Reflections on dummy DO in child language and syntactic theory

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1. Introduction

More than a decade ago, in the mid-1990s, I documented and researched the language development of a bilingual Icelandic-English-speaking child for my doctoral dissertation (Bohnacker 1999b). Language differentiation and cross-linguistic transfer in early child bilingualism were hot topics at the time, and the combination of Icelandic and English had not been looked at before, so I carried out an exploratory longitudinal case study (age 1;0 to 4;7). I described various aspects of the child’s production of morphosyntax from a generative angle (Principles and Parameters theory), carried out small-scale comparisons with the child’s input (not the done thing in generative acquisition research at the time) and thought that I had much to say about language differentiation and cross-linguistic influence in this particular child and in child bilingualism general.

At the same time, I also ended up with speech data that did not appear to have much to do with bilingual acquisition. One such type of data concerned the child’s development of auxiliary DO, which brings me to the topic of the present paper. In her English, ‘Katla’ went through a distinct period of a few months where she regularly oversupplied auxiliary DO from the perspective of an adult English speaker. Here, she used unstressed forms of DO combined with a lexical verb in non-emphatic affirmative declaratives, as illustrated in (1)–(3). Such periphrastic DO was more often than not correctly inflected for tense and agreement (do, does, did).

(1) Context: Katla and Ute are discussing the uses of an umbrella.
   Ute: and what d’you do when the sun shines?
   Katla: carry it, # xxx # you do walk.
   Ute: you walk? (Katla 3;0,14)

(2) Context: Katla is pointing to the back of the head of a girl in her colouring-book.
   Katla: She does want eyes on her back. (Katla 3;2,28)
(3)  Context: Katla and Ute are drawing pictures. Ute’s crayon breaks off. 
Katla: *You did pull it.*  
(Katla 3:3:02)

Do-periphrasis occurred in seemingly free variation with simplex forms of the same thematic verb, with no detectable difference in meaning. Oversupplied DO was short-lived, 89% clustering in a 2-month period (age 3;1–3;3). With an average occurrence of 25%, do-periphrasis constituted a real alternative to finite thematic verbs in Katla’s grammar at this point.

I was intrigued by this for several reasons. First, Katla’s use of auxiliary dummy DO in affirmative declaratives did not fit the standard analysis of English do-support in generative grammar, namely that of DO as a last-resort insertion (e.g. Chomsky 1957, 1989). Second, her use of dummy DO was reminiscent of Early Modern English and of certain more recent non-standard dialects of English. Third, oversupplied DO was not mentioned as a typical developmental feature of child English in the mainstream acquisition literature. Katla’s DO were errors of addition from the perspective of an adult speaker, and such errors were said to be rare, non-existent or not recoverable from in learnability-theoretic terms. But Katla did recover and restrict her auxiliary DO to contexts of clausal negation, yes-no questions, wh questions and emphasis in a targetlike manner.

I wanted to know whether Katla was atypical or unique in her use of dummy DO, or whether such a phenomenon had been documented for other (bilingual or monolingual) children as well. And if it turned out that no or only very few other children chose this path, I was interested in finding out why. For Katla’s bilingual case, interference effects from Icelandic could be ruled out as an explanation, as Icelandic has no do-type periphrasis or auxiliary of any kind. There had to be an explanation internal to English or to do with developmental child grammar in general.

I found a few studies that mentioned a short-lived stage of oversupplied DO for some monolinguals. For most other children in the acquisition literature however, the existing data did not indicate such a stage or they were too meagre for any conclusions to be drawn.

Convinced that Katla and those few other do-oversupplying children had interim grammars that fell within the confines of possible human grammars (learner grammar compatibility with universal grammar was a much debated issue then), I consulted some of the historical and dialectological literature on West Germanic. Here I found indications of the existence of do-periphrasis in non-emphatic affirmative declaratives in many language varieties, a plethora of hypotheses on the origins of such a construction, and a wealth of (often contradictory) suggestions as to which semantic, pragmatic or stylistic functions the do-type dummy might be a marker of. I
duly mined Katla’s data for potential correlations between her use of DO and particular semantic interpretations, but could not find any.

In Bohnacker (1999a, b), I discussed some syntactic accounts of English do-support and its acquisition that were topical at the time, in particular DO as last-resort vs. the default. I investigated whether auxiliary DO might be linked to the acquisition of finite thematic verb inflection, as was suggested in optional infinitive accounts in the 1990s. But these accounts did not fit Katla’s developmental data, and I chose to remain agnostic as to how best to capture the child’s interim system of oversupplied DO and adult-like English do-support in a generative derivational syntactic model. Instead I argued that DO should simply be viewed as one more regular auxiliary (alongside HAVE, BE), which is inflected for tense and agreement in periphrastic auxiliary + thematic verb constructions. I treated Katla’s development as a consequence of temporary overextension and overregularisation in the distributional system of DO of Standard English.

Since then, more than a decade has passed. Diachronic and synchronic studies have been carried out on do-type dummy auxiliaries in West Germanic, there is new work on the acquisition of English DO and on theoretical accounts for do-support. Time then to take stock and address Katla’s developmental data on dummy DO again, in a partially new light.

This paper is structured as follows: Section 2 describes the distributional contexts for auxiliary DO in adult English. Section 3 compares different syntactic accounts of DO and discusses their implications and predictions for language acquisition. Section 4, based on Bohnacker (1999b), provides some background information on Katla and data collection (4.1) and examines the emergence and development of Katla’s auxiliary DO, first in negation (4.2), then in other contexts than negation (4.3), and, in particular, oversupplied DO in declaratives (4.4). Section 5 compares Katla’s development to that of other English-speaking children in the literature. Section 6 discusses the syntactic accounts of auxiliary DO in light of the empirical acquisition results and offers concluding remarks.

2. DO in adult English

2.1. Contexts and distribution

As is well known, English auxiliary DO occurs in a variety of contexts, the most prominent being clausal negation (4a), questions and tags (4b, c, d), elliptic responses (4e), and contrastive emphasis (4f).
(4)  
   a.  She doesn’t like dogs.  
   b.  Does she like dogs?  
   c.  What does she like?  
   d.  She likes dogs, doesn’t she?  
   e.  Yes, she does.  
   f.  She DOES like dogs.  

The one context in which auxiliary DO does not occur in present-day Standard English is in regular (non-emphatic) affirmative declaratives, where a simplex main verb inflected for finiteness is used instead, as in (5a).

(5)  
   a.  Ina likes dogs.  
   b.  *Ina does like dogs. (unstressed does)  

The distributional system of DO in adult Modern Standard English thus has a curious gap, see Table 1, where non-emphatic DO in affirmatives is disallowed, in contrast to historical and some contemporary regional varieties of English (see 2.2).

<table>
<thead>
<tr>
<th>Environment</th>
<th>Obligatory do</th>
<th>Obligatory do when emphasized/stressed</th>
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<td>Negations</td>
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<td>Elliptic responses</td>
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<td>Questions</td>
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<td>Affirmative declaratives</td>
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The auxiliaries DO, BE and HAVE belong with the few verbs (mainly modals) that occur to the left of the negation in English, and that invert with the subject in questions. Whilst having little semantic content, English auxiliaries are closely connected with finiteness, tense, and agreement. Just like BE and HAVE, DO can be inflected for tense (do/does versus did) and for number and person (do versus does). Yet DO is different from the other auxiliaries in that it lacks nonfinite forms, thus patterning with the English modals. Auxiliary DO is always tensed (*to do like dogs).

Auxiliary DO can be used irrespective of verb valency or event type. It is generally thought to lack semantic content of its own, which has led to it being referred to as a dummy (Chomsky 1957: 100), an empty verb (Quirk, Greenbaum, Leech and Svartvik 1985: 133), or an expletive (Erb 1995; Culicover 2008: 27). DO appears in negations, questions, ellipses and as a bearer of stress whenever there is no HAVE, BE or modal around.
Stressed auxiliary *DO* is used in affirmative declaratives as in (6a) to affirm the truth of the proposition (here, ‘Ina likes dogs’). An emphatic positive as in (6a) is used to deny a stated or implied negative (i.e. here, Ina not liking dogs), and is thus contrastive. *DO* in this function is heavily stressed and typically raised in pitch, bearing the intonation nucleus.

(6) a. *Ina DOES like dogs.* (stressed does)
   b. *Ina LIKES dogs.*
   c. *Ina likes – or DID like – dogs.* (stressed did)

Apart from contrasting positive-negative polarity, *DO* can also be used to draw contrastive attention to tense, as illustrated by the contrast in present versus past tense in (6c). There are also instances of stressed *DO* where it is hard to ascribe to *DO* any contrastive meaning, as in (7).

(7) **This really DOES taste delicious.**

Such non-contrastive cases go by the name of emotive emphasis, though the precise nature of the ‘emotive force’ (Quirk, Greenbaum, Leech and Svartvik 1985: 124, 1372, 1415) or discourse function of *DO* remains unclear from the discussions in the literature (e.g. Hirtle 1997: 136–146; Nevalainen and Rissanen 1985: 42–44). The results of a corpus study by Nevalainen and Rissanen (1985) indicate that *DO* in affirmative declaratives is much more frequent in spoken than in written English (cf. also Klemola 1996: Ch. 5; Rissanen 1998), and that ‘emotive’ non-contrastive emphatic *DO* is not a rare occurrence in spoken British English, but as common as contrastive *DO*. Moreover, and contrary to the suggestions of standard grammars, Nevalainen and Rissanen find remarkable variability in the prosodic realization of *DO* in affirmative declaratives, including unstressed *DO*.4 4% of the non-contrastive auxiliary *DOs* in affirmative declarative clauses in their speech corpus are neither stressed nor raised in pitch. An example is *do* in the second line of (8).

(8)  

    I really **DO** NEED a f- #
    I really **do** need a FRIEND **with a FREEZER!**

Nevalainen and Rissanen (1985: 45) suggest that rhythm, and in particular the occurrence of heavily stressed elements in the vicinity of *DO*, may in part motivate the unstressing of *do*.5 Similar examples of unstressed *DO* accompanied by other stressed lexical items have occasionally been mentioned for American English too.6 According to descriptive grammars
and standard accounts of auxiliary \textit{DO}, such unstressed instances of \textit{DO} in affirmative declaratives should not occur. Nevalainen and Rissanen’s (1985) study suggests however that they do constitute an – albeit marginal – option of English grammar.

2.2. Other varieties

English is just one of several languages with a \textit{do}-type auxiliary, historically derived from the corresponding thematic verb ‘do’. \textit{Do}-periphrasis is a common property in historical and contemporary regional varieties of West Germanic, though the contexts in which it is used and the extent to which it is used vary. In these varieties, \textit{DO} appears to be optional and not obligatory as it is in Standard English questions, negations and emphasis but occurs in seemingly free variation with simplex forms of the thematic verb. In particular, \textit{DO} frequently occurs in affirmative declaratives in these varieties, i.e. in the one context that is ruled out in contemporary Standard English. Such auxiliary \textit{DO} is found in the traditional dialects of the Southwest of England (Cornwall, Somerset, Dorset, Wiltshire, Gloucestershire) and nearby areas of Southeast Wales (Visser 1969: 1507–1510; Ihalainen 1991; Klemola 1996, 1998), in Irish English (Visser 1969: 1507; Klemola 1996:66–69), South African Cape Flats English (Mestrie 1994), English-based Caribbean creoles, Middle English (southern varieties), Early Modern English (particularly in southern varieties), Early New High German, all modern German dialects, contemporary ‘sub-standard’ colloquial German, and some dialects of Dutch. The West Germanic varieties which make use of such \textit{DO}-periphrasis today are regarded as non-standard or sub-standard. This stigmatization may be a result of long-standing historical prescriptivism and linguistic purism, as argued by Langer (2001). Modern Icelandic has no \textit{do}-type auxiliary of any kind, and this is uncontroversial (Bohnacker 1999a, 1999b: 267–268; Thráinsson 2007: 10–16).

Present-day Standard English thus seems to be one of the few languages and the only Germanic one where auxiliary \textit{DO} has grammaticalised to be obligatory for negation, questions and emphasis as in (4)–(7), but where \textit{DO} is not used in non-emphatic affirmative declaratives. Explaining why it might be that \textit{DO} in English today is so used has been the aim of much syntactic research over the past decades, and I discuss some such proposals in the following sections.

3. Syntactic accounts of English \textit{DO} and implications for acquisition
In generative theories of syntax, auxiliaries like *DO*, being functional elements, are often assumed to be related to the heads of functional projections such as Infl(ection), T(ense) or Agr(eement). Some such derivational approaches place auxiliaries (or at least some auxiliaries including *DO*) in multiple verbal head projections (V) of their own, from where they raise to higher functional heads (e.g. Ross 1969; Chomsky 1986). However, the fact that auxiliary *DO* is always tensed/finite and typically inflected for subject-agreement has led some researchers to assume that *DO* does not originate in a V-head, but in a functional head, such as Infl (e.g. Chomsky 1989; Pollock 1989). The specifics of these derivational proposals vary from author to author, but all make use of abstract syntactic structure and movement. Other accounts of *DO* do not employ functional projections (e.g. Culicover 2008, see 3.3).

The fact that *DO* appears whenever there is a syntactic need for an auxiliary but there is no other auxiliary or modal around, has led to the term *do*-support (e.g. Chomsky 1957; Klima 1964). In what follows, the nature of this ‘syntactic need’ is discussed.

3.1. The classic view: *DO* as the exception and last resort

Chomsky (1957) argued that auxiliary *DO* is a dummy that only occurs in exceptional circumstances, as a last resort to ‘salvage’ clauses. He suggested transformational rules that insert the morpheme *DO* as the bearer of an unaffixed affix (Chomsky 1957: 62–66, 113). Although slightly reformulated as generative models changed over time, last-resort insertion has long been the dominant way of viewing *DO* when an utterance cannot be derived in another way, namely when Infl and V are prevented from joining, and Infl features (Tense, Agreement etc.) are stranded. See (9).

\[
(9) \left[ CP \ [IP \ Spec \ [I \ [NEGATION \ not \ [VP \ Spec \ [V \ V \ ...]]]]] \right]
\]

The negation (head or projection) is the intervening ‘block’ that strands the features in Infl. The sentence is saved by *DO*, which provides a verbal stem or lexical base for Tense/Agr features, and subsequently the negation *n’t* can cliticise onto *DO*. In models with an articulated Infl, *DO* is typically inserted into the head of whichever projection is supposed to be the lowest (T, Agr, etc.), and then raises to the higher one, being inflected both for tense and agreement. It might make sense intuitively that an intervening negation
would act as a blocker. Yet stranding of Infl is also invoked as triggering DO-insertion in cases other than negation, such as questions and emphatic stressed affirmatives (Chomsky 1957: 66, 113, 1989, 1995; Ouhalla 1994). However, such a unified analysis of DO is not straightforward: There is no overt element intervening between Infl and V, unlike in negated clauses. One might postulate an intervening covert head, and many researchers do so (Laka 1990; Rohrbacher 1994; Schütze 2004), but this runs the risk of circularity: As auxiliary DO is used, there has to be a blocker that strands Infl features, hence DO must be inserted.

For regular declaratives, no intervening blocking element is assumed, DO is therefore not inserted, and the clause is derived by head-movement. In Chomsky’s Standard Theory and in Government and Binding, this is done by affix hopping or feature lowering instead of invoking the DO-insertion transformation, and in Minimalist frameworks by raising the verb to Infl (or some equivalent functional projection) covertly at Logical Form and checking off features then. On such accounts, a nonemphatic reading of an affirmative clause with DO (She does like dogs) is ruled out, because nonemphatic sentences can be derived in other ways without DO (She likes dogs). Implied is a prohibition on optional variants. The application of do-support in these sentences is excluded by the ‘least effort’ condition, in other words, the insertion of DO is ‘costly.’

Note, however, that such costliness is simply a stipulation. For Chomsky, do-periphrasis belongs to the periphery of grammar, it is a language-specific process to be avoided. On the other hand, verb or feature movement is not language-specific, but a process in line with the principles of Universal Grammar (Chomsky 1995: 139–145; Ouhalla 1994: 307). To my mind, it is not clear why, a priori, it should be costly and not universal to spell out the features of a functional category by inserting a free morpheme (DO), whilst spelling out features by movement and affixation should be cheaper and universal. Both the processes of insertion and movement (in generative terms) are found cross-linguistically and are thus in line with UG. One might conjecture that the belief that do-support is specific to English and ‘costly’ has to do with the fact that generative theorizing has long ignored related phenomena in other languages.

There are also empirical problems if we view DO as an exception to be avoided. Nevalainen and Rissanen (1985) found evidence of unstressed DO in a corpus of spoken British English (2.1). Some dialects of English freely allow nonemphatic unstressed DO in affirmatives, as did Middle and Early Modern English (2.2). The existence of optional do-periphrasis casts doubt on analyses of DO as a last-resort salvage operation for Infl-stranding by some (c)overt blocker in negated, emphatic or interrogative clauses.
3.2. The opposite view: DO as the default

In contrast to Chomsky’s (1957, 1989, 1995) Last Resort DO, Ross (1969) and Emonds (1970) suggested that DO is in fact the norm, underlingly present in all finite English clauses. A deletion transformation would then do away with DO in those affirmative declarative clauses that do not contain another auxiliary.13 Whilst nowadays transformation rules are out of fashion, Emonds 1970’s idea of an underlying DO has made a comeback, in the guise of ‘null do’. On such a view, all verbs are periphrastic in English, with an auxiliary that can be covert, i.e. lacking a form at PF (Phonological Form). For instance, Pollock (1989: 404–406) and Wilder and Ćavar (1994: 81–83) argue that there are no simple tenses in English, but rather that She [øDO] likes dogs contains a null DO, equivalent to overt DO in She [does] like dogs. The question then is what regulates the (c)overtness of DO.

Wilder and Ćavar (1994) generate DO in a lower head of its own, V, an idea already advocated by Ross (1969). The auxiliary V-head takes as its complement another VP, which contains the main verb. DO is regarded not as an expletive, but as a genuine auxiliary, like HAVE and BE, whose insertion is automatic in periphrastic constructions. From V, DO raises to I, as (10) illustrates (Wilder and Ćavar 1994: 82).

(10) \[
\text{CP} \left[ \text{IP} \right. \ \text{SPEC} \left[ \text{I}' \right. \ \text{DO}\ i \left[ \text{I} \right. \ \text{SPEC} \left[ \text{VP} \right. \ \text{SPEC} \left[ \text{V}', \ V \right. \left. \text{SPEC} \left[ \text{V}, \ V \right. \left. \text{...} \right]\right]\right]\right]\]
\]

In simple declaratives without any visible DO, Wilder and Ćavar posit a null do, which they describe as “a weak form of the auxiliary” that “count[s] as a phonologically reduced and inherently unstressed variant of a full (stressable) verb form” (1994: 82). I think this explanation leaves a lot to be desired. Whilst other auxiliaries like HAVE can reduce to the point where they become inaudible due to processes of connected speech (e.g. You have been running, You've been running, You _ been running.), HAVE is mostly overt (have, 've) and rarely null in declaratives. But DO in nonemphatic declaratives is always ‘null’, though we would expect it to be overt, by analogy with HAVE. Another fact that remains unexplained on Wilder and Ćavar’s (1994) account is that in the absence of overt DO, finite inflection (–s, –ed) occurs on the thematic verb (She likes/*like dogs), which cannot be a consequence of phonological reduction of DO.13

Hollebrandse and Roeper (1996) treat DO as the default, i.e. the most economical representation of Tense, as the following quote shows.14

We regard ‘do-insertion’ as a ‘first resort’ phenomenon because no actual operation of ‘insertion’ is involved. In effect, do-insertion is the spell out of the
tense morpheme in phonology and therefore we call it Tense-Spellout, i.e. lexicalisation of features present in the head of the Tense Phrase. If ‘did’ is Tense-Spellout, then it [sic] Tense directly c-commands the VP.

(Hollebrandse and Roeper 1996: 261)

Hollebrandse and Roeper base their claim on (unquantified) examples from young English-speaking and Dutch children who occasionally overuse auxiliary DO (e.g. I do have juice in my cup, I did wear Bea’s helmet). They propose that children are on the lookout for light verbs lacking lexical content, such as DO, which can be analysed as directly generated in T. If children find them in the language they are acquiring, they will mark Tense by using a light verb, instead of inflecting the thematic verb (1996: 266). Hollebrandse and Roeper (1996) argue that it is ‘cheaper’ to spell out DO in T because this involves fewer syntactic operations than to raise V to T overtly (in Dutch) or to raise V to T covertly at LF (in English).

That a free morpheme DO which is ‘spelled out’ (i.e. inserted) should be more economical than movement to pick up inflections or check off features is orthogonal to last resort insertion (3.1). Both proposals are equally stipulative but interesting with regard to child language acquisition. The prediction that follows from Hollebrandse and Roeper (1996) is that English-speaking children will all start off with do-support, in targetlike contexts such as negation, questions, ellipsis and emphasis, and also – nontargetlike – in affirmative declaratives (She does like dogs). In fact, this should be found not only in English but in the speech of all children acquiring a language with light verbs that can be analysed as occupying T. For children acquiring English, DO should be the earliest way of spelling out Tense, before they use targetlike finite inflections on thematic verbs.

By contrast, under a last-resort scenario, children should start off by omitting DO from obligatory contexts. They should not erroneously overextend DO to affirmative declaratives, but rather inflect main verbs targetlike for tense. Children acquiring other languages with light verbs should not produce a kind of do-support, as this is specific to English. As we will see, neither proposal entirely captures the actual child language data.

More recently, Schütze (2004, 2010, this volume) too has argued that DO is the default. He does not locate DO in Tense (as Hollebrandse and Roeper 1996), but in Mood, a separate functional projection high up in the Infl domain. Echoing earlier null do ideas and a specific proposal by Erb (2001) for German tun ‘do’, Schütze suggests that DO is an allomorph of indicative mood, the other allomorph being zero (2004: 507, 2010: 252). His system cannot block the generation of overt DO; narrow syntax makes DO freely available. Indicative mood can be spelled out either by a simplex verb or by
periphrasis (She likes dogs, She does like dogs). For support, Schütze points out examples of overuse of DO in child language (e.g. Hollebrandse and Roeper 1996; Bohnacker 1999a) and dialects of English and German where the simplex and the periphrastic alternatives are in free variation. However, the distribution of DO in Standard English is a problem for Schütze. He suggests that there is an extrasyntactic explanation for the lack of free variation and the absence of DO in nonemphatic affirmative declaratives in English (except in legalistic style). Default overt DO is dispreferred, Schütze (2004) asserts, because it involves one more word than its counterpart without DO, and refers to Emonds’ (1994) principle Economy of Derivation, which minimizes the insertion of free morphemes. Schütze (this volume) speculates that whilst children also have this economy constraint, they do not fully apply it yet due to limited processing capacities. According to him, the economy constraint can be overridden by adults too for processing and rhetorical reasons, though he unfortunately does not expand on these reasons, except for saying that “in legalistic contexts, delaying the main verb may heighten its impact on the jury” (2004: 512, I do solemnly declare/swear...). On such an account, children acquiring English (and other languages with do-type periphrasis) will need to find the right balance between economy of derivation and those as yet to be defined processing and rhetorical benefits of DO.

3.3. Other accounts

Many of the ideas about do-support in the abovementioned syntactic models can also be found in non-derivational approaches, though not couched in terms of abstract syntactic structure and functional projection machinery. Typically DO is described as a semantically empty auxiliary, though some authors claim that it retains a residue of meaning (e.g. Hirtle 1997; for critical discussion see Klemola 1996; Langer 2001: Ch. 2). Auxiliary DO is described as a carrier of tense and agreement inflection and the bearer of emphatic stress, on a par with auxiliary HAVE and BE. DO is regarded as the default that is used when there is no other carrier around, such as another auxiliary or modal (Quirk et al. 1985).

Constructional approaches (e.g. Culicover 2008) also tend to view DO as a semantically empty, expletive auxiliary, but for them, do-support is not a syntactic operation (as in the approaches in 3.1 and 3.2), but a grammatical construction. Culicover (2008) considers DO to be a lexically restricted construction in origin, where do (or does or did) only combined with a restricted set of lexical items, i.e. specific thematic verbs. Gradually, this was extended to additional lexical items, lexical restrictions were dropped,
and the construction spread to more generally defined grammatical contexts (Culicover 2008: 35). For present-day English, Culicover suggests that there are a number of constructions that involve the category auxiliary ($V_{aux}$): the subject-auxiliary inversion construction (SAI, as in yes-no questions and wh questions), the negation construction, the VP topicalisation construction and the ellipsis construction, etc. In all of these, a formal grammatical constraint must be satisfied: the mapping of a conceptual time operator to [Tense]. When there is no lexical item in the conceptual structure that corresponds to $V_{aux}$, an expletive is used, i.e. $DO$.

While Culicover (2008) himself does not discuss acquisition, it may be surmised that on a constructional approach to $DO$ such as his, a child would be predicted to start out with a lexically highly restricted $do$-construction, which is then gradually extended to additional items and contexts. Usage-based constructivist approaches (e.g. Tomasello 2003; Rowland and Theakston 2009) indeed suggest that learning is item-based and that early knowledge of grammar is tied to individual lexical frames. For auxiliary $DO$, Rowland and Theakston (2009) expect that the majority of utterances with $DO$ at first occur in rote-learned semi-formulaic frames that the child frequently encounters in the input. Only gradually will the child recognize the relation between similar lexically based constructions and derive the more abstract constructions that underlie adult language use. Therefore, different forms of $DO$ ($do$, $did$, $does$) should not emerge at the same time, nor should a child begin to produce auxiliary $DO$ simultaneously across different contexts and functions (e.g. negation, yes-no questions, wh questions, emphasis) or simultaneously with other auxiliaries in these contexts. Furthermore, on a constructivist approach, non-emphatic $DO$ in affirmative declaratives should not occur in child language, as such a construction is not found in the input. This latter prediction is the direct opposite of the default account of $DO$ (recall 3.2) but identical with the prediction made by generative accounts of $DO$ as last resort (3.1).

### 4. DO in the English of bilingual Katla

#### 4.1. Social background and data collection

The child data come from a young successively bilingual girl code-named ‘Katla’, the first-born daughter of Icelandic parents, who were postgraduate students in the northeast of England. Katla grew up bilingually with Icelandic at home and English at daycare. Her physical and cognitive development was age-consistent. She was healthy, did not suffer from ear
infections, and had no known hearing, speech, language or cognitive impairments. From birth (January 1993), she was exposed only to Icelandic and this continued even after having relocated to Britain, as she stayed at home with her Icelandic mother. From age 1;3–1;9, the input situation changed: At 1;3, Katla began to attend an all-English crèche for roughly 5 hours per week. In addition, she and her mother met with English-speaking families. Katla watched a limited amount of English children’s television and was read to from both English and Icelandic picture books. I visited Katla one to three times a week, speaking only English and giving Katla the impression that I did not understand Icelandic. So while Icelandic input dominated, Katla received substantial exposure to English.

At 1;9, Katla joined an English-only all-day nursery run by the university. With 8 to 10 hours each day at the nursery on weekdays, the input situation was reversed, with Katla suddenly getting a lot of English input and having to function in an English-only environment for most of the day. She was exposed to the English of the nursery staff, all native speakers of British English, some of them speaking the local northern accent, and that of the other children of English-speaking parents (mainly academics). At first (1;9–1;10), Katla was shy and quiet, but this soon changed. As regards production, English became Katla’s dominant language from 2;3–2;10, to the extent that she sometimes refused to talk to her parents in Icelandic, although they continued to speak Icelandic to her.

At 2;10–2;11, Katla and her parents paid an extended visit to relatives in Iceland. In this Icelandic-only environment, Katla’s Icelandic rapidly picked up. Upon her return to England, the language distribution became balanced. Katla continued to speak Icelandic with her parents and Icelandic visitors, but spoke English at the nursery and with English-speaking visitors, including myself. This was helped by the fact that from 2;11 to 4;7, Katla attended the English nursery only part-time (4 to 5 hours a day), while spending the rest of the day at home in an Icelandic environment.

I collected longitudinal data from Katla from age 1;0 to 4;7. Over three and a half years, I saw her about once a week and took notes of her development in the two languages. Audio-recordings, starting at 1;6, were made roughly every two weeks, with some variation – often once or twice a week, but sometimes once a month only, due to illnesses, vacations and recording problems. At each session, recording would start after an hour or so of warm-up play or other activities. The data are spontaneous language production, in situations as natural as possible, such as play at Katla’s home or mine, food preparation, reading and discussing picture books, puppet play, walks, games and adventures out of doors. Many are dialogues between Katla and an adult (me for English, or one of the parents for
Icelandic); others are of two or three adults interacting with Katla, or monologues of Katla playing by herself. The samples vary in length from 15 to 130 minutes, depending on Katla’s cooperative mood. The period from 2;10 to 3;6 that I concentrate on here for dummy DO is very regularly covered, with 19.5 hours of recordings in 23 samples over the nine months.

I transcribed the child and adult utterances in an adapted CHILDES/CHAT-format. For details on transcription and coding, see Bohnacker (1999b: 15–21). Transcripts were morphemic, though ambiguous utterances are transcribed phonetically. Following CHAT conventions (MacWhinney 1991), utterances were marked for contrastive and emphatic stress, which turned out to be important with regard to DO. In the present paper, the utterances that are used as examples have been stripped of their dependent tiers and reformatted for readability reasons.

4.2. The emergence of Katla’s DO: DO for negation and nowhere else

A detailed investigation of the emergence of Katla’s DO, including comparisons with other auxiliaries, modals and the copula, can be found in Bohnacker (1999b, Ch. 5 and 8). I summarise this development here and then home in on the period where Katla ‘overuses’ DO (section 4.4). Katla’s development can be described as consisting of four periods:

(11) i. 1;0–1;11: No DO
    ii. 2;0–2;11: DO for negation but nothing else
    iii. 3;0–3;6: DO for negation, questions, ellipsis, emphasis and oversupplied in affirmative declaratives
    iv. 3;7–4;7: DO for negation, questions, ellipsis, emphasis

There are no instances of auxiliary DO in Katla’s data before 2;0. Her first English negations (from 1;6,24) are all formed with no + X (e.g. no tree, no banana, no put!). This continues for several months. From 1;11,24, there are some isolated don’t!, you don’t! and don’t you!, all in shouted prohibitions and threats. As no forms other than isolated don’t occur, don’t is likely to be an unanalyzed frozen form restricted in function at this stage, and not a sign of productive auxiliary DO.

From 2;0,00, don’t appears in combination with thematic verbs for the first time. Such don’t occurs both clause-initially in subjectless negative imperatives (e.g. don’t do that!; don’t push that!), and clause-internally in negated declaratives (e.g. I don’t know). Clause-internal don’t becomes more frequent in Katla’s speech in the following months (e.g. I don’t want pretty dress; and my ice-cream I don’t put on my shoe), and at 2;4,27 the
first non-imitative *doesn’t* appears (e.g. *no, doesn’t work*), which may indicate emerging subject-verb agreement on *DO*. From 2;0–2;5, Katla uses auxiliary *don’t/doesn’t* consistently for clausal negation in 85% (73/86) of obligatory contexts, the remaining cases consist of nontargetlike *no/not*-initial negations. This early high percentage is not much different from Katla’s provision of *DO* for negation later on: 93% (41/44) *DO* provision for negation during 2;6–2;11, 98% (196/199) during 3;0–3;6, and 94% provision overall for 2;0–3;6.

However, for a year (2;0–3;0), Katla categorically omits *DO* from all obligatory contexts other than negation: Emphasis is conferred by shouting (16)–(17), wh questions have a preposed wh-word and question intonation (12)–(15), and yes-no questions are simply formed by rising intonation. The lack of *DO* in Katla’s yes-no questions is not very telling though, as they mostly involve other auxiliaries, e.g. *BE*, inverted targetlike. The few yes-no questions that could feature *do*-support are marked by intonation only or are clipped, such as *want to take it?* (2;4;27), short for *do you want to take it?* The lack of *DO* is acceptable here. Wh questions with thematic verbs do constitute obligatory contexts for *DO*, and here *DO* is conspicuously absent, as shown by the following examples.

(12)  Context: Making a toy horse and cow ‘drink’ milk and water.
  Katla:  *what you doing there the wa(ter)?*
  Ute:   *I don’t understand.*
  Katla:  *milk.*
  Katla:  *what _ you DO?*  
  [target: what do/did you do?]  
  (Katla 2;0,00)

(13)  Context: Playing with puppets, Katla asks the puppet policeman:
  Katla:  *what _ you do?*  
  [target: what do/did you do?]  
  (Katla 2;11,27)

(14)  Context: Katla, Ute and Dad are playing with a town of lego bricks.
  Katla:  *what _ my daddy do?*  
  [target: what does my daddy do?]  
  (Katla 3;0,14)

(15)  Context: Ute demonstrates for Katla how spinning tops work.
  Ute:   *you turn them and then they roll.*
  Ute:   *they spin on the floor.*
  Katla:  *why _ they roll?*  
  [target: why do they roll?]  
  (Katla 3;0,29)
During the year when Katla uses *DO* in negation but categorically omits *DO* from questions, she also omits it from emphatic affirmative declaratives, where adult English features a prosodically prominent *DO* and a deaccented thematic verb. Katla leaves out *DO* and instead places heavy stress and pitch accent on the thematic verb, as in (16) and (17).

(16) Context: Katla and Ute are looking for the cat in a picture book.
Katla: *look!*
Ute: *there’s the CAT!*
Katla: *yeah, I _SEE the cat.*
[Stress on “see” to indicate that Katla DOES see the cat.]
Katla: *I can see meow.*

(17) Context: Katla had asked for some pudding, but didn’t eat it. She then asked for some banana, but just had a tiny bit of it and ran off.
Ute: *you want to finish your chocolate pudding or your banana?*
Katla: *I _FINISH my banana.*
[Stress on “finish” to indicate that Katla DID finish her banana.]
Ute: *no, look # here is some # still on the table.*

Not until 2;10,15 does Katla use emphatic *DO* for the first time in the samples, but this remains an isolated occurrence. Instead, Katla continues to stress the simplex thematic verb, as in (17).

*DO* is the only auxiliary that Katla categorically omits over the one-year period from 2;0 to 3;0. The other auxiliaries *BE* and *HAVE*, copula *BE* and modals are frequently realised in contexts obligatory in the target language: negation, questions, affirmative declaratives, tags, ellipsis, and emphasis. For instance, Katla produces wh questions with overt auxiliaries and copulas, including ones with unambiguous targetlike subject-aux inversion (the first few instances at 1;6, and regularly by age 2;4). This is not to say that Katla’s *HAVE, BE* and modals are always targetlike, we also find some form errors and, more frequently, omission errors (e.g. *where _ my chair gone?*, *what _ you doing?*, *what are that?*, all at 2;4,27, see Bohnacker 1999b, Ch. 2-3, 5). Importantly however, from 2;0 to 3;0, *HAVE* and *BE* are often overt, between 50%-85% in each sample. Auxiliary *DO* never is.

4.3. Katla’s later development: *DO* in contexts other than negation

There is a dramatic change in Katla’s data after age 3;0: From 3;0–3;6, *DO* continues to be supplied in negations (98%), but is now also realized in most obligatory contexts concerning emphatic affirmatives (94%), elliptic
responses (98%) and questions (78%). Contrastive, emphatically stressed *DO* is illustrated in (18)–(19), *DO* in questions in (20)–(22).

(18)  
Context: Katla pretends to make her toy horse (= a broom) defecate.  
Ute: *what’re you doing?*  
Katla: *I, I weewee, I poo.*  
Ute: *you?*  
Katla: *sit my +...*  
Ute: *you weewee and poo? no!*  
Katla: *I will.*  
Katla: *I DO weewee and poo!*  
Katla: *I DO!*  

(19)  
Context: Katla and Ute are discussing whether mum likes chips.  
Ute: *or maybe she doesn’t eat chips.*  
Katla: *she DOES eat chips.*  
Ute: *oh she does, oh right.*  

(20)  
Context: Katla and Ute are colouring, Katla offers Ute a pen.  
Katla: *do you want a pen, Ute?*  
Ute: *hm?*  
Katla: *do you want a pen?*  

(21)  
Context: Katla has a conversation with her dolls  
Katla: *who do you want to play with?*  

(22)  
Context: Katla asks puppet Mr Punch (= Ute) about his shopping.  
Katla: *what shoes did you buy?*  
Ute: *I bought pink ones.*  

Despite such targetlike *DO*, omissions of *DO*, notably in wh questions, continue, but are down from 100% omissions at 2;0–3;0, to 22% at 3;0–3;6, vacillating between 0% and 30%. This suggests that auxiliary *DO* now behaves more like Katla’s other auxiliaries *HAVE* and *BE*: Most of the time Katla provides them, but some omissions occur. In one respect, auxiliary *DO* is slightly different though: *HAVE* and *BE* are virtually always inflected correctly for tense and agreement (99%), but for *DO*, nontarget forms are somewhat more frequent. Katla uses the inflected forms *does* and *did* in a targetlike fashion, but occasionally produces uninflected *do* in third person singular or past tense contexts. The percentage of such uninflected *do* forms
in questions, ellipsis and emphatic affirmatives is 9%, and oscillates between 0% and 18% in the samples from 3;0–3;6.\textsuperscript{22}

4.4. Oversupplied DO in affirmative declaratives

At the time when DO suddenly emerges for emphasis and in questions, something else happens in Katla’s English: The targetlikeness of auxiliary DO decreases. This is not because DO is omitted, but because it is oversupplied. Katla produces unstressed forms of DO (do, does, did) plus thematic verb in affirmative declaratives, where Standard English has a finite simplex thematic verb only. Some examples are given in (1)–(3), (23)–(29). These additions only occur with DO; Katla does not add unstressed auxiliary HAVE, BE, copulas or other items to her declarative clauses.

(23) Context: Katla has been trying to write with Ute’s pen, at first without success, then suddenly the ink begins to flow.
Katla:  \textit{it does work.}  
[target: it works/ it’s working]  (Katla 3;0,07)

(24) Context: Katla and Ute looking at jumbled up pictures of characters, Katla picks out a piece that she thinks fits the picture of the lion.
Katla:  \textit{that does fit Lion King.}  
[target: that fits the lion]  
Ute:  \textit{you think so? I wouldn’t have said so.}  (Katla 3;1,10)

(25) Context: Katla and Ute are talking about chickens.
Ute:  \textit{where do you think they live?}  
Katla:  \textit{they live in the farmer.} (= farm-house)  
Ute:  \textit{huh?}  
Katla:  \textit{they do live in the farmer.} (= farm-house)  
[target: they live on the farm]  (Katla 3;2,28)

(26) Context: Katla and Ute are drawing pictures. Ute’s crayon breaks off.
Katla:  \textit{you did broke it.}  
[target: you broke it]  
Ute:  \textit{oh dear.}  
Ute:  \textit{it just happened.}  
Katla:  \textit{you did pull it.}  
[target: you pulled it]  
Ute:  \textit{huh?}  
Katla:  \textit{you did pull it.}  
[target: you pulled it]  
Ute:  \textit{I didn’t pull it, I actually just + …}  
Ute:  \textit{I was just drawing with it, sorry.}  
Katla:  \textit{it did fall off.}  
[target: it fell off]
Ute: it fell off, yeah. (Katla 3;3;02)

(27) Ute: bum, what happened?
Katla: I do bump on my bottom. [past reference, target: I bumped (on) my bottom] (Katla 3;3,11)

(28) Context: Katla jumps up and down. Pleased, she says:
Katla: I did jump. [target: I jumped]
Ute: what?
Katla: I did jump. [target: I jumped]
Ute: you jumped, yeah.
Katla: yeah, I DO did jump. [target: I jumped or I DID jump] (Katla 3;3,11)

(29) Katla: whoop.
Ute: what?
Katla: that do fell off. [target: that fell off]
Ute: sorry, I didn’t hear.
Katla: that did fell off. [target: that fell off] (Katla 3;3,11)

Such DO is neither stressed nor raised in pitch. Had these utterances been contrastive or emphatic, stressed DO would be obligatory. But I carried out the recordings and transcriptions myself, and the context does not suggest in any way that Katla is using DO for emphasis or contrast here (for emphasis, she adds a second, stressed, do, as in (28)).

When speaking of Katla’s DO as being nontarget or oversupplied, such descriptions of course only make sense in comparison with the use of DO in adult English. For Katla herself, dummy DO is not oversupplied; she is not making errors but following a different system than that of Standard English. In what follows, I investigate the details of Katla’s interlanguage grammar concerning DO.

4.4.1. The rise and wane of Katla’s oversupplied DO

Katla’s dummy DO cannot be discounted as errors of speech. Whilst the phenomenon is short-lived, it is substantial. Katla produces 129 instances of oversupplied DO, all within a period of 6 months (3;0–3;6). The bulk of them, 89% (115/129), occur within two months (3;1–3;3). The first example occurs at 3;0.07 (it does work (23)), but the construction remains rare until 3;0.29 (10% of all DO). From 3;1,10–3;3,11, it makes up 42% of all her auxiliary DO. From 3;4–3;6, oversupplied DO becomes rare again (6%)
and then dies away completely. This development is shown in Table 2, where samples have been grouped into ranges for maximum effect.

Table 2. Katla’s oversupplied DO out of all her auxiliary DO.

<table>
<thead>
<tr>
<th>Range</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1;6,00–1;11,24 (S14–S34)</td>
<td>0/0</td>
<td>n.a.</td>
</tr>
<tr>
<td>2;0,00–2;9,14 (S35–S54)</td>
<td>0/96</td>
<td>0%</td>
</tr>
<tr>
<td>2;10,15–3;0,29 (S55–S62)</td>
<td>8/81</td>
<td>10%</td>
</tr>
<tr>
<td>3;1,10–3;3,11 (S63–S69)</td>
<td>115/254</td>
<td>42%</td>
</tr>
<tr>
<td>3;4,07–3;6,07 (S70–S76)</td>
<td>6/109</td>
<td>6%</td>
</tr>
<tr>
<td>3;7,01–4;7,04 (S77–S103)</td>
<td>0/350</td>
<td>0%</td>
</tr>
</tbody>
</table>

Another way of looking at Katla’s oversupplied DO is to compare them with her finite simplex verbs, as in Table 3. During the two peak months, Katla substitutes DO + V for a finite simplex thematic verb on average 25% of the time (115/456), fluctuating between 9% and 33% between samples. 25% is a substantial percentage, but it also shows that Katla’s DO is not in any way obligatory in affirmative declaratives but appears to be in free variation with finite simplex verbs.

Table 3. Katla’s oversupplied DO out of all obligatory contexts for finite simplex thematic verbs in declaratives.

<table>
<thead>
<tr>
<th>Range</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1;6,00–1;11,24 (S14–S34)</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>2;0,00–2;9,14 (S35–S54)</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>2;10,15–3;0,29 (S55–S62)</td>
<td>8/245</td>
<td>3%</td>
</tr>
<tr>
<td>3;1,10–3;3,11 (S63–S69)</td>
<td>115/456</td>
<td>25%</td>
</tr>
<tr>
<td>3;4,07–3;6,07 (S70–S76)</td>
<td>6/274</td>
<td>2%</td>
</tr>
<tr>
<td>3;7,01–4;7,04 (S77–S103)</td>
<td>0</td>
<td>0%</td>
</tr>
</tbody>
</table>

4.4.2. The distribution of Katla’s oversupplied DO

In Bohnacker (1999b) I investigated whether oversupplied DO are limited to a particular discourse context. For instance, adult lead questions with do-support might prime Katla to produce oversupplied DO in her answer. Whilst this cannot be ruled out for some instances, e.g. (30) or (31), only 12% of Katla’s oversupplied DO could arguably be said to be copied from or in some way conditioned by the preceding adult utterance.

(30) Context: Talking about what Katla saw on a walk to the playground.
Ute: what did you see there?
Katla: we did see a, a poopoo. (Katla 3;3,11)
Ute: what did you do there?
Katla: we do walk back home. (Katla 3;3,11)

For the remaining 88% of oversupplied DO, the preceding adult lead question does not feature any DO or there is no lead question at all:

(32) Adult: what happens?
Katla: did get two on my head. (Katla 3;3,11)

(33) Context: Katla and Ute find small black beetles inside a flower. Katla shakes them out into her palm.
Katla: do put it on my hand. (Katla 3;3,11)

(34) Adult: what have you coloured so far?
Katla: I did colour this # this # this. (Katla 3;3,11)

Furthermore, there are many more potential adult lead questions with DO that do not induce Katla to produce DO, e.g. (35)–(36). We may therefore conclude that lead questions can be disregarded as a cause of Katla’s do.

(35) Adult: what did we do with the flowers?
Katla: we put some beetles.
[not: we did put some beetles/we do put some beetles.] (Katla 3;3,02)

(36) Adult: and then what do you have?
Katla: I have again dinner, another dinner.
[not: I do have again dinner.] (Katla 3;3,02)

Katla occasionally received corrective feedback on her utterances with DO, where adults correct or rephrase them as an utterance with a simplex verb only (e.g. (28) Katla: I did jump – Adult: you jumped). Katla appears to be oblivious to such corrections during her oversupplied-DO phase.

Katla’s English input was free of oversupplied DO, as sampled in the recordings and observed in her environment. The English she was exposed to at the nursery (Standard British English and the local northeast dialect) and the L2 English spoken by her Icelandic parents did not contain oversupplied DO. DO appeared to be Katla’s own innovation.

One might suppose that oversupplied DO is concentrated or even obligatory with certain types of verbs, subjects, or tenses. In my dissertation (1999), I tried to find such correlations, but couldn’t. Katla’s DO occur with
subjects of all numbers and persons, pronominal and lexical subjects. *I* is the most frequent subject, but this is not surprising, as *I* is by far the most common subject in Katla’s data generally, as it often is in children’s data.

Katla’s oversupplied DOs occur with all kinds of verbs, irrespective of valency (intransitive, transitive), semantic or aktionsart/situation-aspect class (stative vs. nonstative, telic vs. atelic, durative vs. non-durative, etc.). Katla’s DOs also occur irrespective of viewpoint aspect (imperfective, perfective, progressive, habitual, etc.). I mention this because for certain dialects of English that allow optional DO in nonemphatic affirmative declaratives it has been claimed that there are indeed such aspectual restrictions. In Katla’s data however, the same verb occurs both in simplex form and with DO-periphrasis in one and the same sample, as exemplified in (37)–(39). There do not seem to be any distribution restrictions, and I have not been able to detect any difference in meaning between the simplex and the DO utterances.

(37) a. *I want a bread.*  
    b. *I do want this book.*  
(both from Katla 3;3,02)

(38) a. *I do fall on my bottom.*  
    b. *you lie, and, and I walk on your toes, and, and I fall on my bottom.*  
(both from Katla 3;3,02)

(39) a. *we did go in the park.*  
    b. *I did frighten it and he did go.*  
    c. *and when people get ill # then they do go to the doctor.*  
    d. *(u)p we go.*  
    e. *you go with spider.*  
    f. *and this goes up.*  
    g. *who went?*  
(all from Katla 3;3,11)

Katla’s oversupplied DOs do not appear to be conditioned by verb type, valency or aspect. They do not contribute a uniform semantics, and there is no restriction on the semantics of the verb they can co-occur with.

Neither are they restricted to a certain tense. Rather, they occur roughly equally for past and present, 44% (57/129) taking the form *did*, 41% (53/129) *do*, and 11% (14/129) *does* + thematic verb. 89% of the thematic verbs following DO are uninflected and can thus be considered infinitives (115/129). Thus, *do walk, does walk, did walk* are frequently attested, but *do walked, does walked, does walks, did walked* are virtually unattested. The remaining 11% (14/129) are doubly inflected, but, I believe, not doubly
tensed, as most of them (11/14) are irregular fell or broke (i.e., did fell, do fell, does fell, did broke), which Katla generally has problems with. Only in 2% (3/129) is the thematic verb clearly inflected (this do works (3;3,02, twice); it did rolled about (3;3,11)). This suggests that Katla does not simply add a DO to a finite clause, because if she did, more of the thematic verbs should be inflected. Rather, she uses finite DO + verb instead of a finite simplex verb. Katla knows that only one verb per clause can carry finiteness marking, either the simplex thematic verb or, in a periphrastic construction, the auxiliary.

The large majority of oversupplied do/does/did are inflected correctly for tense and subject-agreement (81%, 104/129) over the entire 6-month period during which oversupplied DO occur, and during the 2-month peak period at 3;1–3;3 (81%, 93/115), vacillating between 65% and 100% from sample to sample. In particular, 95% (54/75) of her oversupplied did correctly refer to an event in the past, 100% (14/14) of her does correctly have present time and third person singular reference, and 66% (35/53) of her do refer to present time. The difference between does/did and do is interesting: Katla thus knows the tense and agreement restrictions on does and did extremely well, but overextends the uninflected form do to past (34%, 18/53) or third person singular contexts (8%, 4/53). Recall (27) and (29) as examples (I do bump on my bottom; that do fell off). With regard to tense and agreement, oversupplied do is thus similar to ‘legitimate’ do (in questions, ellipsis and emphasis), where does and did are used correctly, but uninflected do is overextended, though at somewhat lower levels (recall section 4.3).

Readers may wonder how Katla’s DO is related to finiteness/tense marking in general. Some acquisitionists in the 1990s (e.g. Harris and Wexler 1996) suggested a tight relation between do-support and tense inflection on thematic verbs. For them, omissions of DO and omissions of finite verb inflection (‘optional infinitives’) are both an indication that functional category Tense is absent or deficient. Conversely, overt DO and the provision of overt finite thematic verb inflection (–s, –ed) are taken to indicate that Tense is present. Harris and Wexler (1996) predict that auxiliary DO and thematic verb inflections are acquired together. In my dissertation, I explored this issue but found their prediction not to hold for Katla (Bohnacker 1999b: 287–292). When Katla begins to use DO for negation at 2;0, overt finite marking on thematic verbs is completely absent (though copulas and other auxiliaries are inflected for agreement and tense). Katla produces her first instances of non-imitative 3SG present tense –s at 2;3;15 (e.g. goes like that). At 2;4,27, she produces her first regular past tense –ed (bumped) as well as overt irregular simple past forms (made, had, did). From 2;9,14, Katla produces overregularised –ed (e.g. I seed on
snowman ‘I saw/looked at a snowman’), indicating that past tense marking is productive. Neither 3SG –s nor past –ed is provided obligatorily though, there are large fluctuations between samples. Between 2;3/2;4 and 3;0 then, Katla optionally inflects thematic verbs (ca. 50%) but provides DO for negation at 94%, whilst categorically omitting DO elsewhere. From 3;0, Katla suddenly uses DO in most other obligatory contexts and oversupplies it in affirmative declaratives. This should signal the end of the optionally absent or deficient Tense stage and coincide with the onset of obligatory finite inflection on simplex verbs. However, no such change occurs with regard to simplex verbs around 3;0. Finite thematic verb inflections remain optional for Katla: During the peak of her oversupplied-DO stage (3;1–3;3), 57% of the simplex verbs in 3SG present contexts are inflected with –s, and in contexts for overt past tense, 66% are inflected with –ed (including 6% overregularisations). When oversupplied DO is on the wane (3;4–3;6), finite thematic verb inflections remain optional, though the fluctuations between samples become somewhat smaller. In sum, Katla produces nontargetlike uninflected simplex verbs (optional infinitives) over a long period, but here is nothing to suggest a correlation between finite verb inflection and DO.

5. Katla’s DO in relation to other children’s

5.1. DO for negation only

The developmental delay of DO in areas other than negation is not peculiar to Katla. Many English-speaking children are also reported to show a time-lag between the acquisition of auxiliary DO for one function and the acquisition for another. Whilst there appears to be some individual variation, auxiliary DO in negation is often acquired first by monolingual children.

For instance, Fletcher (1985: 106–108, 196), in his longitudinal study of British English Sophie, observes that she uses do-support exclusively for negation at 2;4–3;0, omitting do from obligatory contexts in questions etc. At 3;0, however, there is a marked increase, and Sophie begins to use do-support also for questions and emphasis. Ervin-Tripp (1973), Miller and Ervin-Tripp (1973) and Miller (1973) longitudinally investigate auxiliary DO, amongst other things, in the spontaneous speech of five American English Berkeley children Carl, Christy, Harlan, Lisa and Susan from age 2:2. All but Susan go through a period where DO is used for negation, but omitted from other contexts (Miller and Ervin-Tripp 1973: 373; Miller 1973: 384–387): “In interrogatives, the question is signalled by question words or by a rising pitch, and do is typically not present until months after
Katla’s use of *DO* first in negation and the delay of *DO* in other contexts thus appears to be replicated by monolingual English peers, but the literature is relatively sparse as regards in-depth longitudinal studies with quantified data.

Early provision of *DO* for negation, but omission from questions and emphasis has also been observed in the spontaneous speech of bilingual English-German children, Hannah (unquantified, Gawlitzek-Maiwald and Tracy 1996) and Joshua (Knipschild 2007:138–148). Similarly, de Houwer (1990), in a longitudinal study of bilingual English-Dutch Kate, notes a marked increase in Kate’s auxiliary *do* and an extension of *do*-support in negation to other obligatory contexts after age 3;0 (1990: 224–225, appendix). Again it appears that the different functions of auxiliary *DO* may emerge at different points. (For discussion, see Section 6.)

5.2. Oversupplied *DO* in monolingual children

In contrast to Katla, monolingual English-speaking children have been said not to oversupply *DO*. At least, that is the conclusion Pinker (1984) and Stromswold (1990) come to. Pinker predicts oversupplied auxiliaries not to occur, for learnability reasons. He claims that children are conservative and avoid the use of an auxiliary in the “neutral sentence modality” (i.e. in nonemphatic affirmative declaratives), rather than they would add an auxiliary (Pinker 1984: 274). Under Pinker’s conservative learnability theory, nontarget *DO* in an affirmative declarative would be an error children could not recover from without negative evidence. It is widely agreed that negative evidence is not used in first language acquisition, hence such errors of commission should not occur. Pinker admits that he has encountered examples of nonemphatic *DO* in the literature, but as they are rare, often anecdotal and unquantified, he doubts whether they at all “represen[t] an error pattern sufficiently widespread to try to account for” (Pinker 1984: 275). This however, I feel, is premature. Even though little may have been known about the frequency of *DO* additions at the time of Pinker’s writing, this should not induce us to dismiss them as not to be taken seriously. And importantly, nontarget *DO* additions were recovered from – without negative evidence, presumably. This suggests that the problem lies not with the errors, but with the details of Pinker’s (1984) learnability theory, and any learnability that excludes recovery from commission errors.

Stromswold (1990) carried out computer searches on roughly 200,000 lines of utterances in the CHILDES data of 14 American English children (age 1;2–7;10) and found ca. 55,000 auxiliaries, including many *DOs*. Generally, there were few errors with auxiliaries, but the majority of those
that did occur involved *DO*. Stromswold only found a handful of oversupplied *DOs*, which she thought were performance errors:

Judging from context, there were fewer than 20 example[s] in which the children incorrectly provided a *DO* in a nonemphatic declarative. In other words, there were very few examples like Sarah’s (3;0): *I do taste dem* which contained a nonemphatic auxiliary *DO* and a main verb. (Stromswold 1990: 54)

I will take issue with Stromswold’s conclusion on three fronts. Firstly, apart from the above quote, she does not provide any actual search counts on *DO + uninfl exed thematic verb*, but only on double inflections like *I didn’t break them* or *did you broke them*. This is fine as long as one is concerned with double tensing and inflection mismatching. However, oversupplied *DO* is neither a double inflection nor an inflexion mismatch error.

My second objection is Stromswold’s reliance on ‘judging from context’. The point about oversupplied *DO* is that it is nontargetlike exactly because it is not stressed and not contrastive. Not all CHILDES transcripts include enough commentary from which to infer contrast or absence of contrast in an utterance. And importantly, the transcripts Stromswold searched are not consistently coded for stress or absence of stress. As Brown, Cazden and Bellugi (1973: 295) point out, stress or intonation for Adam’s and Eve’s utterances, for instance, was not indicated, not even in the original transcripts – and thus not on CHILDES either. It is therefore not at all clear whether one should count *DO* in an affirmative declarative as stressed/emphatic and thus correct, or as nonemphatic and thus as oversupplied. To disambiguate, one would have to *listen* to the original recordings of the child; computer searches and judging from context do not help here. Therefore, there may be far more unstressed *DOs* than Stromswold (1990) thinks.

A third problem is that oversupplied *DO* may well be an optional and a short-lived phenomenon for monolingual children. Recall that the bulk of Katla’s oversupplied *DO* is concentrated in a two-month period. Stromswold searched the files of children from age 1;2 (Naomi) up to 7;10 (Ross). But calculated over such a long period of time, any figures for oversupplied *DO* would get extremely diluted. From this, however, it does not follow that oversupplied *DO* could not be ‘real’ – as opposed to a performance error – and an option in the learner grammar of a child for some time. Indeed, reports of oversupplied *DO* are not uncommon in the literature, though unfortunately these are typically unquantified or anecdotal examples (e.g. Menyuk 1969; Miller and Ervin-Tripp 1973; Maratsos and Kuczaj 1978; Mayer, Erreich and Valian 1978; Fletcher 1979; Erreich, Valian and
Winzemer 1980; de Villiers and de Villiers 1985: 79; Denison 1993: 284; Hollebrandse and Roeper 1996, who cite examples of oversupplied DO for Tim from 2;11,20-3;0,9; Jensvoll 2003; Thornton 2010).

Allen (1995) and Zukowski (1996), who carried out quantitative analyses on data from the CHILDES database, found DO in affirmative declaratives to cluster in the speech of certain children during a short period of time. Zukowski (1996), studying Ross, found concentrations of such DO in the files Ross31-Ross35 (2;11,07–3;3,27), but none in the files before or after. By contacting Brian MacWhinney, who had collected the data originally, Zukowski (1996) obtained crucial information about context and intonation. It turned out that some of Ross’ DO in affirmative declaratives were likely to be emphatic, but that 24 other instances of DO were not stressed, and the context in which they occurred did not suggest contrastive or emphatic use. In short, these DOs were not targetlike, but oversupplied.30

Knipschild (2007: 151–154, 316), in a longitudinal study of a bilingual German-English child, Joshua (2;4–3;1), also found oversupplied DO. They clustered in his English in the period 2;7,13–3;0,12. In obligatory contexts for finite simplex thematic verbs, Joshua oversupplied DO in declaratives on average 8% of the time (246/3103), peaking at 15% at 2;11.

In contrast to Pinker (1984) and Stromswold (1990) then, I think that some children do go through a developmental phase of oversupplied DO. This is not to say that all of them do (as suggested by Hollebrandse and Roeper 1996, recall 3.2). Nor need oversupplied DO look exactly alike for each child. Katla has an even distribution of present and past tense forms (do, does, did), whereas many other studies only report oversupplied did. For instance, Fletcher (1979: 272–294) cites (unquantified) did + V with past time reference for Daniel age 3;0. Hollebrandse and Roeper (1996) list examples of did + V for Tim 2;11,20–3;0,9, and so does Zukowski (1996) for Ross age 2;11–3;3.31 Most of Ross’ spare DOs (23/24) are instances of did with past time reference, when Ross recounts episodes for his parents (e.g. He did put milk over his tummy. Ross31 2;11,07; You just did pick me up at Carla’s house and I was playing with the racing motorcycles. Ross35, 3;3). Most of Joshua’s spare DOs at 2;7–3;0 are instances of did in past tense contexts as well (Knipschild 2007: 152). The reasons behind this preponderance of did often remain unclear. Is it the case that oversupplied DO is indeed restricted to did for these children, in which case Katla would differ from her peers, as she also produces do and does? Or are the reports of oversupplied did in the literature due to sampling issues (such as few samples or recordings of situations where past time references predominate)? Some studies do not mention forms other than did simply because the researcher only investigates past tense, which makes it
impossible to draw conclusions about DO in general. The opposite holds for a recent study by Thornton (2010: 25), where Georgia oversupplies non-emphatic unstressed does for some months in elicited production (e.g. Only Georgia does eat goldfish, 2;3,16).

Clearly, what is needed here is more detailed research on dummy DO in child English, a point I made back in 1999 but which seems to be just as pertinent today. We need quantified analyses of data collected at tight time intervals, to forestall the possibility that an oversupplied DO stage simply is missed because of too few or skewed recordings at the relevant time. Bearing this in mind, it seems to me that what Katla is doing may not be so very different from her monolingual English peers. Oversupplied DO is a possible route for children to take, not ruled out for learnability reasons, and it can be retracted from: Bilingual Katla and the monolingual children such as Ross do eventually acquire adult like DO-support.

6. Syntactic accounts and children’s DO: Discussion and conclusion

As discussed in Section 3, many generative accounts of auxiliary DO assume that DO insertion or spellout is uneconomical for a variety of reasons. The prediction follows that uneconomical DO will be avoided by children. And indeed, children do seem to avoid DO, in the sense that Katla and her monolingual English peers described in the literature initially omit DO from many obligatory contexts (e.g. Ervin-Tripp 1973; Miller 1973; Stromswold 1990; Harris and Wexler 1996; Thornton 2010).

However, on these same accounts it is unexpected that DO for negation should become productive and virtually targetlike for Katla long before making its first appearance in other obligatory contexts, such as questions (4.2). A brief comparison with studies of English-speaking children in Section 5.2 showed that there is nothing atypical about Katla’s time-lag between the acquisition of DO for negation and for other functions. Different functions of auxiliary DO may emerge at different points in one and the same child. The process of do-insertion or spellout that applies to a variety of types of sentences in the adult grammar may thus develop through independent rules, and apply only to a subset of contexts in the grammars of language learners. This in itself is noteworthy, I believe, because it clashes with a basic assumption of the models discussed in 3.1 and 3.2, namely that do-support is a unitary phenomenon. Recall that the proposed reason for DO to occur in negation, questions and emphatic affirmatives was that Infl-features are stranded due to an intervening blocker and need to be ‘supported’. However, as I have pointed out, the only overt evidence for
such a blocker, if any, can be found in negated clauses. Of course one might speculate that \textit{DO} comes in earlier for negation because the blocker that separates the features in Infl (or equivalent) from \textit{V} is more ‘salient’ for negation. But there is nothing principled in these accounts to suggest this; rather, \textit{do}-insertion is explicitly assumed to be a unitary phenomenon for negation, questions, emphasis etc. (Chomsky 1957: 66, Rohrbacher 1994: 150). Whilst this may be the case in finite-state adult grammars, it does not appear to hold for acquisition: Children need not and often do not acquire \textit{do}-support in one go, which lends credence to alternative, constructionist approaches (e.g. Culicover 2008, Section 3.3).

The most pressing problem with last-resort insertion accounts, however, is that \textit{DO} is oversupplied by Katla, and, so it appears, also by a number of monolingual children. One might postulate some covert blocker in child grammar to force \textit{DO}-insertion. But apart from being ad hoc, it is unclear what this blocker should be, as Katla’s oversupplied \textit{DO} cases are not contrastive, not emphatic, and not different in meaning from simplex thematic verbs (4.4). The existence of auxiliary \textit{DO} in nonemphatic affirmative declaratives in child language and in adult varieties other than Modern Standard English suggests that the validity of ‘costly’ language-specific last resort insertion approaches is questionable.

Under the opposite scenario where \textit{do}-periphrasis is the default, the acquisition findings turn out to be problematic too. \textit{DO} is seen as the most economical, first-resort way to spell out Infl features (Hollebrandse and Roeper 1996). But \textit{DO} occurs neither early nor profusely; instead, there is an extensive period of categorical \textit{DO}-omissions (except for negation). Oversupplied \textit{DO} appears late, long after simplex thematic verb inflections (i.e. the uneconomical way of spelling out Tense) have become productive.\textsuperscript{32} Even at its peak at 3;1–3;3, Katla uses dummy \textit{DO} only in 25% of finite thematic verb contexts. If \textit{DO} were the first-resort spellout of Tense (or similar), most, if not all, English-speaking children should be expected to oversupply \textit{DO}. Whilst it appears that a few of them do, we do not know for most others, simply because it often has not been looked for.

In Bohnacker (1999a, 1999b) I concluded that \textit{DO} should be treated neither as an exceptional spellout of Infl (last resort) nor as the default (first resort), and I would concur with this view today.

At 2;0, Katla begins to use \textit{DO} in negation and provides it most of the time. At this point, it is restricted in form and function. At age 3;0, Katla begins to use \textit{DO} in non-negated contexts (questions, ellipsis, and stressed emphasis). She thus extends \textit{DO} to other contexts and functions (cf. constructionist approaches in 3.3). But at that point she does not realise yet that the Modern Standard English system of \textit{DO}-support has a curious gap.
Unstressed *DO* is obligatory in negations, elliptic responses and questions, and stressed *DO* is possible for emphasis. In affirmative declaratives however, unstressed *DO* is ruled out (except perhaps in some marginal cases, recall Nevalainen and Rissanen (1985) in 2.1). Thus the system is not regular, symmetric or parallel. For a short period, Katla regularizes this system, she fills and eradicates the gap in it by overextending finite *DO + V* to nonemphatic affirmatives, which for her are equivalent to finite simplex thematic verbs.33

As several others before me, I suspect that the absence of unstressed *DO* in nonemphatic affirmatives in Modern Standard English has little to do with economy, but is more of a historical accident (e.g. Stein 1990: 334; Culicover 2008). Universal grammar allows variation across languages with regard to how tense and agreement are realised, and within-language variation is possible too: In generative syntactic terms, Infl can optionally be spelled out via simplex verb inflection or via a free morpheme such as *DO*. Recall that earlier versions of English and certain dialects today, as well as many other West Germanic dialects, have exactly such *DO*. And Katla’s overextended, optional *DOs* pattern with these. I am aware that optionality and free variation, i.e. the possibility that two constructions with the same meaning and function coexist in one language, are often disputed in syntactic theory. The empirical facts, however, suggest otherwise. Adult and child grammars do allow optionality.

Finally there is the question of how to unlearn oversupplied *DO*. Emonds (1994) and Schütze (2004, this volume) would say that this happens once Economy of derivation (“use as few morphemes as possible”) becomes fully operative. I am not so sure that it is a question of economy, but I would agree that Katla must *evaluate* the input. She needs to spot two things, firstly that *DO* is obligatory, not optional, in questions (recall that there still is the occasional *DO*-omission in wh questions at 3;0), and secondly, spot the ‘gap’ in the system, and consequently banish unstressed *DO* from nonemphatic affirmatives. It is not particularly fashionable in generative acquisition theory (with some exceptions, e.g. Valian 1990) to assume that language learners compare the existence or non-existence of a construction in different contexts. Nevertheless, I think Katla needs to evaluate the input to work out the target distribution of auxiliary *DO*, and this takes her several months, a bit longer it seems than for monolingual English children, if the reports in the literature are representative.

It is quite possible that Katla’s bilingual upbringing makes her oversupplied *DO* more drawn-out over time and thus more prominent than in many monolingual children. Recall that from age 2;11 to 3;6, Katla spends most of the day in an Icelandic-only environment, at home with her
mother. Her English input is limited to 4 to 5 hours a day at the nursery on weekdays. Katla may receive a lot of English input, but it is substantially less than what monolingual peers would receive. This arguably prolongs her figuring out the precise distribution of Modern English DO, and for some months she follows a system very similar to Early Modern English instead.

Further research will tell how much individual variation there is concerning the acquisition of auxiliary DO in English child language, and how rare or frequent oversupplied DO actually is, but whatever the result, optional dummy DO is a route children can take and retract from.

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Notes

1 Auxiliary *DO* also occurs in some other, less common, contexts such as VP preposing or topicalisation (e.g. *She said she would buy a dog and [VP buy a dog] she did*), exclamatives (e.g. *Boy, did she look annoyed!* and certain inversion constructions (e.g. *Not only do they rob you, they smash everything too*), cf. Quirk, Greenbaum, Leech and Svartvik (1985: 1383). I will not discuss such cases here as they do not occur in the spoken input to children and the child data I have examined.

2 A capitalized item in an example indicates heavy stress. Bolding does not indicate stress but is used to draw the reader’s attention to a particular feature.

3 Stressing the verb *likes*, as in (6b), results in a grammatical utterance as well. However, (6b) does not affirm the proposition ‘Ina likes dogs’ but instead contrasts the constituent *likes* with another lexical verb in the presuppositional set (e.g. *hates, adores, feeds*). I am concerned with the truth of the proposition ‘Ina likes dogs’ here, and to positively affirm this proposition, *DO* is obligatory as shown in (6a).

4 Nevalainen and Rissanen (1985) searched the prosodically-tagged spoken London-Lund Corpus (educated spoken British English, 450,000 words) and compared it to the written Lancaster-Oslo-Bergen corpus (1 million words). They found auxiliary *DO* in affirmative declaratives to be four times more frequent in the spoken than in written data. 50% of *DO* in affirmative declaratives in spoken English were not contrastive (as judged by the authors). *DOs* used for contrastive polarity were all heavily stressed (100%) and most also raised in pitch (84%). Non-contrastive *DOs* were typically stressed (96%), but rarely raised in pitch.

5 In example (8), marks the onset of a tone unit and capitals the nucleus of a tone unit. Placement of *do* on the second line, in between the onset of the tone unit and the nucleus (*FRIEND*) of the tone unit, may have induced the unstressing of *do*.

6 For instance, Culicover (2008: 34) mentions the following:

(i) *My point … and I do HAVE one.* (Ellen DeGeneres)
(ii) *We do HOPE that you have had a pleasant flight …* (Albatross Airlines)

7 In high registers restricted to particular contexts, such as legal documents and archaic legal and religious formulas, unstressed *DO* can occur non-emphatically in affirmative declaratives, e.g. *I do solemnly declare*. This is a relic of a more widespread use of do-periphrasis in earlier varieties of English. As such uses do not occur in the input to young children, they will be disregarded here.

8 Space limitations prevent me from doing justice to the literature on these varieties. See Ellegård (1953), Weiß (1956), Visser (1969), Stein (1990), Erb (1995), Klemola (1996), Langer (2001) and Schwarz (2004) and the references cited there.

9 In a northern Italian Lombardian dialect, Monnese, *fa ‘do’* is obligatorily used in yes-no and non-subject wh-questions, inverting with the subject (Benincà and Poletto 2004). *Fa*-periphrasis in Monnese is not used for negation or emphasis though.

10 For Laka (1990), sentential negation and emphatic affirmation are in complementary distribution and belong to the same syntactic category, a kind of polarity phrase, ΣP. She proposes that Σ contains an emphatic null morpheme whose only phonological content is stress, as was already suggested by Klima (1964: 257). Rohrbacher (1994: 150) also posits an emphatic or interrogative null morpheme in Σ.
in emphatic affirmatives and questions. For him, such $\Sigma P$ creates a barrier for Infl to lexically govern and assign nominative case to the subject; $DO$ must be inserted as a salvage operation. Schütze (2004: 504–505) also assumes a $\Sigma P$ between VP and IP (or TP in his model) and suggests that $\Sigma$ can host overt expressions of positive polarity like too/so as well as a null morpheme that introduces prosodic emphasis. These intervening items trigger $do$-support, the only $\Sigma$-item that does not is a nonemphatic positive polarity null morpheme, which is picked up by a verb on its way to a higher position (Schütze 2004: 505).

11 In a similar vein, Emonds (1994: 162) proposes that for a given LF, it is most economical to use the derivations with the fewest insertions of free morphemes, in short, to avoid $DO$.

12 Emonds in his later writings (1976, 1994) does not hold this view any more.

13 For a discussion of other proposals of null $do$, see Bohnacker (1999b: 263–266).

14 There is no Agr-projection and no discussion of agreement in Hollebrandse and Roeper’s (1996) model. TP is the first projection dominating VP. Their Tense can thus be equated with Infl.

15 In constructional approaches, some aspects of the meaning of expressions do not reside in a particular overt element, but in the syntactic structure of the expression (e.g. Culicover 2008: 15; cf. Jackendoff 2002). On this view, the lexicon consists of correspondences between conceptual structure, syntactic structure and phonology. Certain form-meaning pairings constitute well-formed correspondences in a particular language, and these must be ordered appropriately, i.e. linearised.

16 Outside nursery hours, Katla received English input from the following sources: visits to and visits by English-speaking friends including myself, books being read aloud, listening to tapes of songs and children’s stories, and watching television.

(i) Context: Katla is hitting Ute and throwing wooden bricks at her, Ute protests.

Katla’s mother admonishes Katla. The dialogue turns into a shouting match.

Ute: no, don’t.
Katla: don’t YOU.
Ute: YOU don’t # don’t hit me, Katla!
Mother: put it down!
Katla: YOU # don’t!
Ute: YOU # don’t!
Mother: má ekkí xxx! (= ‘You mustn’t …!’)
Katla: no, # don’t!

17 An illustration is given in (i). Capitals indicate heavy stress.

18 One might think that don’t and doesn’t are unanalysed negators, and not instances of ‘real’ $DO$. However, Katla employs don’t/doesn’t only as negators of thematic verbs, and never in connection with auxiliaries, modals or copulas. This suggests that don’t/doesn’t are not across-the-board negators, but restricted to clausal negation of thematic verbs in targetlike fashion. For details, see Bohnacker (1999b: Ch. 5). Katla’s subject-agreement with $DO$ is shaky. Whilst she restricts doesn’t to 3SG contexts, she also produces don’t with 3SG subjects, and this continues from 2;4 to
3:6, though nontarget don’t gets progressively rarer with age. For a comparison of Katla’s subject-agreement for DO vs. other verbs, see Bohnacker (1999b: 286–292).

This is the only example (Katla 2;10,15):

(i) Context: Katla and Mother are playing with Ute’s puppets. Mother is the wailing monkey who wants to eat bread. Katla is feeding the monkey cornflakes and telling him off in a bossy English voice.

Mother: ég vil ekki kornflex, ég vil brauð.
(Ice. ‘I don’t want cornflakes, I want bread.’)

Katla: **you DO have cornflakes.**

(Heavy stress on “do”, odd auxiliary choice, target: WILL/ARE going to)

Mother: af hverju á ég að borda kornflex?
(Ice. ‘Why am I to have to eat cornflakes?’)

Katla: **you DO!**

Thornton (2010: 26) notes a similar phenomenon for monolingual Georgia at age 2;3,16 (e.g. Georgia LIKES corn.).

21 Some examples from Katla age 1;11,24: we’re going to bed. vs. you _ going to lie down.; where’s the brush? vs. where _ brush? Some examples from 2;0,00: is she going to bed? vs. you _ going out.

Katla’s slightly higher percentage of nontarget inflection with auxiliary DO than with HAVE and BE echoes similar results from monolingual English child language (e.g. Stromswold 1990: 50–53, 72–73; Rowland and Theakston 2009).

There are no indications that Katla uses anything like do-support in her Icelandic.

The increase in nontarget DO is not a sampling artifact, since the amount of data is roughly comparable for the three periods: Samples 2;10,15–3;0,25 equal 6.6 hours of recording and contain 2,600 child utterances. 3;1,10–3;3,11: 6.1 hours, 3,200 child utterances. 3;4,07–3;6,07: 5.2 hours, 2,200 child utterances.

For instance, DO in West Country English is sometimes claimed to occur only with habitual events (e.g. Ihalainen 1991: 150–158); DO in Cape Flats English is said to mark perfectivity (Mesthrie 1994); DO in Middle and Early Modern English has been said to occur mainly with agentive, transitive verbs (e.g. Denison 1985; Kroch, Myhill and Pintzuk 1982). However, it is controversial whether DO really is restricted to these proposed valency and aspectual types in the varieties in question (for countereguments, see e.g. Erb 1995; Klemola 1996, 1998; Langer 2001).

Katla occasionally uses oversupplied DO + V to refer to ongoing actions instead of progressive auxiliary BE + ing, indicating that aspect marking is not always adultlike. For instance, *it does work* in (23) might correspond to adult *it works* or perhaps rather to *it’s working*. The native speakers I have consulted disagree as to which form is more idiomatic. In (39), *I do fall*, uttered when Katla is letting herself fall on the floor, more likely corresponds to adult *I’m falling* than to *I fall*. Katla’s oversupplied DO can thus occasionally be interpreted as progressive. It is of interest here that 17th century English DO + V also sometimes allowed a progressive reading. Katla’s simplex thematic verbs occasionally also have a durative reading that is not fully targetlike, e.g. *I fall meaning* *I’m falling*. Here, Katla may differ from English-
speaking monolinguals due to influence from her other language, Icelandic, where the simple tenses can denote ongoing events (cf. Bohnacker 1999b: Ch. 3).

27 The remaining 4% (5/129) DO are nonfinite in form, combining with both a finite auxiliary and a nonfinite thematic verb (e.g. what did you do have; I’ll do get your bag; the cat doing watching the cat is).

28 Katla appears not to have figured out the past and present forms of the two verbs break/broke and fall/fell, since she uses them interchangeably even in other constructions. Consider fall and fell for Katla at 3;3,02: you shall walk on your knee and I fell on my bottom; if I walk on your leg, I would fall # fell on my bottom; if I stand on it, I would fall on my bottom, wouldn’t I?; I do fell much.; and this do fall off, didn’t he; and you fall down on your butt!; and I’ll fall on my bottoms if I walk on your toes. Similar confusion about present and past tense of ablauted strong verbs is also reported for monolingual English children (e.g. Stromswold 1990).

29 In a spontaneous production study of 37 monolingual American English five-year-olds with specific language impairment (SLI), Blossom (2009) found that the SLI children did very well on DO for negation but omitted DO from wh questions at much higher rates than their unaffected younger MLU-matched peers. Moreover, the SLI children and the MLU-matched unaffected children omitted DO from YNQ and wh questions more often than unaffected children age-matched with the SLI group. Blossom’s results suggest that DO is mastered first for negation, and that mastery in one category of DO does not necessarily transfer to other categories of DO.

30 Zukowski (1996) also compared Ross’ spare DO with his use of auxiliary DO in questions (Ross 24–40, age 2;83;5). Do-support in yes-no questions and wh questions is probabilistic until 2;9 but then is nearly unerringly present from 2;10. His spare DOs in declaratives emerge at 2;11.

31 In a small-scale elicitation study of three bilingual Norwegian-English children, Jensvoll (2003) finds 70% oversupplied did + V in simple past contexts for one child (Emilie at 3;8), but provides no information on Emilie’s development over time or on her verb forms in non-past contexts.

32 Hollebrandse and Roeper (1996: 268–269) suggest that children, after an initial phase of oversupplied DO (during which there are no simplex thematic verb inflections), switch to a grammar that allows double tensing, e.g. did walked instead of walked, with DO (did) in T plus past tense –ed marking on the verb in V. Double tensing occurs because the “child makes a T-chain visible”. Only as a third stage does the child stop spelling out Tense via DO and reaches the adultlike grammar: past tense marking on the verb in V, and subsequent V-raising to T at LF. However, Hollebrandse and Roeper (1996) can adduce only few examples to substantiate these claims empirically. For Katla, there is no evidence for any such three-stage development (nontarget did walk → nontarget did walked → target walked).

33 In Bohnacker (1999a, 1999b), I represented this as [fast DO + Tense] + V being equivalent to V + Tense. Whether the inflection is Tense or some related finiteness feature (Schütze (2004) suggests indicative mood) does not matter so much here.