebanese Arabic agreement*

- a. Neemo/*Neem lə-wlaad.
slept.3pl/*sg the-children
- b. Lə-wlaad neemo/*neem.
the-children slept.3pl/*sg

(Aoun, Benmamoun and Sportiche 1994)

Against this backdrop, Guasti and 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 (not fully or not with certainty) set the agreement parameter to its adult value (uniform); as a result, they waver— ϕ -features are always present in the syntax,⁹ 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 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 and 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.¹⁰ Thus, no spec-head configuration is formed between the subject and Infl as of Spell-Out (they assume without discussion that the subject does not move through Spec-TP on

⁹ See below for a possible qualification.

¹⁰ I follow Guasti and Rizzi in assuming the older version of Minimalist clause structure in which AgrS was a separate node, since this is crucial to their account. Chomsky's compulsion in later minimalism to eliminate Agr projections is justified only if they have no substantive features beyond ϕ -features; it is very possible that the AgrS position has additional (interpretable) feature(s) that allow it to escape Chomsky's chopping block.

its way to Spec-AgrSP); 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:

(10) [_{AgrSP} He [_{TP} probably [_{TP} doesn't know the answer]]].

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

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 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 adopt the general theory of the root/optional infinitive stage embodied in the ATOM (Agr/Tense Omission Model) of Schütze and Wexler (1996), developed in Schütze 1997 (see Wexler, Schütze and Rice 1998 for a concise presentation), which crucially assumes the theory of Distributed Morphology (Halle and Marantz 1993). The central claim of the ATOM is that Tense and Agreement are independently underspecifiable in early grammar. The child's lexicon is in relevant respects like the adult's, which means that the various feature combinations in Infl should be expressed in the same way that the adult grammar would express them if it allowed feature underspecification. I refer to this as the Underspecification Account of nonagreeing *do*. This theory is opposite to the Spell-Out Account in that it posits adultlike morphology/spell-out and non-adultlike (featural) syntax. When Infl is fully specified ([+Tense, +Agr]) in a 3sg present tense *do*-support context, the child will always produce *does*, because that is what the adult grammar does. This is shown in the first entry in (11), which summarizes how the variants of Tense/Agr are

spelled out in the context of sentential negation; *do* itself is a M(ood) head, as discussed below. What about when Infl in the same context has the specification [+Tense, –Agr], [–Tense, +Agr], or [–Tense, –Agr]?¹¹ Schütze (1997) proposes that all three of these feature sets (combined with M) are realized as \emptyset , the null morpheme, cf. the last three entries in (11); differences among those three have to do with the case of the subject and will be discussed in section 3.4. Presently I will explain the [–affix] annotations.

(11) *INFL features and realization of Mood:*¹²

M + [+Tense, +Agr]	→ { <i>does not/did not/doesn't/didn't</i> } V
M + [] / ___affix/clitic	→ <i>don't</i> V
M + [+Tense, –Agr]	→ $\emptyset_{[-\text{affix}]}$ <i>not</i> V
M + [–Tense, +Agr]	→ $\emptyset_{[-\text{affix}]}$ <i>not</i> V
M + [–Tense, –Agr]	→ $\emptyset_{[-\text{affix}]}$ <i>not</i> V

I propose that something of a different sort is happening to yield nonagreeing *don't*. Extending a suggestion from Harris and Wexler (1996), I suggest that children may choose to

¹¹ The notation is not to be read literally as representing binary features, but rather as shorthand for “Tense features are specified/absent,” etc.

¹² The chart in (11) is an informal way of describing the proposed system; it does not literally correspond to the vocabulary items in the grammar. In particular, M is subject to vocabulary insertion independently from Tns+Agr, so that a word like *does* arises by two separate vocabulary insertion operations, one for the stem and one for the affix. Also, negation and the following verb are not expressions of the M+Tns+Agr complex; they are employed in (11) to make clear what the ensuing word order is in each case. The particular values of Agr and Tense are not distinguished. Finally, in the second entry the vocabulary item *n't* is an instance of the

produce negation in its clitic/affixal¹³ (*n't*) rather than tonic (*not*) form independently of the feature (under)specification of Infl. This creates a problem if Infl spells out as \emptyset , leaving the negative clitic with no host. On the Underspecification Account, morphology will insert a vocabulary item as part of the Spell-Out process in order to rescue the clitic in this case; that morpheme is *do*, which I take to be the unmarked overt member of the category Mood in English.¹⁴ This is represented in the second entry of (11), which says that a complex head consisting of Mood and any values of the features Tense and Agr will be realized as *do* when it is followed by a clitic or affix. The entries in (11) are to be read as a disjunctive list of vocabulary items vying for insertion in the same kind of syntactic slot, following the Elsewhere Principle: since [+Tense, +Agr] matches the first entry, such an Infl can never fall under the second entry. The latter is the only way, on the Underspecification Account, to get an overt form of *do* that does not agree. It is the clitic/affixal nature of *n't* that invokes nonagreeing *do*; featural underspecification by itself, as described in the previous paragraph, just yields \emptyset . Similarly, the last three cases in (11) come into play only when there is no affix/clitic. 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 in which Infl itself is also affixal, so the need for

affix/clitic referred to in the environment specification to the left of the arrow, but as we will see, *n't* is not the only such element.

¹³ Zwicky and Pullum (1983) present numerous arguments that *n't* is a verbal affix and not simply a clitic counterpart of *not*. This choice is largely immaterial for my analysis, but one place where the affix approach might be superior is in explaining why *n't* cannot use just any word as its host.

¹⁴ 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 in her analysis, inserted to support *n't*.

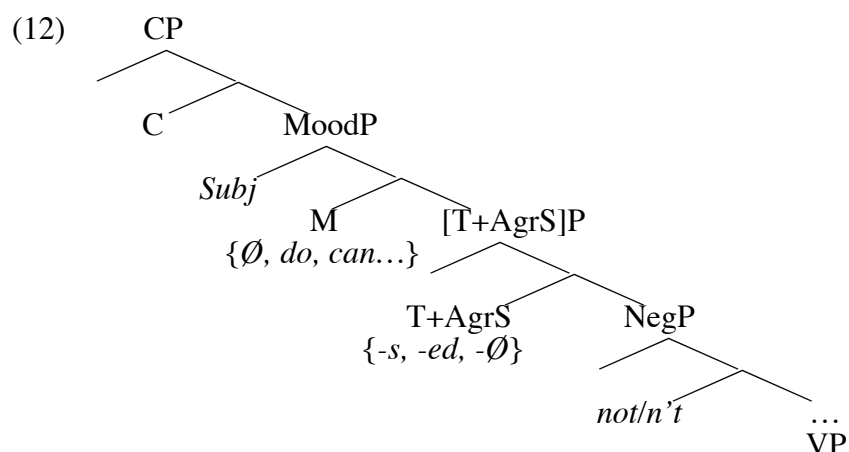
support will arise independently. Children's ability to underspecify Infl results in Infl sometimes not being affixal in these same environments, at which point the difference between clitic *n't* and nonclitic *not* becomes relevant for the distribution of *do*.

The claims about \pm affix status in (11) are a cornerstone of the analysis I propose. I assume the view, explicitly defended in Halle and Marantz 1993, that there are null affixes, i.e. phonologically null inflections that can nonetheless require something overt to host them. This explains why we need *do*-support in contexts like *Do they smile?*, even though there is no overt 3pl present tense marking in English: Tense+Agr in this sentence is $-\emptyset_{[+\text{affix}]}$; in *Does she smile?* it is $-s_{[+\text{affix}]}$. (In the second entry of (11), the triggering affix can be overt or null.) In light of (11), I therefore require that children be able to learn the \pm affix value separately for different feature combinations of the same heads. This is feasible if the learner's initial hypothesis about null morphemes is that they are $[-\text{affix}]$: if this turns out to be wrong, there will be overt (positive) evidence for changing the value of this feature, such as *do*-support in English. I assume that the \emptyset morphemes in (11) retain their default $[-\text{affix}]$ value because the child encounters no positive evidence to the contrary, since adults do not produce underspecified Tense/Agreement.¹⁵ They therefore behave differently from the adult non-3sg \emptyset .

Note crucially that dummy *do* is never itself the spell-out of Tense or Agr features, contra common ways of thinking about *do*-support. Rather, *do* is an allomorph of the indicative Mood morpheme, whose other nonmodal allomorph is (nonaffixal) \emptyset ; the latter occurs in non-*do* contexts like *Mary \emptyset runs*. The choice between *do* and \emptyset depends on attributes of surrounding morphemes, and specifically here, on whether the choice of \emptyset would leave affixes and/or clitics stranded whose only potential host is Mood; if so then the overt form is inserted. Tense and Agr in English are fused (cf. Bobaljik 1995) into a morphological slot distinct from Mood, into which

¹⁵ Some independent support for the scheme in (11) will be presented in section 4.1.

vocabulary items can be independently inserted. The syntactic structure of the top of the clause prior to head movement is schematized in (12).¹⁶



In the current instance, either 3sg *-s* or past tense *-d* can be inserted under Tense+Agr when it is affixed to a Mood that will be spelled out as *do*; as it happens, each of these suffixes triggers phonological readjustment in the stem, giving us [dʌz] from /du+z/ and [dʌd] from /du+d/ (and also [dɒnt] from /du+nt/), but this readjustment is no argument for claiming that *do* itself is a realization of Tense/Agr: 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 Tense+Agr features. A system of this kind, in which an otherwise phonologically null head becomes pronounced in order to support clitics, has precedents elsewhere, for example in analyses of second position clitics (see Schütze 1994 and works cited there).

¹⁶ To allow for the adverb placement in (10), assuming there are no X'-adjoining adverbs, there will need to be another projection between CP and MoodP, whose Spec is the surface position of the subject. Since this does not interact with other aspects of the analysis I omit it for clarity. This general approach to the adult Infl system is expounded in Schütze 2001a,b.

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 and Rizzi demonstrate that this prediction is correct: with inverted word order, agreement is obligatory and nonagreement is no longer found. Table 6 shows this for pooled data; individual figures and ages are found below in Tables 9–13.

Table 6: Distribution of agreement on *do* with 3sg subjects
in negative declaratives versus nonnegative questions with inversion
pooled from five children

(Table 3 in Guasti and Rizzi 2001)

Environment	<i>do</i>	<i>does</i>
Before <i>n't</i>	144	220
Question with inversion	5	270

In (13) 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*. The finding is thus that children who are producing *don't* with 3sg subjects 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 and Wexler 1995, i.a.); as a result, d-words are rare in inverted word orders at this stage of development (but see Table 7).

- (13) *Guasti and 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*)

Table 6 portrays a striking asymmetry that clearly calls for an explanation. Under the theory of agreement that Guasti and Rizzi develop, this pattern follows immediately. Under the Underspecification Account, however, the presence or absence of features of Infl is unaffected by head movement. The 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. The absence of nonagreeing *do* in this environment is ensured because, following (13), [+Tense, +Agr] yields *does* and the other three feature combinations yield \emptyset ; nothing yields *do*. 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 be overt; a fused Tense+Agr head does not demand an overt host if one or both of its features are underspecified.

For completeness, table 7 reproduces the data from negative questions, where Guasti and Rizzi find that agreement is always used when Subject-Aux Inversion applies, but only sometimes when Aux does not invert.

Table 7: Distribution of agreement in negative questions with versus without inversion
pooled from five children

(Table 9 in Guasti and Rizzi 2001)

Word order	<i>don't</i>	<i>doesn't</i>
Uninverted	3	6
Inverted	0	14

As Guasti and Rizzi remark, however, there is reason to be quite wary of these data: the number of exemplars is very small, only one child contributes both word orders, and the inverted examples are all either tag questions or Ross's *why doesn't*... For this reason, I follow them in ignoring these utterances hereafter; "inverted" will thus imply "nonnegative." (Adding them into Tables 9–13 below does not change the picture anyway.)

3.4. *Nonagreement crosscuts subject case*

Guasti and Rizzi present the data in Table 8 to show that the form of subject pronoun that co-occurs with nonagreeing *don't* is most often the nominative (adult) form *he* or *she*, and relatively infrequently the nonnominative form *him* or *her*. On the basis of the ATOM, they take a nominative subject as evidence that agreement features are syntactically specified.¹⁷ This is an important part of their central claim that nonagreement is purely a Spell-Out phenomenon and does not involve nonadult syntax: they conclude from Table 8 that most instances of nonagreeing *don't* come from syntactic structures with agreement features present, so that their lack of morphological marking of agreement cannot be explained by feature underspecification in the syntax (though it would be consistent with that possibility for the 13 instances with nonnominative subjects¹⁸).

¹⁷ As noted by Guasti and Rizzi, the zero in the bottom right cell of Table 8 supports the ATOM analysis of case/agreement patterns in child English.

Table 8: Distribution of 3sg pronoun subject case as a function of auxiliary form
pooled from five children

(Table 10 in Guasti and Rizzi 2001)

Subject case	<i>don't</i>	<i>doesn't</i>
Nom	46	79
nonNom	13	0

Their presumption about the case of the subject, which I share, is that nominative assignment occurs if and only if Infl is [+Agr], from which it follows that *he not eat this* and *him not eat this*, both of which represent attested patterns, must have featurally different Infs, both realized phonologically as \emptyset .

Harris and Wexler's (1996) original proposal about nonagreeing *don't* was that it arises from [-Tense, -Agr] Infl. But then we would not expect nominative subjects to co-occur with this form, contrary to the data in Table 7. Therefore, their account was insufficient. By contrast, the ATOM analysis adopted here allows that [+Tense, -Agr] and [-Tense, +Agr] also yield nonagreeing *don't*. Of these, [-Tense, +Agr] should co-occur with nominative subjects, since nominative depends (only) on Agr, not Tense. The full set of possibilities is outlined in (14), which revises (11) by adding in the possible subject form(s) compatible with each entry.

¹⁸ In fact they tentatively propose a Truncation analysis (Rizzi 1994) of those cases, whereby AgrSP is absent from the syntax altogether, though it is unclear what will allow the subject to surface (presumably) in Spec-TP, which is otherwise not an available position in English.

(14) *INFL features, subject case, and realization of Mood:*

M + [+Tense, +Agr] → *she* {*does not/did not/doesn't/didn't*} V

M + [] / ___affix/clitic → *she/her don't* V

M + [+Tense, -Agr] → *her* $\emptyset_{[-\text{affix}]}$ *not* V

M + [-Tense, +Agr] → *she* $\emptyset_{[-\text{affix}]}$ *not* V

M + [-Tense, -Agr] → *her* $\emptyset_{[-\text{affix}]}$ *not* V

Based on (14), Table 8 is what the ATOM would lead us to expect. Guasti and Rizzi suggest that the co-occurrence of nominative subjects with nonagreeing *don't* is problematic for an ATOM account because the presence of a form of *do* should mean that Tense is specified, in which case the only possible Infl should be [+Tense, +Agr], which yields *doesn't*. The account proposed here does not make that prediction, because it does not rely on the presence of a Tense feature specification for the insertion of *do* when that insertion is triggered by the need to host a clitic/affix.

4. Distinguishing the grammar-based theories

4.1. Other do-support contexts

The Spell-Out Account makes a further empirical prediction not discussed by Guasti and 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. But there are other contexts where we find *do*-support in English, and they do not undergo subject-aux inversion, so 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. In fact, in the absence of additional machinery, their theory leads us to expect nonagreement at about the same rate in other contexts as before *n't*. That is the prediction to be tested now.

There are in principle three relevant environments, schematized in (11): VP-ellipsis, emphatic affirmatives, and full (uncontracted) negation.

(15) *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 (15), 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 and Rizzi's criterion. Although they are far from plentiful, VP ellipsis and emphatic *do* are indeed found in the transcripts analyzed by Guasti and Rizzi; these are exemplified in (16). There was only a single instance of noninterrogative *does not* with a 3sg subject.¹⁹

(16) Examples of *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. MOT: who drives a tractor?
CHI: the tractor man does. (nina36)
- d. he does squeak. (nina37)

¹⁹ That is, of the 13 contexts with a 3sg subject and sentential *not*, one contained *does*, 12 had *do* omitted, and none contained nonagreeing *do*. This suggests that the scheme in (11) above is on the right track: in the absence of a morphological overtness requirement, underspecified *do* is always pronounced as \emptyset .

e. FAT: Why does Marky hate dominos # Ross?

CHI: Because # he always does. (ross47)

f. MEL: are they scared if you have a scary costume?

CHI: uhuh. Mark does. (sarah099)

I searched for such cases in four of the transcripts that Guasti and Rizzi analyzed (Nina, Ross, Sarah and Adam)²⁰; a fifth transcript, that of Abe, was added because Sano (1999) found that Abe showed the same asymmetry of agreement and inversion that Guasti and Rizzi found.²¹ I used the same subset of files and the same general counting criteria that Guasti and Rizzi did. Utterances had to contain a form of *do* and an overt 3sg subject; utterances with tense doubling were excluded.²² The most important of Guasti and 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 nonagreement. Results are reported in Tables 9–13, where the bottom row of figures contains my counts of utterances like (15) and (16), labeled “bare” to mean “no *n't* attached.” For Tables 9, 11, 12 and 13 the first two rows simply report Guasti and Rizzi's

²⁰ Their fifth child, Peter (Bloom 1970), was excluded here because the number of instances counted by Guasti and Rizzi was already small.

²¹ 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 and Rizzi's, and I follow the latter.

²² We can see from Tables 2–5 that the exclusion of double tensed utterances from Guasti and Rizzi's counts had almost no impact because there were extremely few of these in their children's transcripts. However, Abe has 11 instances of *don't* in tense doubling sentences, and all of them have 3sg subjects. These turn out to all be in the age range covered by Table 10. If these were included in the table they would increase the degree to which the uninverted

counts, because there was no reason to redo those; for Table 10 the first two rows contain my own counts.

Tables 9–13: Distribution of *do* versus *does* with 3sg subjects

(incorporating Guasti and Rizzi’s (2001) Tables 4–7)

Table 9: Nina

Files 12–51 (2;1.29–3;2.12)

Environment	<i>do</i>	<i>does</i>
Subj-Aux inversion	0	62
Before <i>n’t</i>	65	65
Bare noninverted	1	28

Table 10: Abe

Files 19–94 (2;7.0–3;4.15)

Environment	<i>do</i>	<i>does</i>
Subj-Aux inversion	0	26
Before <i>n’t</i>	9	11
Bare noninverted	0	8

contexts fail to pattern with the *n’t* context, i.e. it would strengthen the case for the Underspecification Account.

Table 11: Sarah

Files 50–137 (3;2.23–5;0.25)

Environment	<i>do</i>	<i>does</i>
Subj-Aux inversion	1	76
Before <i>n't</i>	40	55
Bare noninverted	2	5

Table 12: Adam

Files 11–33 (2;8.0–3;5.29)

Environment	<i>do</i>	<i>does</i>
Subj-Aux inversion	3	78
Before <i>n't</i>	12	8
Bare noninverted	2	2

Table 13: Ross

Files 24–50 (2;6.18–4;3.15)

Environment	<i>do</i>	<i>does</i>
Subj-Aux inversion	1	51
Before <i>n't</i>	20	72
Bare noninverted	3	11

The Spell-Out Account predicts that the bottom row in each table should look like the middle row, in terms of proportions, whereas the Underspecification Account predicts that it should look like the top row. The raw numbers are small (unsurprisingly), and the results are not all consistent. Ross has the only data pattern clearly consistent with the Spell-Out Account: the distribution of (non)agreement in bare uninverted contexts is much closer to that before *n't* than to that in inversion contexts. One of his three instances of nonagreeing bare *do* is shown in (17).

(17) *Rare example of nonnegative nonagreeing do:*

FAT: Who has a vest like that?

CHI: Rachel do. (ross29)

Nina and Abe conform to the Underspecification Account's predictions and not to the Spell-Out Account's: in their data the bottom row resembles the top row and does not resemble the middle row. Sarah and Adam do not obviously conform to either prediction, and their numbers are also the smallest. By a slim two-to-one margin, where one of the two is the child with the most data overall, these results lean in favor of the Underspecification Account.

Supposing that this result holds up, my explanation is that the feature content of Infl, reflected in its [\pm affix] status, and the cliticness/affixhood of *n't* can trigger *do*-insertion independently; only the former is relevant for environments other than *n't*, but only the latter can yield nonagreeing *do*. In inversion contexts without *n't* (top row) we never find nonagreeing *do* because the only realizations of Infl are *does* and \emptyset . With *n't* (middle row) we can still find *does*, but \emptyset would yield a prosodically ill-formed word, so instead the unmarked form of *do*, namely *do*, is inserted to support *n't*; that results in *doesn't* alternating with *don't*. In noninverted nonnegated *do*-support environments (bottom row) there are no morphemes in need of support, so we expect *does* to alternate with \emptyset , and *do* not to occur; and for the child with the most data, Nina, that is what we find.

Some independent support for the claim that nonagreeing *do* does not appear in the absence of *n't* in child English comes from work eliciting negative questions (Guasti, Thornton and Wexler 1994), an environment where tense doubling often occurs. The authors report the following asymmetries in children's ungrammatical responses to their attempts to elicit negative questions. In Aux-doubling, the attested and unattested patterns were as shown in (18).

(18) *Findings from Guasti et al. 1994*

- a. What does he don't like?
- b. #What do he doesn't like?
- c. What did he don't like?
- d. #What do he didn't like?

That is, we find agreement/tense in the higher position and nonagreement in the lower, but not vice versa. The former is consistent with an analysis whereby Infl features are spelled out in Comp (correctly), but negation has failed to move up with them, hence demanding the purely supportive use of *do* downstairs. Superficially, one might think these facts should fall under the Spell-Out Account, since they involve Infl in Comp, but since there is tense doubling this is not so straightforward. (Indeed, Guasti and Rizzi excluded tense doubling utterances from all their counts.) If one analyzes the child data under a theory such as Chomsky 1995, in which movement involves copying, then tense doubling would involve spelling out two positions in the chain formed by moving (copying) Infl to C. In Chomsky's parlance, a chain is one object that appears in multiple positions, so on one interpretation it should not be possible for the copy in C to have checked Infl features overtly while the copy in I has not (yet?) done so. Under the Underspecification Account, on the other hand, we can maintain Chomsky's proposal and use the Spell-Out principles that are already part of the grammar of English. That is, movement has the consequence that the features that moved in order to be checked do not linger unchecked on the unmoved copy of the movee (however this is implemented), so for Spell-Out purposes there are no T+Agr features in the post-subject position in (18). Given the presence of *n't* there, according to (11)/(14) the only form that can be spelled out is *don't*.

4.2. Temporal interpretations

Part of Guasti and Rizzi's claim of full syntactic specification is that Tense is always present when nonagreeing *don't* is produced. They base this conclusion 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 the question to ask is whether it is the presence of tense feature specifications per se that licenses *do*, or some other property that generally correlates therewith. (The mandative subjunctive in English disallows dummy *do*, whereas the *if*-counterfactual conditional and the imperative allow it—is there reason to think that the latter two have a tense specification while the former does not?) I must assume that optional infinitive 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 certain Mood features, rather than an expression of Tense, and assuming that children’s Mood is adultlike in relevant respects.

This difference between the two theories yields an additional diverging prediction (not discussed by Guasti and Rizzi), namely that nonagreeing *don’t* should not be used in past tense contexts according to the Spell-Out Account. 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 1–5), *don’t* must be the realization of a distinct tense value, namely [present] (or [–past]).²³ The Underspecification Account makes the opposite prediction: *don’t* should sometimes appear in past tense contexts. 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, 1;11.16–2;5.28). She reports that out of 17 past tense declarative contexts, Nina uses *don’t* in 9 of them and *didn’t* in 11, suggesting that *don’t* may be compatible with past meaning, and may indeed lack a Tense specification.

²³ This consequence might be avoided if one took their claim to be that the Tense head *position* is available even though it might not contain any tense *features*; but this would constitute underspecification, which is what Guasti and Rizzi are arguing against.

4.3 Do omissions

As we have seen in (11), the Underspecification Account predicts the possibility of *do*-omission in contexts where *do*-support is not required by a clitic or affix. (19) exemplifies such contexts with invented examples.

- (19) a. Who \emptyset he/him like?
b. \emptyset she/her like baseball?
c. She/Her \emptyset not like baseball.

Do-omission in *wh*-questions like (19a) has been reported in the literature (e.g., Stromswold 1990; Guasti and Rizzi 1996). Yes/No question structures like (19b) would be hard to detect as such, since declarative word order with question intonation is a valid way to ask a question in colloquial English, so there might be no way to know whether inversion has taken place. (That is, (19b) could be the optional infinitive counterpart to *She likes baseball?*, but colloquial English also allows initial auxiliary drop in questions, so another possible model for (19b) is adults' *She like baseball?*) (19c) is one subtype of medial neg. At least for structures like (19a) and (19c), then, the Underspecification Account predicts detectable *do*-omissions as well as nonagreement, whereas the Spell-Out Account has nothing to say about *do*-omissions and no apparent way to relate them to nonagreement.

It should be possible to find empirical evidence concerning whether the two phenomena ought to be linked. I have not tried to systematically answer that question because I do not have counts of utterances like (19a), but as a first stab we can check whether the (19c) pattern is attested during the nonagreement stage; relevant data are in Tables 1b–5b (recall that these cover a superset of the files summarized in Tables 9–13), in the top and middle rows. The middle row sums all the occurrences of *not* as sentential negation without a preceding auxiliary. The two subentries below

distinguish *do*-omission from *be*-omission, cf. (7).²⁴ Corresponding subentries in the top row provide a count of overt *do* and *be* in the same environment. What we find is that three of the five children omit *do* in this obligatory context at least once. Of the four who have relevant contexts, the average omission rate is 51%.²⁵ Thus, although the raw number of *do*-omissions is small, they are proportionally rather frequent.²⁶ I take this as preliminary evidence that we should seek a theory that relates *do*-omission to nonagreeing *don't*.

4.4. Extension to nonfinite main verbs

Guasti and Rizzi suggest that the Spell-Out Account can be extended to main verbs in a way that would help explain why root/optional infinitives (OIs) (Wexler 1994, Rizzi 1994, i.a.) in child English seem not to conform to some of the generalizations about OIs 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

²⁴ The subtotals for “following *be*” and “following *do*” in Tables 1b–5b need not add up to the total number of grammatical *not* uses because there are other environments, including modals. The subtotals for missing *be* and missing *do* need not add up to the total finite verb omissions because some instances were indeterminate.

²⁵ Harris and Wexler (1996) report rates of medial neg (which for them refers only to *do*-omission) that are higher than what I report in the text, but as they point out, since they counted only files in which at least one medial neg was found, it was overrepresented relative to overt *do*.

²⁶ It would be difficult to measure *do*-omission rates for the other contexts given in (15)—in the absence of any form of *do*, it would be hard to detect a VP-ellipsis (as opposed to a smaller sentence fragment) or sentential (polarity) emphasis.

specified, adult-like syntax. These utterances will of course not display the syntactic properties of nonfinite clauses. Guasti and Rizzi suggest that these utterances represent a subset of main verb OIs, which can also be generated from a nonadult syntax that is missing Infl features due to Truncation. Thus, what have been characterized as OIs in child speech in English consist of counterparts to OIs in other languages *plus* utterances whose syntax is tensed (with agreement). Clearly we do not expect uniform behavior when these two sets are pooled; Guasti and Rizzi suggest that this is the right result. For instance, they argue that this heterogeneous view of English children's OIs can explain why the OI stage appears to last past the null subject stage in English but not in other languages with OIs (an observation they attribute to Ingham 1992). It is worth noting that the Underspecification Account shares the property that OIs are claimed to be syntactically heterogeneous; lack of Tense versus lack of Agr are 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 OI are fully adult clauses in terms of their syntactic feature specification. The scope of these claims obviously exceeds that of this paper, but in principle the predictions of the two accounts once again diverge.

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, since 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 argued 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 nonadulthood is part of a more general phenomenon that also affects inflection on main verbs. 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 finer points on which the predictions of these two theories diverge, and assessed data that very slightly favors the Underspecification Account, while making clear that, assuming the findings are not artefactual, neither account can explain the full range of observed behavior. I conclude now with some conceptual considerations that may also be 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. (For ease of exposition I continue to use that terminology, cf. note 7.) 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 (uniform 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 (contingent agreement) she ought to always omit agreement when *do* is not inverted, but Table 6 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 and 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.” 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 uniform 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 uniform 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 either maturational or computational complexity reasons, though nothing hinges on that question here. 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 are 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 is a question that awaits further research.

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