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University of Durham
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Icelandic *plus* English:
Language differentiation and functional categories
in a successively bilingual child

Ute Bohnacker

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1998



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Doctor of Philosophy (Ph.D.) in Linguistics

24 AUG 1999

Abstract

Bohnacker, Ute (1998). *Icelandic plus English: Language differentiation and functional categories in a successively bilingual child*. Ph.D. thesis.

Department of Linguistics and English Language, University of Durham, Durham (UK).

This thesis investigates the formal and functional properties of the linguistic knowledge of a young bilingual child 'Katla' who successively acquires Icelandic (L1, from birth) and English (L2, from age 1;3). I present new longitudinal natural speech data which I collected in both Icelandic and English from Katla at regular intervals. Audio-recordings were made roughly three times per month at age 1;0-4;7 and transcribed in adapted CHILDES/CHAT format. Using a generative framework, I analyse Katla's data qualitatively and quantitatively, focusing on her morphology and syntax during the period 1;6-3;6: determiners and word order in nominals, copula constructions, progressive constructions, imperatives, negation, verb placement, verb inflections, auxiliaries, and periphrastic *do*. Katla's development is compared with monolingual English-speaking and Icelandic-speaking children, and, where applicable, with other bilinguals. Particular attention is paid to early grammar differentiation and cross-language influence, and to the relationship between child language and input (construction types and frequencies). The empirical results are evaluated in the light of current theories of language acquisition and generative approaches to syntax. Katla's first multi-word combinations (1;6) show productive use of functional morphology (determiners, copulas). Early on, there is evidence of movement into the DP, IP and CP domains, indicating continuity of these functional categories. Moreover, translational equivalents, language-specific functional morphemes and language-specific word orders in Katla's Icelandic and English bear evidence of early language differentiation in successive child bilingualism. The longitudinal development of morpho-syntax largely progresses along separate lines for Katla's two languages; there is no cross-language influence as regards head parameter and movement parameter settings. Some construction transfer occurs where L1 and L2 linear orders are similar. Ensuing implications for transfer and (de)learnability are addressed.

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Declaration

I certify that all material in this thesis which is not my own work has been identified and that no material is included for which a degree has previously been conferred on me.

Statement of copyright

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Abbreviations

ACC	accusative case
ADJ	adjective
ADV	adverb, adverbial
AGR	agreement
AGRS	verb-subject agreement
ART	article
ASP	aspect
ASSIM	assimilated
AUX	auxiliary
C, C°, Comp	complementiser; consonant
CL	clitic
COP	copula
C/S	code-switch, code-mix, language-mix (in CHILDES transcripts)
CV	consonant vowel sequence
CVC	consonant vowel consonant sequence
D	determiner
DAT	dative
DEF	definite
DET	determiner
FEM	feminine gender
FIN(ITE)	finite
GEN	genitive case
I, I°, Infl	inflection
IMP	imperative
INDECLIN	indeclinable (certain Icelandic nouns)
INDEF	indefinite
INDIC	indicative
INF	infinitive
L1	first language
L1A	first language acquisition
L2	second language
L2A	second language acquisition
LF	lexical form
MASC	masculine gender
ME	Middle English
MIDDLE	middle, mediopassive
M(OD)	modal
N	noun

NEG	negation
NEU	neuter gender
NOM	nominative case
NONNOM	non-nonnominative case (a case marking opposed to nominative found in the singular paradigm of certain Icelandic weak declensions)
NSI	non-subject-initial
NT	non-target
O, OBJ	object
OE	Old English
OI	optional infinitive
OV	object verb (word order)
PASS	passive
PF	phonological form
PL	plural number
PRES	present tense
PAST	past tense
PPP	past participle
REFL(EXIVE)	reflexive pronoun
REL	relative (pronoun)
RI	root infinitive
S	sample; subject (in word order, e.g. SVO); sentence (in pre-GB models)
SC	small clause
SG	singular number
SOV	subject-object-verb (word order)
SPEC	specifier
STEM	stem, root
STR(ONG)	strong (declension, verb)
SUBJ	subject
SUBJ(UNCT)	subjunctive
SVO	subject-verb-object (word order)
/	trace
T	target
T, Tns, Tense	tense
TL	targetlike, target language
UG	universal grammar
V	verb; vowel
V1	verb first (word order)
V2	verb second (word order)
V3	verb third (word order)
VO	verb object (word order)
WK, WEAK	weak (declension, verb)
1	first person
2	second person
3	third person
?	marginal
*	ungrammatical
@	unattested
.	morpheme boundary; gloss separator
-	morpheme boundary followed by discernible morpheme
~	morpheme boundary followed by clitic
/	or, e.g. 1/3.SG.PRES = 1SG and 3SG forms are identical

[!!]	heavily stressed constituent
[ə]	central vowel schwa [ə], and [ɐ]
[ŋ]	velar nasal [ŋ]
[š]	unvoiced palatoalveolar sibilant [ʃ]
[ʒ]	voiced palatoalveolar sibilant [ʒ]
[r]	[r], [ɾ] and [ɹ]
[h]	glottal fricative [h] and aspiration of plosives, as in BrE <i>toast</i> [t ^h] or Ice. <i>liða</i> and <i>pre</i> aspiration of plosives, as in Ice. <i>heitt</i> ([^h t]) or <i>okkur</i> ([^h k])
[ˈ]	stress on the following syllable (in phonetic transcriptions)
[ː]	heavy/contrastive stress on the following syllable
[ʔ]	glottal stop, i.e. [ʔ]
[–]	preceding plosive is unreleased
[:]	long vowel
doubling of symbol, e.g. [mm]: long consonant/gemination	

Chapter 0. Introduction

1. Introduction

In this thesis, I investigate both formal and functional properties of the linguistic knowledge of a young bilingual child 'Katla' who is successively acquiring Icelandic (L1, from birth) and English (L2, from age 1;3) as her two languages. I study her development of morphosyntax between one and four years of age (word order, inflectional affixation, auxiliaries, negation). Katla's naturalistic data are compared with those of monolingual English-speaking peers, monolingual Icelandic children, and, where applicable, with bilinguals with other language combinations. Particular attention is paid to Katla's early grammar differentiation and cross-language influence, and to the relationship between child language and input. The empirical findings are evaluated in the light of current theories of language acquisition and generative approaches to syntax.

Recent advances in generative linguistics have led to a wealth of studies of the syntax of individual languages – now increasingly with a comparative and typological angle – and to new research on language acquisition. Since the 1970s, the number of studies on adult second language and on child first language acquisition has increased exponentially. Longitudinal case studies of young children have been and are being carried out, initially mainly for English (e.g. Brown 1973), but now in a wide and growing variety of languages. Much of the audio- and/or video-recorded data collected has been transcribed and computerised and is thus amenable to quantification. These data are being made available to researchers world-wide, in particular via the Child Language Data Exchange System database (CHILDES, see MacWhinney 1991; MacWhinney and Snow 1985).

It has thus become possible to carry out cross-linguistic comparisons of the syntactic, morphological and phonological properties of child language. It has also become possible to make use of child data to test proposed language learning mechanisms and to test hypotheses about the structural properties of human language which have been developed in linguistic theory.

2. Scarcity of research

Despite the recent interest in language acquisition, generative studies of young children acquiring more than one language at the same time have been relatively few. This is unfortunate, as bilingual language acquisition can be viewed as a natural experiment, the child being a perfectly matched pair (de Houwer 1990:1). Regardless of the language combination, several independent variables are controlled for because the child is the same mental age when talking in either language, and because (s)he draws on the same general cognitive concepts regarding her/his understanding of spatial, temporal and causal phenomena (Tracy 1994/1995:9).

Of young children acquiring more than one language, bilingual children from mixed-language marriages have been investigated most. These children receive input in both languages from birth. Ronjat (1913, French/German) and Leopold (1939-49, English/German) were the first to systematically study such simultaneous bilingualism, or bilingual first language acquisition. They raised their children bilingually and kept a detailed diary of the child's productions. However, as written diaries are highly selective, not reproducible and do not provide a representative record of the input the child receives, they have been largely superseded by audio- and video-recorded data. Examples of recent longitudinal studies of simultaneous childhood bilingualism which investigate morpho-syntactic language properties are the DUFDE project on French/German (see e.g. Meisel 1989 and the articles in Meisel 1990, 1994), the Tübingen project on English/German (e.g. Gawlitzek-Maiwald and Tracy 1996; Tracy 1994/1995), and de Houwer's (1990) case study of Dutch/English, which also includes a useful overview of bilingual first language acquisition studies before 1990.

Research on successive child bilingualism and on early child L2 acquisition, where language exposure takes place consecutively, is still rare. One noteworthy study is Haznedar (1997a), a longitudinal study of child L2 acquisition (L1 Turkish, L2 English from age 4). Haznedar started to collect production data as soon as her child subject became exposed to the L2. She thus 'caught' the child at the initial stage of language acquisition, unlike many other L2 acquisition studies, where data collection commences only after a considerable amount of time has elapsed since first L2 exposure. Many studies of simultaneous childhood bilingualism suffer from a similar methodological drawback: Data collection starts at or after age 2, a point at which most children are already way beyond the onset of speech. Thus the earliest – and perhaps crucial – stages of language production cannot be investigated.

This thesis investigates the language development in successively bilingual Katla. Observation sessions began at age 1;0 at the onset of speech (i.e. first meaningful words), long before Katla began to combine words, and before she was exposed to her second language English. I thus ensured that the initial stages in language acquisition would not be missed. Spontaneous production data was collected in both of Katla's languages until 4;7, transcribed and coded in an adapted CHILDES/CHAT format and analysed both quantitatively and qualitatively.

As a result, this study provides much-needed empirical data on the acquisition of syntax in a bilingual child before age 2;0; moreover, it documents Icelandic/English bilingualism for the first time. This language combination is particularly interesting since the two languages are quite different as regards morphology and syntax, even though they belong to the same Germanic language group (for details see below). And while the language development of English-speaking children is well documented in the literature, a literature readily accessible to researchers, studies of monolingual child Icelandic are very rare indeed. This is perhaps not surprising, since in comparison to English, Icelandic is a minor language, spoken by ca. 270,000 native speakers, plus a few L2 speakers, mostly immigrants to Iceland, and scholars abroad.

Few studies investigate the early acquisition of morphology or syntax in Icelandic longitudinally, though there are a number of cross-sectional studies on older children aged 4-8, from the 1980s and 1990s, investigating the acquisition of derivational morphology, plural and past tense formation, and spatial relations (e.g. Gíslason, Konráðsson and Jóhannesson 1986; Gissurardóttir 1995; Gunnarsdóttir 1996; Marinósdóttir 1983; Marinósdóttir and Sigurðardóttir 1980; Ragnarsdóttir, Simonsen and Plunkett 1997; Sigurjónsdóttir 1986).

In addition, from 1981 to 1983, researchers at the University of Iceland (Háskóli Íslands) and the University College of Education in Reykjavík (Kennaraháskóli Íslands, KHÍ, formerly Teacher Training College) collected longitudinal audio-recorded data from three young Icelandic children from age 2;0 onwards. Most Icelandic child language studies are based on data from these children; however, these studies are not easily accessible to the average researcher outside Iceland, since they are mostly unpublished and written in Icelandic (e.g. Guðmundsdóttir 1988; Ingimarsdóttir 1995; Jónsdóttir 1982; Jónsson 1982; Konráðsson 1982; Pálsdóttir 1983, 1984; Pálsdóttir and Mulford 1982; Sigurjónsdóttir 1987, 1991; A. Svavarsdóttir 1982; S. Svavarsdóttir 1987, 1989). Many are term papers or B.A. dissertations of students at the Icelandic University College of Education/Teacher Training College and the University of Iceland, and only few of them present substantial original research. An exception is Sigurjónsdóttir's commendable M.A. dissertation (1987, published 1991) on subject-verb inversion, a longitudinal study of two children (2;0-3;1/2;0-

3;7) based on quantified data. English-language publications on child Icelandic include Sigurjónsdóttir's (1992) Ph.D. dissertation on the acquisition of binding and long-distance anaphora, and Ragnarsdóttir and Strömqvist's (1997) comparative study of spatial relations in early child Icelandic and Swedish (motion verbs plus particles/prepositional phrases). Other syntactic topics have not been investigated systematically yet for early child Icelandic. However, this situation is about to change, due to several ongoing child language research projects at KHÍ and the University of Iceland.

To my knowledge, child L2 acquisition involving Icelandic has not been studied to date, with the exception of one study that deals with it indirectly. This is Baldursdóttir's (1984) unpublished M.A. dissertation on L1 Icelandic attrition in her son Baldur, who was exposed to English (L2) from age 3;1. Baldursdóttir looked at code-switching and *inappropriate* nominal inflections in tape recordings of Baldur's spontaneous Icelandic at about 4;7 (February 1982) and again in April 1984 (the exact ages remain unclear). However, Baldursdóttir does not report on Baldur's appropriate Icelandic nominal inflections at these two sampling points, on the nature of his L1 Icelandic productions at 3;1, his early English productions (3;1-4;7) or his later English productions. As a consequence, the scope of Baldursdóttir's dissertation, as well as her published (1985) summary, is limited.

Childhood bilingualism involving Icelandic has not been investigated at all to my knowledge, neither for simultaneous nor for successive bilinguals. The present study aims at closing this gap. It thus contributes towards a comprehensive typology of different kinds of language acquisition and of different languages.

Whilst English is one of the most intensively researched languages of the world, Icelandic isn't. Only during the last two decades did studies on the structural properties of Icelandic start to become available to a wider public abroad. Researchers, especially from the Nordic countries, have applied generative approaches to Icelandic, and now we know a good deal more about certain aspects of Icelandic grammar, such as verb placement, agreement and case. Since the early 1990s, it has become fashionable to refer to Icelandic data when debating models of generative syntactic theory, because Icelandic makes use of particular constructions such as 'quirky' case and 'transitive' expletive constructions.

However, at the same time, many other aspects of Icelandic grammar are chronically under-researched, and if there is research, it is often not accessible to the international linguistic community, being in manuscript form and/or published in Icelandic only. When carrying out the research for this thesis, I therefore often had no literature to go on when studying a particular aspect of Icelandic (e.g. analytic verb constructions; positive and negative imperatives; reduction of inflectional endings in connected speech; copula and auxiliary elisions in connected speech). This pertains especially to aspects of the informal

spoken language, important for me since informal spoken Icelandic is what Katla is exposed to. This necessitated an empirical investigation of the speech of Katla's parents in order to establish what the target actually is. As a consequence, the scope of the present study goes far beyond Katla's particular language development: I discuss aspects of (adult) Icelandic syntax that have not been systematically investigated before; I propose formal analyses for them; and I look at the interaction of actual adult input and child productions.

3. The Icelandic language in brief

It may be useful at this point to give a descriptive overview of the Icelandic language, to contrast it with English. I will be very brief here, as the relevant points of Icelandic grammar and usage are discussed in detail in the respective thesis chapters.

Of the Germanic languages spoken today, Icelandic is richest in inflectional morphology, whilst English is known as 'morphologically poor'. Icelandic inflection is a mixture of suffixal morphology and root-internal vowel changes, whereas English inflections are mainly suffixal (with the exception of ablauted strong verbs and a few irregular nouns). In Icelandic on the other hand, ablaut and umlaut are very common throughout the entire verbal, nominal and adjectival inflectional systems. In addition, Icelandic has highly productive vowel harmony – a process not found in any other Indo-European language spoken today (e.g. *Ann-a* Ann-NOM vs. *hjá Önn-u* with Ann-DAT). Icelandic has a large number of noun classes and verb classes, which inflect according to particular paradigms.

Icelandic verbs inflect for tense (present vs. past), mood (indicative vs. subjunctive vs. imperative), voice (active vs. passive/medio-passive/reflexive) as well as subject agreement in person (1, 2, 3) and number (singular vs. plural). As a rule, many of these inflections are agglutinative suffixes, see (1), but some have fused into syncretic and portmanteau morphemes. In English, overt morphology on thematic verbs is restricted to third person present *-s* and past tense inflection, auxiliaries having a somewhat wider range of inflections.

- (1) a. *börnin* *heyr-ð-u* *skot-ið.*
 children.PL.NEU-the.PL.NEU hear.STEM-WEAK.PAST-3PL shot-the.NEU.SG
 'The children heard the shot.'
- b. *það* *heyr-ð-i-st* *vel.*
 it.SG.NEU hear.STEM-WEAK.PAST-3SG-PASS well
 'It was heard well./You heard it well./One could hear it well.'

Icelandic verbs, adjectives and prepositions assign morphological case to their complements. There are four cases: nominative, genitive, dative and accusative. Subjects typically are inflected for nominative case, but certain subjects have so-called quirky case (i.e. non-nominative) instead, most notably dative on experiencer and goal-type subjects.

- (2) *mér* *líkar* *vel* *við* *stúlkuna*.
me-DAT like-3SG.PRES well with girl-NONOM.SG.FEM-the.ACC.SG.FEM
'I like the girl.'

Objects are typically assigned accusative or dative case; genitive objects also occur, but less frequently. A few verbs take 'quirky' nominative objects. Complements of prepositions are assigned accusative, dative or genitive case. It should be noted that the genitive PPs are not 'rare' or restricted to formal registers (as is the case in e.g. German), but readily occur in informal (and child-directed) speech, e.g. *til kennarans* 'to the teacher' (3b).

Icelandic nouns (including many proper nouns), articles, numerals and pronouns inflect for case, number and gender, with overt agreement within the nominal phrase, as illustrated in (3). A typologically less common feature is that in Icelandic, nominative case is marked overtly (cf. *Eirík-ur*, *kennar-i-nn*), and is not just homophonous with the stem.

- (3) a. *Eirík-ur* *er kennar-i-nn* *han-s* *pabb-a*.
Eric-NOM.SG.MASC is teacher-NOM.SG.MASC-the.SG.MASC his-GEN.SG.MASC
daddy-GEN.SG.MASC
'Eric is daddy's teacher.'
- b. *pabbi* *for* *til kennar-a-n-s*.
daddy-NOM.SG went.3SG.PAST to teacher-GEN.SG.MASC-the-GEN.SG.MASC
'Daddy went (to see) to the teacher.'

In English, such overt marking is limited to plural marking on nouns, possessive 's on nominals, and a few case distinctions for personal pronouns. If we can talk about case at all in English, subjects are nominative, but accusative appears as the default (e.g. *Who's coming?*—*Me!*). In Icelandic on the other hand, nominative is the default case (*Who's coming?*—*Ég!* I.NOM 'Me!').

Subjects in English are usually overt; English is non-pro-drop. Icelandic, too, is often described as a non-pro-drop language, since referential subjects are generally overt. However, Icelandic makes use of clause-initial topic drop to a larger extent than English does. Moreover, expletive subjects are obligatorily null clause-medially (though they are overt when clause-initial, as illustrated below, Icelandic verbs, especially impersonals, with a null subject are quite common (Sigurðsson 1989). English must have an overt subject in these cases.

- (4) a. *in June and July *(it) never gets dark.*
 b. **(it) never gets dark in June and July.*
 c. *i júní og júlí verður (*það) aldrei dimmt.*
 in June and July get-3SG.PRES it never dark
 d. **(það) verður aldrei dimmt í júní og júlí.*
- (5) a. *did *(it) rain?*
 b. *rignði *(það)?*
 rain-3SG.PAST it
 'Did it rain?'

In addition to simplex thematic verbs, both English and Icelandic have an overt copula verb 'be', auxiliary verbs 'have' and 'be', modals, as well as analytic verb constructions. These include the perfect, the analytic passive, the progressive, and a range of other finite auxiliary + nonfinite verb constructions. However, the make-up of these analytic verb constructions varies substantially between the two languages. Moreover, only English makes use of auxiliary *do*, Icelandic having no equivalent. It is common in Icelandic to use negation-initial subjectless infinitives as root clauses (e.g. *ekki ger-a svona!* not do-INF so 'Don't do that!'). This is not possible in English.

As regards word order, both Icelandic and English are SVO, though only Icelandic is Verb Second (V2, see below). Both languages have the order complementiser-clause, and the order head-complement for prepositional phrases and verb phrases. In the nominal domain however, English has consistent determiner-NP order (e.g. *a book, the book, my book*), whereas Icelandic doesn't. Definite articles and possessives are postnominal (e.g. *bók-in* book-the 'the book', *bók-in mín* book-the my 'my book'; recall also (3)), and indefinite articles are absent (*bók* 'a book').

In the clausal domain, both Icelandic and English have overt wh-movement to the left in wh-questions, and auxiliary-subject inversion in wh- and yes/no-questions. However, only Icelandic is verb-raising, i.e. all finite verbs, thematic or auxiliary, occur to the left of negation and sentential adverbs, whereas in English, only auxiliaries do so. Thematic verbs (except *have* in certain dialects) do not raise in English:

- (6) a. **I know not what that is.*
 b. *I don't know what that is.*
 c. *ég veit ekki hvað það er.*
 I.NOM know.1.SG.PRES not what that is.3SG.PRES
 'I don't know what that is.'
 d. *ég *ekki veit hvað það er.*

Verb First (V1), where the finite thematic verb is clause-initial, is quite common in Icelandic but not in English. Apart from yes/no-questions, Icelandic V1 clauses occur as imperatives, with a subject clitic following the verb, and as declaratives, so-called ‘narrative inversion’.

- (7) a. *ferð þú heim?* yes/no-question
 go-2SG.PRES you.2SG.NOM home
 ‘Are you going home?/Do you go home?’
- b. *farðu heim!* imperative
 go.STEM/2SG.IMP~you.2SG.CL home
 ‘Go home!’
- c. *fór hún svo heim.* declarative
 go.3SG.PAST she.NOM then home
 ‘Then she went home.’

All finite Icelandic verbs can invert with the subject, not only in interrogatives, but also in imperatives and declaratives. Being a V2 language, at most one constituent can precede the finite verb in Icelandic. This constituent need not be the subject, but can be an adverbial, a prepositional phrase, an object, negation, or a VP (non-subject-initial topicalisation). Thus both SVX and XVS word orders are found, whilst *XSV and *SXV are ungrammatical.

- (8) *ég fer heim núna.* (SVO)
 I.NOM go.1SG.PRES home now
 ‘I’m going home now.’
- (9) a. *núna fer ég heim.*
 now go.1SG.PRES I.NOM home
 ‘Now I’m going home./I’m going home now.’
- b. **núna ég fer heim.*
- (10) a. *þetta vissi ég ekki.*
 this know-1SG.PAST I.NOM not
 ‘This I didn’t know./I didn’t know this.’
- b. **þetta ég vissi ekki.*
- (11) a. *úr afbrýði sló hann Óla, sem sat með Önnu í fanginu.*
 out jealousy hit.3SG.PAST he Óli-NONNOM that sat with Anna-NONNOM
 in hug-the.DAT
 ‘Out of jealousy he hit Óli, who was sitting with Anna in his arms.’
- b. **úr afbrýði hann sló Óla...*

- (12) a. [borða morgunmat] gat hún ekki, ...
 eat-INF breakfast.ACC.SG.MASC could.3SG.PAST she.NOM not
 (af við hún hafði gleymt að kaupa mat í fyrra kvöld.)
 because she had forgotten to buy food in previous evening
 'Have breakfast she couldn't./She couldn't have breakfast (because she had
 forgotten to buy food the previous evening.)'
- b. *borða morgunmat hún gat ekki.

The most common word order in Icelandic is nevertheless SV(X), as is the case for English. English, not being a V2 language, readily allows more than one constituent to precede the finite verb, resulting in V3 orders (XSV, SXV, *XVS). In Icelandic, V3 orders don't occur, except for a small group of modal particles/adverbs (e.g. *bara* 'just', *kannski* 'maybe'), with which XSV and SXV are permitted:

- (13) ég bara veit ekki hvað það er.
 I.NOM just know not what that is
 'I just don't know what that is.'
- (14) kannski Anna veit hvað það er.
 maybe Anna.NOM knows what that is
 'Maybe Anna knows what that is.'

This concludes the contrastive overview of English and Icelandic. For more information on Icelandic phonology, morphology and syntax, I refer the reader to Einarsson (1945). For generative studies of Icelandic syntax, see for instance the articles in Maling and Zaenen (1990), Sigurðsson (1989), and references cited therein, as well as other works cited in the Bibliography. I will now move on to a brief discussion of successive bilingualism and of the issues investigated in this thesis.

4. Objectives

Successive bilingualism takes place when children are exposed to a second language not from birth but later, though well before they have mastered the essentials of their first language. Typically, successive bilingualism arises when a child grows up in a family where the parents (or in single-parent families, the parent) speak only one language to the child, but where the child is exposed to a second language outside the home. This is often the case

for immigrant families or families who go abroad temporarily, where the child attends the local nursery in the new country. In contrast to simultaneous bilinguals, for successive bilinguals there is often a geographical division between L1 and L2. L1 is the language of the home, L2 the language of the day-care centre, the language of local playmates and visitors, and of the community at large. This is also the case for Katla, Icelandic being the home language from birth (L1), and English the language of the community, from 1;3.

Such successive bilingualism is by no means uncommon, but has often been ignored in the acquisition literature. This may be because successive bilingualism in childhood is sometimes not considered 'proper' bilingualism (Romaine 1995:182) or true second language acquisition (McLaughlin 1978/1984). There are very few longitudinal studies of successive bilingualism (e.g. Bergman 1976 for Spanish/English; Haugen 1953 for Norwegian/English; Pavlovitch 1920 for Serbian/French, Rūķe-Draviņa 1967 for Latvian/Swedish; Vihman 1985 for Latvian/English). None of these studies, however, have enough methodological rigour to allow data quantification, and they do not compare their bilingual data to that of monolingual children. Nor do they much investigate the structural properties of child language. Some cross-sectional studies of successive bilinguals exist; these however have been concerned with the effects of the successive exposure to two languages on the child in general, and in particular with the allegedly harmful effects of successive bilingualism, especially amongst immigrant children. Certain Scandinavian and American linguists writing in the 1960s, 1970s and 1980s warn that successive exposure to two languages may confuse children, delay their language development, delay their general cognitive development, and lead to 'semi-lingualism' (i.e. acquiring two languages partly but being proficient in neither), delay in literacy, failure in school and even personality disorders (e.g. Cummins 1979:228; Hansegård 1968:128, 1975; Jaakola 1973). Although there is ample proof that these claims are unsubstantiated and plainly wrong (e.g. Huss 1991, Loman 1974; Romaine 1995: Chapter 6; Tracy 1994/1995), remnants of the idea that successive bilingual exposure may lead to semi-lingualism are found in the popular literature to this day.

Related to this mistaken belief is the fact that successive (and simultaneous) bilingual children sometimes mix their two languages. Many linguists have claimed that bilingual children in fact start out with one undifferentiated language system (*Single System Hypothesis*) and that they arrive at two separate language systems only after an extended period of confusion and random mixing (e.g. Clark 1987; Volterra and Taeschner 1978). Recent research, however, has challenged these assumptions empirically and conceptually, lending support to the *Separate Development Hypothesis* (e.g. Genesee 1989, 1993; de Houwer 1990; Meisel 1989).

In the present study, I investigate the claims of the Single System and Separate Development Hypotheses empirically. Quantified analyses of Katla's early production data show that Katla differentiates English and Icelandic on a lexical, morphological and syntactic level already by age 1;6. Due to the lack of empirical data, it has been virtually impossible so far to demonstrate that bilingual children before age 2 have two different systems as regards morpho-syntax. Katla's case study provides exactly such data. From the start, Katla appears to be aware of the different grammatical representations and rules in her two input languages. Her morpho-syntactic development after age 1;6 confirms these findings. Language mixing is not random, and there is very little language mixing on the whole. However, although Katla's morpho-syntactic development largely progresses along separate lines for Icelandic and English, it is not the case that her two languages develop as two completely self-contained systems (as e.g. predicted by de Houwer (1990:6)). There is a certain amount of cross-language influence and transfer, though not necessarily in areas where we would expect to find it. One of the main goals of this thesis is then not only to document Katla's language separation for the domain of morpho-syntax, but also to document the exact nature of cross-language influence, to explain how and why it comes about – and how Katla eventually gets rid of cross-language influence in her grammars.

As existing research on the acquisition of morpho-syntax in successive bilingualism and child Icelandic is extremely scanty, the empirical investigation in this thesis is very much exploratory in nature. In fact, at the beginning of this research project, I did not know what I would find. For instance, I expected cross-language influence in areas where Katla's two input languages vary substantially, for instance with Noun-Determiner order in Icelandic nominals versus Det-N in English; thematic verb raising past negation in Icelandic but no such movement in English, and V2 in Icelandic but not in English. But I waited in vain for Katla to – even occasionally – transfer the Icelandic word order to her English. No such errors occurred; there was no transfer of L1 head parameter settings or movement parameter settings.

Instead, Katla surprised me by coming up with novel, nontarget constructions that had little to do with parameter transfer and using them for extended periods alongside the corresponding targetlike constructions. Examples of this are Katla's Icelandic-style progressives in her English (Chapter 3) and English-style positive imperatives in her Icelandic (Chapter 4). These constructions appear to have come about not because the L2 is different from the L1, but rather because for certain constructions, L1 and L2 linear order is so similar that it makes transfer compatible with both grammars. This compatibility however also makes it difficult for Katla to expunge the transferred construction from one of her grammars later on.

As will be shown, Katla's development in many other areas matches that of monolingual Icelandic children and monolingual English-speaking peers, respectively, very well. In some areas of morpho-syntax however, Katla has an interim grammar that is not widely reported for monolingual children (though occasionally attested also for them), such as nonemphatic *do*-support in affirmatives and negation-initial imperatives in English. I discuss whether these are the result of Katla's bilingual situation or a simply a sign of individual developmental paths found in children acquiring English.

Cross-language influences aside, Katla's early Icelandic and English productions often differ from the adult target in the same way as the productions of one- to three-year-old monolinguals differ from the adult target. A crucial research question then is not only to what extent children's utterances are different from those of adults, but *why* they are different. Is it 'only' a matter of processing and production difficulties, while the underlying mental representations are adultlike (*Strong Continuity, Full Competence*, e.g. Boser, Lust, Santelmann and Whitman 1992; Demuth 1992, 1994; Gerken 1994; Hyams 1992; Santelmann 1995; Valian 1992)? Or are children's utterances different because the structural properties of their language are fundamentally different, inactive or deficient as compared to those of adults (*Discontinuity, Weak Continuity*, e.g. Aldridge 1989; Clahsen 1990/91; Clahsen, Eisenbeiß and Vainikka 1994; Felix 1992; Lebeaux 1988; Meisel 1994b; Müller 1994a; Powers 1996; Radford 1990a; Tsimpli 1991, 1992; Vainikka 1993/94)? And if child grammars are qualitatively different from adult ones, how does the child arrive at the adult target grammar?

I investigate these issues within a generative syntactic framework (Government and Binding; Principles and Parameters Theory), which minimally contains one functional category each in the nominal domain (Det), in the inflectional domain (Infl), and in the clausal domain (Comp). It is now widely accepted in linguistic theory that these functional categories and their corresponding projections exist in adult grammars. Whether functional categories exist in early child grammars however is a matter of vigorous debate.

It has repeatedly been proposed that child utterances differ from adult ones exactly because children go through a developmental stage during which functional categories are absent (*No Functional Categories*) or deficient (e.g. Clahsen 1990/91; Clahsen, Eisenbeiß and Penke 1994; Clahsen, Eisenbeiß and Vainikka 1994; Radford 1990a, 1990b, 1992, 1994; Vainikka 1993/94; Wexler 1994). Child grammars only become adultlike once the functional categories or abstract features associated with these functional categories (e.g. Tense, Agreement, Definiteness, Number) once these are constructed by the child, or once they mature, a process that is genetically pre-programmed. Other researchers, however, have disputed the validity of these assumptions (e.g. Bohnacker 1997a; Hyams 1992; Santelmann 1995; Weissenborn 1990).

Cross-linguistic and bilingual data may be used to (dis)confirm predictions of the maturation hypothesis. Do functional categories emerge in children that acquire one language at the same age as for children acquiring another language? And do functional categories in a child acquiring two languages emerge at the same age in both languages? Note however that if parallel emergence is found, this does not exclude other, non-maturational, explanations. Katla's successive bilingual data are interesting here. Perhaps surprisingly, in some areas (e.g. determiners), evidence for the instantiation of functional categories is found first in her second language, English, and extremely early at that. In some other areas, Icelandic is first. There is very early evidence of functional elements, namely at age 1;6 (articles, copulas), when the first multi-word combinations occur, and thus before the point (around age 2) where functional categories are assumed to emerge, as hypothesised by the aforementioned linguists. On the other hand, Katla undergoes extremely protracted periods (until or beyond 3;6) during which particular functional elements are omitted and movement to a particular functional projection is optional or rare, in contrast to the adult language. Are these functional categories then not present in Katla's grammar? The empirical findings are discussed in the light of recent proposals in language acquisition theory and generative approaches to syntax.

5. Outline of chapters

In Chapter 1, I give background information on Katla, and discuss aspects of methodology, data collection and transcription.

Chapter 2 investigates early language differentiation. After an extensive literature review, I trace Katla's earliest productions from 1;0 onwards, documenting language differentiation in the lexical domain. The bulk of the chapter deals with morpho-syntactic language differentiation in Katla's earliest multi-word combinations at age 1;6. I focus on determiners and copulas and the emergence of the functional categories DP and IP.

In Chapter 3, I investigate cross-language influence and the acquisition of Infl by looking at Katla's longitudinal development of progressives from 1;6 to 3;6. I also document progressive forms in spoken Icelandic (Katla's parents) and suggest a generative analysis. I review accounts of Aux + *-ing* in adult English and child English and argue for a transfer explanation for Katla's idiosyncratic progressive forms.

Chapter 4 is about imperatives, an under-researched topic in syntactic theory and child language. I evaluate different approaches to the imperative and present my own. Katla goes

through a protracted stage of English-like imperatives in her Icelandic, which I discuss in the light of cross-language effects on the acquisition of imperatives and verb raising.

Chapter 5 concerns negation. After an extensive literature review, I explore Katla's acquisition of verb placement in relation to negation, as regards both auxiliaries and thematic verbs. This has consequences for parameter setting, Icelandic being verb-raising, English non-verb-raising.

In Chapter 6, different aspects of verb inflection and verb placement are brought together under the heading of root infinitives. I stress the influence of both input and context on the occurrence of root infinitives in child grammars. Katla's data suggest that there is no single account for root infinitives, but several.

Chapter 7 looks at auxiliary *do*. After a review of generative approaches to *do*, I investigate Katla's particular developmental path and report on an interim grammar that is similar to that of Early Modern English. I discuss how child language data can be brought to bear on models of syntactic theory.

Chapter 8 summarises and compares various findings and offers a conclusion, followed by the Bibliography and Appendix (containing Figures for each chapter).

Chapter 1.

Method, data collection and transcription

1. Background

The Icelandic-English data on which this thesis is based come from Katla; 'Katla' is a code name. She is the first-born daughter of Icelandic parents, who hold university degrees and were postgraduate students in the UK at the time of the study. Katla's physical and cognitive development was age-consistent. She was healthy, did not suffer from ear infections, and had no hearing, speech or language impairments, according to the family medical doctor and nursery nurses.

Katla's first language was Icelandic, as this had always been the language of the home. From birth (January 1993), she was exposed only to Icelandic and this continued even after relocating to Britain, since she stayed at home with her Icelandic mother.

From age 1;3-1;9 the input situation changed: At 1;3 (spring 1994), 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 and Katla played with their children. Katla watched a limited amount of English children's television and was read to from both English picture books and Icelandic ones. I visited Katla one to three times a week, during which time I spoke only English and gave Katla the impression that I did not understand Icelandic. So while Icelandic input dominated, Katla received substantial exposure to English.

At 1;9 (autumn 1994), 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). 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. At the beginning (1;9-1;10), Katla was shy and quiet, but this soon changed. As regards production, English became the dominant language for Katla from 2;3 to 2;10 (summer and autumn 1995), 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 (Christmas 1995), 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 the UK, 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 (January 1996 to August 1997), 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.

2. Data collection

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, and in a few cases at longer time intervals, due to illness, vacations and recording problems. In this thesis, I concentrate on Katla's 76 samples from 1;0,29 to 3;6,07.

During the month of 1;6,0-1;7,0, when Katla began to produce her first multi-word utterances, observation sessions were extremely dense, with three sessions a week. I did this to obtain as much information as possible on this early stage of Katla's word combinations (see Chapter 2), and I worked on the assumption that the more frequent the sessions, the more likely something interesting would be 'caught'. At this early age, a child is unpredictable as far as willingness to cooperate is concerned. This was certainly so for Katla. Frequently, she was either so much in awe of the recording equipment or disliked it so much that taping became impossible. She often hid or ran out of the room, banged or threw the equipment about, or just sat and stared at the equipment fascinated, and nothing would divert her attention from it. Taping then turned out to be futile, as the only thing recorded were silences, cries or violent noise, along with adults unsuccessfully trying to make Katla talk. In these cases, I had to remove the recording equipment from her sight and took written notes only (observations on what's new, what's common, vocabulary lists, observations on comprehension, and transcriptions of short dialogues between Katla and an adult). These are of little use as regards data quantification and phonology, but provide useful information in combination with the audio data. Katla's dislike of the recording equipment decreased after age 2, and especially once she was able to press buttons and switches – under my supervision – as a treat. A special treat was for Katla to be allowed to stop the recording, rewind and listen to herself; she thought this was simply magic.

At each session, recording would start after an hour or so of 'warm-up' play or other activities. The recordings vary in length from 15 to 130 minutes, depending on Katla's mood. 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, puppets (including naughty Mr Punch), walks, games and 'adventures' out of doors. To allow mobility and minimise intrusiveness, the recording equipment had to be compact and portable and a built-in microphone was used, even though this picked up a certain amount of motor noise alongside speech.

The recordings are often dialogues between Katla and an adult (me for English, or one of the parents for Icelandic); in others, two or three adults are interacting with Katla. A few are recordings of larger groups of people, or of monologues of Katla playing by herself. I was the English-speaking adult in all the conversations with an English-only context, plus in those with a mixed English-Icelandic context, where both the parent(s) and I were present. Collecting data in Icelandic-only contexts was wrought with problems, as is often the case for bilinguals that grow up with L1 being the home language, but L2 being the language of the nursery, visitors and the community at large. Having given Katla the impression that I did not understand Icelandic but only English, I had to stay away for a context to be Icelandic. Katla's parents were most willing to record themselves in interaction with Katla during my absence. Katla, however, was less willing to comply. As mentioned, at first she was so much in awe of the recording equipment that she would simply remain silent. Hidden recording was tried, but did not work for technical reasons. Later on, Katla intimately connected the tape recorder with *me* and told her parents sternly that they were not allowed to use it in my absence because 'it's Ute's!'. Explanations such that Ute couldn't be here now but would love to listen to recordings of Katla and her parents later were to no avail. This was because Katla seemed to regard the tape recorder as a means of instant communication and was annoyed that I would not respond (like on a telephone). For these reasons, collecting data in an Icelandic-only context was quite a problem, and recordings are often rather short. Katla's parents and I finally solved the problem by setting up short Icelandic-only contexts during mixed-context observation sessions. I got Katla engrossed in an activity with her mother and/or father who strictly kept to Icelandic while I slowly withdrew from the conversation. I then moved to another corner of the room, pretending to read, or out of the room, whilst the recording was still running. When Katla enquired after me, Ute was busy and had to work. This strategy was frequently successful. Nevertheless, the length of samples collected in Icelandic contexts, and consequently the amount of Katla's Icelandic production data is smaller than that of her English.

3. Transcription

I transcribed the child and adult utterances in an adapted CHILDES/CHAT-format. Katla's early audio-recorded samples from age 1;6 to 2;2 were transcribed phonetically, in contrast to the samples that I collected when Katla was older, which I transcribed mainly orthographically. I decided on phonetic transcription for the early samples because Katla's pronunciation, as is the case for most children her age, is frequently unclear and heavily simplified with regard to the adult pronunciation. Phonetic simplification processes are universally found in child language, though the extent to which they apply varies from language to language and from one child to another (e.g. Ingram 1989 and references cited therein). For Katla we find that whole words and syllables get omitted; syllable structure is mostly CV, V or CVC; consonant clusters are simplified through elision; unstressed vowels tend to get neutralised (schwa); many consonants change manner of articulation and/or place of articulation and/or voicing, including consonant harmony, etc. Moreover, Katla exhibits great variability in the phonetic rendition of one and the same word, even within one sample. These phonetic simplification processes and variability in rendition apply to content words and functional elements alike. I therefore opted for a phonetic transcription of all of Katla's utterances in her early audio-recorded samples.¹

Most samples were transcribed twice, independently, using different types of transcribing equipment. One transcription was made right after collection, a second version after a considerable time interval. Each version was checked several times against the tape, at different speeds and noise levels. I then compared the two versions of the transcripts and checked them again against the tape.² For further comparison, I had selections of the recordings transcribed orthographically by one of Katla's Icelandic parents, which we then discussed. However, as native speakers they tended to insist that they 'heard' phonemes and morphemes which were in actual fact not audible on the tape. I therefore came to trust my transcription version more. I presented a linguistically trained native Icelandic speaker who did not know Katla with short extracts of the phonetic transcription and asked for her interpretation. In most cases, she agreed with my judgements. I therefore assume that the transcripts are reliable, even though no additional independent transcriber was available.

Phonetic transcription is always enclosed in square brackets. In transcription, IPA conventions have been adhered to as far as possible. However, due to typographical

¹ In contrast, the utterances produced by adults were transcribed orthographically, but inaudible/elided elements were put into brackets, e.g. *isn('t) it?*

² A useful feature here was that during the recording I had occasionally taped my own comments and discussions between Katla's mother and myself about Katla's utterances and her pronunciation. Nevertheless, many utterances had to be classified as unclear; see Chapter 2.

problems, some IPA phonetic symbols had to be denoted by other symbols, such as [ə] for schwa [ə], [ŋ] for the velar nasal [ŋ], [ʔ] for the glottal stop [ʔ] (see Abbreviations).

I originally intended to follow CHILDES/CHAT transcription and coding conventions (MacWhinney 1991) as closely as possible, but have broken with these in several important ways. Firstly, the rule only to use ASCII symbols may work for orthographically transcribed English child language, but it is impracticable for other cases. As mentioned, very early child utterances can much more adequately be denoted phonetically, which necessitates phonetic symbols and diacritics. Of course one could use a string of ASCII symbols instead of a phonetic symbol, but this would make the transcription extremely confusing and unreadable. Secondly, to make the Icelandic child and adult utterances easy to read, I have chosen to include Icelandic letters in the orthographic glosses and in the commentary tiers on morphosyntactic coding, and several of them go beyond the ASCII inventory (e.g. *y*, *þ*, *ð*). To summarise, I opted for orthographic readability for the human reader, at the expense of machine readability.

Many other CHAT transcription conventions I have found most useful. In particular, I adhered to MINICHAT conventions (MacWhinney 1991): Speakers' utterances appear in the so-called main tiers, i.e. lines beginning with *. All utterances end in a full-stop, question mark, exclamation mark or breakoff sign. Secondary tiers begin with %. They contain comments (%com:), or translations of preceding non-English utterances (%eng:). Symbols on the speaker tiers include: # (pause), xx and xxx (unintelligible), +... (breakoff), +, (continuation of earlier utterance), > (overlap), [!!] (heavily stressed constituent). I consistently coded the utterances for contrastive and emphatic stress. (This is particularly important with regard to Chapter 7 and auxiliary *do*.)

As Katla's data are bilingual, I included a tier to indicate the language of the child utterance; %ICE for an Icelandic utterance, %C/S for a code-switched/code-mixed utterance; this was done to enable searches by language. I did not mark English utterances and language-ambiguous utterances by separate tiers.

Following CHAT conventions, unintelligible elements are denoted by xx and xxx. These x's should not be confused with the phonetic symbol [x], a velar fricative, inside phonetic bracketing. Square bracketing is used for two different purposes, firstly, to enclose phonetic material in phonetic transcription, e.g. [ə 'dɔ:g]; secondly, to enclose material that is marked for stress, e.g. *a* [dog!!], in the orthographic transcription. A single question mark ? outside the phonetic bracketing indicates a rising, question-like pitch contour of the utterance, i.e. a question. This ? should not be confused with single or multiple question marks in the commentary tiers (?, ??), which indicate unclarity, nor with the glottal stop, indicated by a small superscript single question mark inside the phonetic bracketing [ʔ].

On the basis of the phonetic transcription of every child utterance, I made an orthographic transcription on a separate tier, and coded for morphology and syntax on additional tiers. Ample situation and contextual commentary was provided on additional tiers.

In many cases in the early samples (20%-30% of the utterances at age 1;6-2;2) it was not possible to attempt to gloss the utterance orthographically. Such utterances were classified as unclear. This is a high percentage, but for a child at 1;6 not at all surprising; indeed, this is often the reason why data collection does not start until age 2 or later, or why early samples are simply discarded. In the majority of cases, however, it was possible to give an orthographic gloss and a morphemic coding of the phonetic transcription. Again, due to Katla's unclear pronunciation and phonetic simplification processes, many of these glossable utterances had to be classified as ambiguous. This was either because an element in the utterance was ambiguous within the language, or because the utterance was ambiguous as to whether it was Icelandic or English, for instance, ['wad 'dY:]? might be Eng. *what _ this/that?* or Ice. *hvað _ það?* 'what (is) that?'. Mixes also occurred and were counted separately.

Nevertheless, in many other cases, it was reasonably clear what the phonetic transcription should correspond to morphemically and orthographically. By 'reasonably clear' I mean that the utterance is in close proximity to the phonetic rendition of adult spoken English or Icelandic, or that the child utterance, assuming plausible phonetic simplification processes, is close to the adult rendition. Furthermore, I always considered the context of the utterance and the adults' reaction to Katla's utterance when deciding on a gloss of her utterance. For illustration, consider the following transcript dialogue.

(1) Excerpted transcript from S19 (Katla 1;6,15)

- %com: K throws down her book
- *UTE: *you're finished already?*
- *KAT: ['mi:na 'mi:na]!
- %ICE
- %com: = *meira, meira.*
- %eng: more-NEU, more-NEU
- %com: K appears to want 'more' book(s)
- *MUM: *meira [hvað!!]?*
- %eng: more-NEU what-NEU
- %com: K doesn't answer
- %com: K points at her little shelf, wants more/other books
- *MUM: *á (ég) ná í?*
- %eng: shall (I) reach.ISG in = shall I get it?
- *DAD: *ná í bók?*
- %eng: reach in book = fetch a book?
- %com: M gets K a special book with animal foils to stick on, a favourite of K's.

After age 2;2, I transcribed Katla's utterances orthographically only, though ambiguous cases are transcribed phonetically. The same holds for all adult utterances. Note the use of

rounded brackets () in these orthographic transcriptions (and in the orthographic glosses of child utterances). Rounded brackets enclose material that was omitted in production (cf. *á* (*ég*) *ná i?* above); it is shown in the transcript to aid readability.

Unclear or ambiguous utterances have not been included in the counts. Nor were obvious stuttering, imitations, chants and repetitions of the same syllable, word or phrase.

Other types of repetition have been included in the counts. Occasionally, Katla produces an utterance identical to the one she has just produced with a pause in between, or with an adult asking *what?*, *sorry?* *huh?* inbetween, as e.g. in (2).

- (2) *KAT: *you did pull it.*
%com: target: you pulled it.
*UTE: *huh?*
*KAT: *you did pull it.*

Katla's repetition in such cases has the function of clarifying, either because her initial utterance was inaudible, unclear or because her conversation partner was not paying attention. I am aware that many researchers discard such repetitions; however, I chose to include them, for the following reasons. Firstly, when Katla repeats an utterance verbatim, this suggests that the utterance isn't a speech error, but generated according to the rules of Katla's grammar. Secondly, in other cases where the adult asks for clarification (*what?*, *sorry?* *huh?*), Katla chooses not to repeat the first utterance verbatim, but rephrases her initial utterance, as e.g. in (3-4)). In both cases, repetition (2) and rephrasing (3-4), Katla is attempting to communicate and be understood. I think that all these utterances should therefore be included in the counts.

- (3) *KAT: *whoop.*
*UTE: *what?*
*KAT: *that do fell off.*
- (4) *KAT: *they live in the farmer.*
%com: farmer = farm-house
*UTE: *huh?*
*KAT: *they do live in the farmer.*
%com: target: they live on the farm.

Having given this background information on data collection and transcription, I now move on to an empirical study of Katla's earliest utterances and the question of whether and when bilingual children differentiate the two input languages.

Chapter 2. Language differentiation at age 1;6: Determiners and copulas

1. Introduction

This chapter deals with language differentiation in bilinguals. After a brief review of the literature, I look at extremely early Icelandic-English production data from Katla between age 1;3 and 1;7. These data shed new light on two questions that much research on child language acquisition has been preoccupied with: the existence of language differentiation in early bilingualism, and the emergence of functional elements and projections in the syntactic representations of children. The *lexical* domain is discussed first, where the fact that Katla produces dual labels, i.e. Icelandic and English translational equivalents, suggests that her lexicon is language-differentiated. Such dual labels challenge the correctness of certain word learning constraints proposed in the psycholinguistic literature (Clark's (1987, 1993) *Principle of Contrast*; Markman's (1989, 1992, 1994) *Mutual Exclusivity*; Volterra and Taeschner 1978).

The larger part of the chapter is devoted to language differentiation in the *functional* domain (morphology, syntax) before age 2, an area which has received little attention in the literature. Katla's very first word combinations at 1;6 are mainly nominals and copula constructions. A quantitative analysis of these data reveals that functional D^o-elements (articles) and I^o-elements (copulas) are productive *and* differentiated with regard to language; for instance, the type of determiners used and the word order in Katla's Icelandic nominals are *different* from those in her English nominals. Katla's data thus provide clear morphosyntactic evidence against two influential hypotheses about child language acquisition, namely the *Single System Hypothesis* (e.g. Deuchar 1996; Taeschner 1983; Volterra and Taeschner 1978) and the *No Functional Categories Hypothesis* (e.g. Clahsen, Eisenbeiß and Vainikka 1994; Meisel 1994b; Radford 1990a, 1990b; Vainikka 1993/94). I will argue that bilingual children separate the lexicon and the grammars of their two languages from the start.

2. Hypotheses about child language: Single System

Over the past two decades, many researchers have investigated whether or not there is evidence for the existence of two separate language systems in the earliest speech of bilingual children. This was largely sparked off by Volterra and Taeschner's (1978) influential study of language mixing by Taeschner's two Italian-German daughters.¹ Volterra and Taeschner (1978) argued that these children between age 1;6 and 1;11 did not have any dual labels, that is, translational equivalents for the same referent. So for example, a child would refer to 'house' not as *casa* (Ital.) and *Haus* (Ger.), but use only *one* of these words, or if the child did use both *casa* and *Haus*, they would be used for different referents. Apparently the children at age 2 to 3 widely mixed languages, that is, they used German and Italian words in the same utterance, and randomly mixed German and Italian utterances in conversation.

On the basis of their Italian-German data, Volterra and Taeschner (1978) argued that bilingual children undergo a three-stage development. (i) They start out with one language-mixed lexicon and no syntax, (ii) then expand this into a language-differentiated lexicon (or 2 lexicons) and one shared, rudimentary syntax, and (iii) only later begin to differentiate the two syntactic systems.

This Single System Hypothesis (also called One System or Unitary System) became a dominant model for bilingual child language acquisition in the late 1970s and throughout the 1980s. Despite mounting criticism due to new case studies and reanalyses of existing data (see below), Single System still has strong supporters today (e.g. Arnberg 1987 for Swedish/English; Clark 1987, 1993; Deuchar 1996 and Deuchar and Quay 1997 for English/Spanish; Fantini 1976, 1978a, 1978b for English/Spanish; Hassinen 1997 for Estonian/Finnish; Markman 1989, 1992, 1994; Murrell 1966 for Swedish/Finnish/English; Redlinger 1979; Redlinger and Park 1980 for German/Spanish; Saunders 1982, 1988 for German/English; Swain 1972, 1977 and Swain and Wesche 1975 for English/Spanish; Taeschner 1983 for Italian/German; Vihman 1982, 1985, 1997 for Estonian/English).

2.1. Single System: One lexicon?

Under the Single System Hypothesis, the child's linguistic system at first (stage I) consists of a single, language-mixed lexicon only (Volterra and Taeschner 1978:312). Dual labels for the same referent, i.e. cross-linguistic synonyms (translational equivalents) are absent. Children randomly use words from one language or the other; they do not choose the

¹ I will use language mixing as a neutral term for utterances that contain elements from both languages, as the literature abounds with a confusing number of – sometimes contradictory – definitions of 'code-switching', 'code-mixing', 'fusion', etc. (cf. Meisel 1989, 1994b; Tracy 1994/1995: Chapter 3).

language according to the interlocutor.² Language mixing occurs, but most utterances are one-word (Volterra and Taeschner 1978:312). This first stage is said to last at least up to 1;6, 1;11 or 2;2. It is impossible to be any more specific than this, as the researchers subscribing to this model are vague about correlations of the proposed stages with ages (or MLUs, etc.), which in turn makes the model harder to falsify.³

Much of the work on Single System suffers from methodological weaknesses, in particular, their data analyses are largely impressionistic. Most data come from diaries, but even those studies that do use transcripts of audio recordings typically provide only examples, but no quantification; for critiques, see Genesee (1989, 1993), de Houwer (1990:30-50), and Meisel (1989). Furthermore, even in the data that Volterra and Taeschner (1978) adduce in support of an undifferentiated, single lexicon, there are in fact several examples of dual labels (cf. Giulia's and Lisa's vocabulary lists at Stage I, Volterra and Taeschner 1978:313-314). Volterra and Taeschner (1978) discount these apparent translation equivalents by stating that they are not truly equivalent, but mean something slightly different; this claim is not backed up empirically, however. Taeschner (1983:24-29) admits that Giulia and Lisa vocabularies at stage I do in fact contain translational equivalents, 18-20% for Giulia, 8-12% for Lisa, but she nevertheless holds fast to the idea of a single lexicon.

The Single System idea of an initial lexicon without dual labels is wide-spread in the child psychology and psycholinguistic literature. For instance, Clark (1987, 1993) has proposed a Principle of Contrast, according to which no two words in a young child's vocabulary can have the same semantic content. Clark proposes that the child assumes that every word has a different meaning, which is supposed to ease the task of word learning. Now bilingual children are far more exposed to synonyms than monolingual children since they hear translational equivalents in their input. The Principle of Contrast predicts, and Clark (1987) states this explicitly, that bilingual toddlers resist learning translational

² This claim may be challenged on the basis of recent speech perception experiments by Peter Jusczyk and collaborators (e.g. Jusczyk 1997). They have found that already by age 0;7, (monolingual) infants perceive prototypical words and word boundaries in a language, and that they place word boundaries *differently* depending on the input language. It may therefore be conjectured that bilingual infants are able to do this too by age 1;6, and differently for their two input languages.

³ In their original article, Volterra and Taeschner (1978:312) cite for the one-lexicon stage 1;11 for Lisa, one of their Italian-German subjects, and 1;6,15 for Giulia. Taeschner (1983:29) in a follow-up publication puts Stage I as extending from 1;7-2;2 for Lisa and 1;2-1;10 for Giulia. Saunders (1982:43) suggests that the stage lasts till age 2;0 for his German-Australian English subjects, Vihman (1982, 1997) 2;0 for her Estonian-English son Raivo. In subsequent research, the end point of stage I has been put earlier and earlier, most recently by Deuchar and Quay (1997:1) 'before 1;6.25', for their Spanish-English subject. Taeschner (1983:29) has Stage I end not at a particular age, but at the vocabulary size of 65-85 words.

equivalents of familiar words. Clark has qualified this prediction in her most recent work. She now argues that there is a qualitative shift dependent on the quantity of vocabulary: bilingual children have one undifferentiated lexicon only as long as they are below the 50-word limit (Clark 1993:98-99). Consider the following quotation.

[...] an early solution chosen by very young bilinguals appears to be to produce a label for a particular category *from only one of their two languages, despite exposure to labels from both*. That is, these children may initially *treat their production lexicon as a single system* in which all the terms contrast. But implicit and explicit rejections of second labels in bilingual settings seem to occur at most for only a few months; it may cease when children have fewer [sic] than 50 words in production (Quay 1993). At that point, they begin to solicit doublets – equivalent terms from their two languages. This shift may coincide with when young bilinguals distinguish one language from the other on phonological grounds. Early on, they may make use of a single sound-system (Vogel 1975) as well as a single lexicon. If they are *assuming they are dealing with one language*, their early rejections and avoidance of apparent synonyms would follow directly from contrast: different forms carry different meanings. These rejections should also emerge earlier than rejections from monolinguals because bilingual children should have a hard time discerning the grounds for a difference in meaning for translation equivalents.
(Clark 1993:98, my emphasis)

Related claims follow from Markman's (1989, 1992, 1994) Mutual Exclusivity Hypothesis, a proposed constraint that helps children to learn words, similar to what the Principle of Contrast is supposed to do. Children avoid two labels for the same concept (mutual exclusivity), and this holds for both monolingual and bilingual children. Markman claims that bilingual children 'start out believing they are learning a single language' and that mutual exclusivity prevents them from acquiring dual labels. She asserts that 'early on (for the first 50-150 words) children acquiring two languages simultaneously tend to learn only one label for a given category even though they are exposed to a label from each language' (Markman 1989:193).

Unlike Clark's revised Principle of Contrast, where there is supposed to be a qualitative shift (small vocabulary – no translational equivalents; vocabulary greater than 50 words – sudden upsurge in translational equivalents), Markman assumes that bilinguals reject dual labels both at small and larger vocabularies, and that especially at the time of the naming explosion (ca. 1;6-2;0), mutual exclusivity is necessary for fast word learning (Markman 1994:202). However, Markman ((1989, 1992, 1994) and Clark (1987, 1993) do not provide any quantified evidence for the existence of an initial one-lexicon stage, nor any empirical data of children actually going from one lexicon to two language-differentiated lexicons. Clark refers to the diary data of Leopold's (1939, 1949) English/German daughter Hildegard, Vihman's (1985) diary data of her Estonian/English son Raivo, Quay's (1993) study of English/Spanish Manuela, and Clark's own unpublished diary data of Dutch/English Caitlin, but no analysis of these data is provided. In fact, when one consults

these diary studies, all of them document dual labels early on, contra Clark and Markman (see e.g. Vihman (1985:299-302)). Also, Gathercole (1987) and Merriman and Bowman (1989:36, 47) studied the same data by Leopold (1939, 1949) that Clark refers to. They found over 30 clear pairs of translational equivalents in Hildegard's English/German, clearly contradicting Clark's claims.

As de Houwer (1990:42) points out, it has not been possible to establish the (quasi-)simultaneous appearance of translational equivalent pairs in bilinguals, since quantifiable, recorded data of very young bilingual children have not been available. Likewise, it has not been possible to empirically test Clark's (1993) claim that bilingual children resist translational equivalents at low vocabularies, but actively search for equivalents at larger vocabularies. New research carried out in the 1990s does allow us to test these Single System claims. Four recent studies on word learning deserve attention here, three of them single case studies, one a cross-sectional study.

Quay (1995) is a detailed discussion of vocabulary acquisition in a simultaneously bilingual Cuban Spanish/British English child, Manuela. It is based on quantified audio- and video-recorded data, collected at monthly intervals from 0;11 to 1;10, i.e. from the onset of speech. At 0;11-1;6, Manuela exclusively produces one-word utterances, and up to 1;10 she predominantly does so. Nevertheless, translational equivalents are attested in each sample, wavering between 36% and 51%. The video-recorded data show that Manuela's Spanish and English translational equivalents are indeed synonyms. This can be ascertained since Manuela's toys and books were kept in the same spot, recorded with a stationary camera on a tripod. Manuela played with the same toys over and over again and used two terms to refer to the same object. The proportion of words with equivalents increases *in tandem* with the gradual increase in vocabulary growth (Quay 1995:376, Fig. I). Quay's (1995) study has admirable methodological rigour and provides strong evidence against Volterra and Taeschner's Single System, Clark's Principle of Contrast and Markman's Mutual Exclusivity.

Lanvers (1997) studies concept learning in a simultaneously bilingual German/British English boy, Louis (monthly tape recordings 1;1-2;11). The first translational equivalent occurs at 1;2, and in parallel with Louis' vocabulary growth, the number of equivalents also increases. Dual labels make 27% of new vocabulary every month. This percentage is higher in some samples, which Lanvers (1997) attributes to changes of the linguistic environment (a stay with German grandparents, etc.). Contrary to what Clark (1993) predicts, there is no qualitative shift for Louis from no dual labels at small vocabularies to dual labels at larger vocabularies (i.e. larger than 50 words, by age 1;6).

McClure (1997) is a study of lexical acquisition by a young Italian/American English boy, from 1;3 (vocabulary <10 words) to 2;0 (vocabulary 296 words). Like Quay (1995) she video-filmed the child playing with the same toys and books again and again in the same

corner of the room. This way McClure could observe whether he used two terms to refer to the same object (McClure 1997:102). She found ample evidence of translational equivalents, a substantial number of which refer to the same object *within the same sample*. The child has 18% dual labels at vocabulary sizes ≤ 50 words (1;3-1;6), rising to 28% dual labels at 100 words, but then the percentage of dual labels plateaus out at 30% for vocabulary sizes of 100-300 words. Again, as with Quay (1995) and Lanvers (1997), this is clear evidence against the claims of Volterra and Taeschner (1978) that bilinguals do not produce dual labels before 1;6 or 1;11, and against the predictions of Markman's and Clark's word-learning theories.

Finally, Pearson, Fernández and Oller (1995) provide cross-sectional evidence for the existence of translational equivalents in the earliest lexicons of bilinguals. They carried out a large-scale investigation of 27 Spanish/American English simultaneously bilingual children at 0;8-2;6, with the help of standardised vocabulary inventory forms, MacArthur CDIs (Communicative Development Inventory).⁴ Pearson, Fernández and Oller (1995) found wide-spread dual labels, 30% both at small vocabularies (2-12 words) as well as at large vocabularies (500 words). Thus, translational equivalents are present at all ages for most bilingual children (contra Volterra and Taeschner 1978, Markman 1989, 1992, 1994, Clark 1987), and contrary to Clark (1993), there is no sharp stage shift in the percentage of translational equivalents at any point.

Taken together, we can conclude that dual labels are in fact amply attested in bilingual children more or less from the onset of speech. Consequently, the first claim of the Single System Hypothesis, namely that there is one lexicon and no translation equivalents, is wrong. In my data from Icelandic-English Katla, dual labels are also attested from early on, as illustrated in Table 2.1. The first phonetically distinct dual label, Icelandic *ba(rn)* [ba:] versus English *baby* ['beibi], occurs at 1;4,04, when Katla's vocabulary is smaller than 20 words. Three further dual labels occur at 1;6,00 (vocabulary < 40 words): *nei* [nei] vs. *no* [nou]; *bless* [bɛ], [bɛs] vs. *bye* [bai] and *bye-bye*; *setja* ['sedda] vs. *put* [pu], [put-]. The number of dual labels increases regularly from there onwards, in tandem with vocabulary growth.

⁴ 18 children were observed longitudinally, at two- to four-month intervals, with 2-10 observations per child; an additional 9 children were observed just once during the same age range (Pearson, Fernández and Oller 1995:350). The parents were asked to check off the words their child produced at each sampling point in an English-language MacArthur CDI (Communicative Development Inventory) as well as in a Spanish CDI, thus making a scientifically useful record of the children's earliest vocabularies. For details and reliability of this procedure, see Pearson, Fernández and Oller (1995:351-353). Translational equivalents were determined for each child through a comparison of the English and Spanish CDIs at each sampling point.

Table 2.1.
Phonetically distinct dual labels in Katla's production, early samples (age 1;0-1;6)

Sample	Age	Total (types)	Icelandic	English
#1-#7	1;0,29-1;3,10	5 words	5 words	none
#8	1;3,26	< 12	ca. 8	3 words
#9	1;4,04	< 20	ca. 12	4 words
			First dual label: <i>ba(rn)</i> [ba:] ~ <i>baby</i> ['beibi]	
#10	1;4,08	< 20		
#11	1;4,16	< 20		
#12	1;5,23	< 40		
#13	1;5,25	< 40		
#14	1;6,00	< 40	More dual labels: <i>nei</i> ~ <i>no</i> <i>b(l)e(ss)</i> ~ <i>bye</i> <i>set(j)a</i> ~ <i>pu(t)</i>	
#15	1;6,06	< 40		
#16	1;6,07		More dual labels: ' <i>bana(ni)</i> ~ <i>ba'nan(a)</i> ⁵ <i>bang(si)</i> ~ <i>teddy</i> <i>skó</i> ~ <i>shoe</i>	
#17	1;6,11			
#18	1;6,14			
#19	1;6,15	>100 vocabulary spurt	Language-specific morphology: Eng. prenominal indef. and def. articles and precursors, Eng. vs Ice. copulas, Eng. expletive <i>it</i> , Ice. infinitive ending, Ice. article suffix precursors. More dual labels, e.g. <i>dúkka</i> ~ <i>doll</i> <i>sítja</i> ~ <i>sít</i> <i>þetta</i> ~ <i>that, this</i> <i>ganga</i> ~ <i>go</i> <i>ná í</i> ~ <i>get-it</i> <i>(h)ann</i> ~ <i>he</i>	
#20	1;6,22			
#21/22	1;6,24	> 200	Language-specific morphology: articles, copulas, Eng. -s plural, Eng. poss. <i>my</i> . More dual labels: <i>ma(ð)ur</i> ~ <i>man</i> <i>peysa</i> ~ <i>jumper</i> <i>bók</i> ~ <i>book</i> <i>ekki(i)</i> ~ <i>not</i> <i>d(r)ingd(r)ing</i> ~ <i>phone</i> <i>uppi</i> ~ <i>up</i> <i>skó</i> ~ <i>shoes</i> (plural) <i>berra</i> ~ <i>car</i> <i>mín</i> ~ <i>my</i>	

⁵ Note the language-differentiated, targetlike stress placement (indicated by apostrophes).

The most recent proponents of Single System are yielding in several ways: the claim that there is a first stage without dual labels is being given up by some (e.g. Hassinen 1997; Vihman 1997). Others are unwilling to be drawn on the exact ages for the stages, or they put them earlier and earlier (e.g. Deuchar and Quay 1997). They do uphold, however, the claim of one unitary system prior to language differentiation, which will be discussed in the following sections.

2.2. Single System: One syntax?

The second claim of the Single System Hypothesis is that bilingual children go through a stage (stage 2) where they have two lexicons (and dual labels for the same referent), but only one syntactic system. While word combinations occur at this stage, language-specific syntactic knowledge (morphosyntax, e.g. inflections and functional elements, language-specific word orders) is absent, as early word combinations cannot be classified as belonging to the syntax of either language A or language B (Deuchar and Quay 1997:1; Swain 1972, 1977; Volterra and Taeschner 1978:312). This rudimentary word-combination mechanism is also termed a 'cross-linguistic universal common pool of relations' (Marilyn Vihman, p.c., 11 April 1997). Researchers are vague as to the specifics of this word combination mechanism. Some, radically, describe it as 'presyntactic' or 'acategorical' (Deuchar and Quay 1997; Meisel 1994b; Vihman 1982, 1997), i.e. word combination is solely ruled by semantic-pragmatic principles, 'before grammatical categories or rules have matured' (Margaret Deuchar, p.c., 12 April 1997). Others state that the word-combination mechanism does consist of syntactic rules, but they are applied to *both* languages, irrespectively (Meisel 1989:21; Redlinger and Park 1980; Volterra and Taeschner 1978:311, 320).⁶ At this two-lexicon stage, bilingual children frequently produce language mixes, and these are allowed because no language-specific syntax constrains them yet. Again, researchers are vague on the age corresponding to this lexicons-only stage, but the majority of researchers ascribing to Single System suggest that syntactic differentiation happens some time after age 2;4.⁷ Volterra and Taeschner (1978) mention 2;2 to 2;5 for

⁶ Volterra and Taeschner further discuss the question of whether these syntactic rules would be those of the two input languages, but discard this possibility: 'At first we are tempted to say that Lisa adopted the adult German syntactic rules and applied them to Italian. But [...] we rather think that, in this period, Lisa [...] uses a consistent syntactic system of her own instead of imitating the adult system' (Volterra and Taeschner 1978:324).

⁷ For instance, Fantini (1978a, 1978b) cites 2;5 and 2;8, respectively, as the end point of the one-rudimentary-syntax stage for his Spanish/English subjects; Hassinen (1997) cites 2;4 and 2;6 for her two Estonian/Finnish subjects; Murrell (1966) 2;8 for Swedish/Finnish/English Sandra; Volterra and Taeschner (1978) 2;9 and 3;3 for their two subjects Giulia and Lisa, respectively. Recently, however, proponents of Single System (Deuchar and Quay 1997:2-3) have put the beginnings of grammatical differentiation forward considerably, to 1;8,24 (for their Spanish/English subject Manuela).

Giulia, and 2;5 to 3;6 for Lisa, but also a conflicting end of this stage for Lisa at age 2;9. The cited age periods are made even more confusing by the fact that the one-lexicon stage is supposed to end at 1;6,15 (Giulia) and 1;11 (Lisa), and it is never made clear what is happening during the intervals.

The children studied are mostly simultaneously bilingual, that is, from mixed-language marriages, where from birth they were getting input in one language from one parent (or caretaker) and in another language from the other parent. Virtually always, the researchers note that the parents said they were adhering to the one person-one language rule and avoided language mixing in the input to their children. Adherence to this formula is supposed to help the child separate the two languages, and according to Genesee (1993:74) was advocated by Maurice Grammont (1902) and Jules Ronjat (1913) for the first time. Yet despite this supposed parental 'help', many studies claim that the bilingual children pervasively mixed languages in their production, and proponents of Single System interpret this to mean that children initially could not separate the languages.

Several criticisms can be levelled against the Single System studies. As was pointed out in Section 2.1., their data analyses are largely impressionistic. Typically, *examples* of language mixing from early ages are given in support of an undifferentiated linguistic system. For later ages, non-mixed, language-specific examples are cited to illustrate the now differentiated grammars. But I have not been able to find any study in favour of Single System which provides quantified longitudinal data that documents initial *random* language mixing *and* lack of mixing later on. In fact, most Single System studies are able to furnish evidence for language mixing only for *one* of their subjects, if at all, but not for the other subjects (e.g. for Lisa, but not Giulia, in Volterra and Taeschner (1978); for Danny, but not for Marc, in Redlinger and Park (1980)), as also observed by Meisel (1989:17-18)). Worse, across-the-board percentages of mixes from *pooled* data from the mixing and non-mixing children are sometimes given as evidence for Single System (e.g. Redlinger and Park 1980:351).⁸

⁸ Redlinger and Park (1980) sort the samples of their four subjects Marcus, Danny, Marc and Henrik (of different ages and different language combinations) according to MLU values and group them into Brown's (1973) five stages. They determine the language mix ratio out of all utterances for each stage. Stage I mixing levels are between 20% and 30% mixing, Stage II levels tend to be between 12% and 20%, Stage III levels between 6% and 12%, and Stages IV and V between 2% and 6%. So what Redlinger and Park (1980) find is simply that with increasing MLU, mixing rates appear to decrease (Redlinger and Park 1980:351). However, this does not prove that the children start out with Single System and only later differentiate two grammars. Notice that the percentage of mixing at one stage does not differ significantly from the percentage at the next stage: For instance, Stages I and II both include 20% mixing, see above. Note also that the ranges have come about by pooling data from four subjects (who in turn widely differ in the individual rates of mixing at the *onset* of observation, e.g. Marcus 30.0% mixing, but Marc 2.6% mixing).

Genesee (1989, 1993:75-79), Meisel (1989) and Romaine (1989, 1995:198-240) re-examined the original evidence for mixing from Murrell (1966), Redlinger and Park (1980), and Volterra and Taeschner (1978) and found that the data are, at best, inconclusive: Frequently, language mixes in the transcripts of the bilingual children occur in mixed-language contexts, where the adult interlocutors switch back and forth (Genesee 1989:172-174). The children are aware that their adult dialogue partners are able to speak and understand *both* languages. Furthermore, a substantial number of studies have found no or little evidence of language mixing in the productions of bilingual children when they were observed in monolingual settings (e.g. Bergman 1976; de Houwer 1990; Lindholm and Padilla 1978; Meisel 1989; Padilla and Liebman 1975; Padilla and Lindholm 1976, Paradis and Genesee 1996, 1997).

Another weak point of the Single System studies is that they did not investigate the *input* the bilingual children received. Recall that the claim of a lexicons-only stage rests on the finding that (some) bilingual children mix languages in apparent disregard of non-mixed parental input. However, these studies did not verify whether there indeed was no mixing in the input. The parents' claim that they stick to the formula 'one person, one language' when talking to their child needs to be rigorously tested. This point was already made by Bergman (1976), but largely went unheeded until Genesee (1989, 1993) and Goodz (1989) brought it back to prominence. Goodz (1989) studied French-English mixed-language marriage bilingual families longitudinally. The parents insisted that they firmly stuck to a 'one parent, one language' policy and would not mix languages when talking to their children. Goodz (1989:32-43) found, however, that the parents did in fact regularly mix languages unawares. She provides quantified evidence that the frequency of child language-mixing is correlated with the frequency of parental language-mixing. This suggests that the reliability of parental reports of language separation in the input is questionable. If it turns out that the adults in mixed-language marriages generally language-mix, as the four pairs of parents in Goodz' (1989) study did, then language-mixing bilingual children are not deviating from their input at all. Consequently, a central part of the rationale for the Single System Hypothesis collapses.

Proponents of Single System have not been able to prove that young bilinguals do not differentiate the grammars of language A and B. However, as de Houwer (1990:4, 49) has pointed out, critics of Single System have hitherto not been able to show conclusively that children *below* age 2 *do* differentiate either.

Often bilingual children with a language combination are studied where the syntaxes of the two target languages do not differ sufficiently. Word orders are identical or so similar in the actual constructions investigated that one cannot argue either way in favour of or against Single System. An exception is Meisel (1989), who studies the production of two

French-German bilingual children, C(aroline) and P(ascal), longitudinally. Word order in the two target languages is different: Whilst both French and German exhibit frequent SVO in main clauses, only German allows V2 with a non-subject in initial position. What Meisel (1989) finds for his bilingual subjects is the following: In addition to a large number of SVO utterances, which are grammatical in both French and German, only German utterances, i.e. utterances with German lexical items, are V2 with a clause-initial non-subject XP (mostly an adverbial, rarely an object).⁹ The children do not produce any such V2 in their French, and as Meisel argues, this word order differentiation is evidence for two separate syntactic systems.

A potential problem with Meisel's (1989) study is that his subjects are quite old: the German-specific V2 word orders occur for the first time at 2;0 for Caroline (who was studied from 1;11,24), and at 2;9 for Pascal, who was studied from 2;7 (Meisel 1989: 26). Proponents of Single System (Deuchar and Quay 1997; Vihman 1997) can and do argue that before the age of 2;0 and 2;7, respectively, bilingual children may well have a single syntactic system. This is a possibility, but of course not an argument that they did have a single syntactic system – we simply do not have any telling empirical data from the onset of speech and from bilingual language combinations that differ enough syntactically to test differentiation.

Bergman (1976) argues for separate language development in her bilingual English/Spanish daughter Mary. She cites correct possessive constructions for both languages in Mary at 1;2-1;6, e.g. Eng. *that's Mommy's*. versus Span. *es de mamá*. (is of mummy 'that's Mommy's.'). Mary also produced nontargetlike mixed constructions, e.g. *es de mamá's*. (is of mummy's), but only at a *later* age, around 2;3.5-2;5. Separation first and mixing later is the opposite of what the Single System Hypothesis would predict, so Bergman's (1976) study may be evidence against it. However, there are two potential problems with her article. Firstly, the data are not quantified, Bergman only provides a few examples. Secondly, if Mary's multi-word utterances containing possessives were already productive 'at about 1;2' (Bergman 1976:86), she must be rather precocious (MLUs and background information are unfortunately not provided). It is not clear then that Mary's early language-specific possessive constructions really were productive at the onset of word combinations.

Another relevant study here is de Houwer (1990), a study of a simultaneously bilingual English-Flemish/Dutch child, Kate. de Houwer argues for grammar differentiation, as in Kate's production data: Dutch morphosyntactic devices mostly occur in utterances with only Dutch lexical items, and English morphosyntactic devices in utterances with only

⁹ Caroline produces 10% non-subject initial V2 at 2;0, 10% compared to 90% SV(O); raw figures are not given. Her next non-subject initial V2 utterances occur at 2;5, again 10%, and then regularly from that age onwards. Pascal's non-subject initial V2s are first documented for 2;9, 15%, according to Figures 2.1. and 2.2. in Meisel (1989:26).

English lexical items (de Houwer 1990: Chapters 6-8). For instance, de Houwer finds word order differences: VO in Kate's English, but OV in Dutch; main verb raising in Dutch but not in English; language-specific constructions such as *do*-support in English but not in Dutch. However, as with Meisel (1989), the relatively advanced subject age is problematic: Kate is studied for 8 months from 2;7-3;4 and is thus too old to tell us anything about grammar differentiation at the onset of word combinations.

In recent years, proponents of the Single System have indeed pushed back the age at which children purportedly go from one unitary rudimentary grammar, if that, onto two language-differentiated systems (e.g. Deuchar 1996, Deuchar and Quay 1997, Hassinen 1997, Vihman 1997). What is needed here is a thorough investigation of data from bilingual children at the very earliest stages, i.e. right when the very first word combinations occur. There are surprisingly few studies based on recorded data from that stage. This is why the present study is important. I believe that Katla's data from 1;6 show that there is clear-cut evidence for syntax differentiation of Icelandic and English from the earliest stages.

Before looking at these data, I want to introduce another hypothesis of child language acquisition, the No Functional Categories Hypothesis, because it ties in with certain claims of Single System.

3. Hypotheses about child language: No Functional Categories

Uncontroversially, the most noticeable difference between the morpho-syntax of adults and that of one- and two-year-olds is that children omit words and inflections that would be obligatory in the target language. Indeed, omissions are known as *the* typical child language 'error,' substitution and addition errors being much, much rarer (Cazden 1973:236; Phillips 1995; Pinker 1984:272; Stromswold 1990; de Villiers and de Villiers 1985). It is however controversial what causes these omissions. It is mostly functional elements, such as verbal tense and agreement inflections, auxiliaries, complementisers, determiners, or nominal case and agreement inflections, that are omitted. This has led to the proposal that functional elements are omitted because the respective functional categories and projections are absent – until they mature or get constructed. This is the No Functional Categories Hypothesis, which was initially proposed for monolingual child language, mainly English and German. Aldridge (1989), Aldridge, Borsley and Clack (1995), Clahsen, Eisenbeiß and Vainikka (1994), Gawlitzek-Maiwald and Tracy (1996), Gawlitzek-Maiwald, Tracy and Fritzenschaft (1992), Guilfoyle and Noonan (1992), Hawayek (1995), Lebeaux (1988), Meisel (1990, 1992, 1994a, 1994b), Müller (1994a), Platzack (1990), Powers (1996), Radford (1990a, 1990b, 1992, 1994), Rohrbacher and Vainikka (1994), Tsimpli (1991, 1992), Vainikka

(1993/94), as well as Vainikka and Young-Scholten (1996a, 1996b) for L2A are some of the main proponents of this theory. They assume that children up to age 2 do not have any functional categories (D(eterminer), I(nflection), T(ense), Agr(eement), C(omplementiser)) in their mental representation of grammar.¹⁰ The precise age at which functional categories are hypothesised to emerge varies; for instance, Radford (1990a, 1990b) assumes $2;0 \pm 20\%$; Clahsen, Eisenbeiß and Vainikka (1994) 2;1; Meisel in his various publications cites 2;3, 2;4, 2;6, 2;7, 2;9 for various children. Common to them all is the assumption that Determiner Phrases, IPs, CPs, etc. are absent, and consequently, determiners, tense and agreement inflections are absent in the children's production. That the absence of functional elements in production indicates absence of the category is a rationale which might of course be questioned (e.g. Hyams 1992; Weissenborn 1990; the articles in Weissenborn, Goodluck and Roeper 1992). Because of the postulated absence of functional categories at first, there is discontinuity in child grammar. This makes it necessary to posit an extra mechanism, age-related maturation of 'lexical learning' for functional projections to emerge. (For discussion see e.g. Atkinson 1992; the articles in Clahsen 1996; the articles in Meisel 1992; Santelmann 1995).

In other models, the difference between early child and adult utterances is nothing to do with absent functional projections; instead children are assumed to have production, processing, or prosodic difficulties (e.g. Demuth 1994; Gerken 1994; Valian 1992; Wijnen, Krikhaar and den Os 1994). Alternatively, under the Full Competence Hypothesis, children are simply assumed to need time to learn the particular lexical elements that go into the functional category slots, which are there, although initially unfilled (e.g., Boser, Lust, Santelmann and Whitman 1992; Hyams 1992; Santelmann 1995; Whitman 1994).

No Functional Categories is a controversial, but a very influential theory. If one applies it to the early productions of bilingual children, as Meisel (1994a) does for two French/German bilinguals (A and Iv(ar)), one might perhaps say that there is just one rudimentary system. Since functional projections are said to be absent until age 2;4-2;6 (Meisel 1994a: 432-433), there are just content words such as nouns and verbs, and perhaps a simple predication relation.

These claims are made most explicit in Meisel (1994b). At least one of Meisel's subjects, Ivar, starts to produce multi-word utterances at age 1;6. Data from other children at that early age are not reported on. On the basis of Ivar's early productions, Meisel (1994b) claims that all three French/German bilingual subjects (Ivar, Caroline and Pascal) have only

¹⁰ Some of the proponents of No Functional Categories explicitly claim (e.g. Hawayek 1995:151-152; Radford 1990a) that children first acquire predicational relations (e.g. *doll sit.*, *here _ doll.*) before they can go on to complementational relations in the functional domain (e.g. D + N). For counterevidence to this claim, see Bottari, Cipriani and Chilosi (1992) for early child Italian and Lleó (1996) for early child Spanish.

one rudimentary protolanguage system before age 2;0 or 2;2. By this he means that they do not have any hierarchical structure in their utterances, that their 'multiword combinations do not exhibit morphosyntactic properties' (1994b:93), that 'their morphological form and their placement are not governed by grammatical principles (1994b:93).

before age 2;0, I find no reasons to assume that the child has access to a grammar which assigns hierarchical syntactic structures to concatenations of predicates and nominal arguments. Only after 2;0 or 2;2 do we have the empirical justification for the claim that grammatical knowledge is indeed available. (Meisel 1994b:95)

Once UG matures after age 2 (Meisel 1994b:94), bilinguals have hierarchical structure in the lexical domain, i.e. the lexical projections NP and VP. This, Meisel claims, happens at 2;0 or 2;4 or later, and functional projections (DP, IP, CP) are still absent.¹¹ Only later, when functional projections gradually come in, is clear differentiation of grammars visible. What this in effect means is that we are back to the claim of the Single System Hypothesis: Bilinguals between up to age 2;4 only have one non-language-specific grammar.

Meisel's claims are problematic in several ways, three of which I mention here. (One might also take issue with the discontinuity of his proposal (no UG principles at first, after 2;0-2;4 adherence to UG), but I will not discuss this here). First, the purported absence of hierarchical structure in early bilingual French/German (1;6-2;2) is not backed up with any quantified empirical data. Meisel (1994b:92-93) only states that Ivar's early multiword utterances are *limited in type*. Many of them are copula constructions (with or without copula verb) where one element, usually a nominal, is predicated of another, e.g. *ça cassé*. (that _ broken), *maman est là*. (mummy is there). Some utterances are discounted because they are 'probably formulaic constructions' (Meisel 1994b:94) or 'probably rote-learned' (1994b:95, 96, 108). Unfortunately, no argumentation is provided on why these might be formulaic. I believe it is in fact only to be expected that types of word combinations in the earliest utterances of children are limited, children having an as yet small vocabulary. The child has to start somewhere when going from one-word to word combinations, so why not with copula constructions, which are frequent in the input? Also, it is well known that the nature of the situational context in which data are collected can influence the type of utterances the child produces. With very young children, the situational context is often that of naming, presenting and describing objects, which is one of the most common contexts for copula constructions to occur in. Unfortunately, Meisel (1994b) does not give any information on the context in which Ivar's early multi-word utterances ('limited in type')

¹¹ This lack of functional structure allows early language mixing, since, according to Meisel (1994b), the grammatical relations, which for him are a prerequisite for structurally defined code-switching constraints (e.g. Di Sciullo, Muysken and Singh's (1986) Government Constraint), have not emerged yet, and until then, mixing is freely allowed.

were produced, so we do not know. But surely, a prevalence of copula constructions cannot be taken as evidence against hierarchical structure or against grammar.

Second, although Meisel (1994b) rejects the existence of grammar and the existence of language-specific grammars in the early productions of bilingual children, he admits that there are language-specific patterns in Ivar's production before age 2. Consider the following observation of his.

in German, for instance, predicates appear consistently in final position, whereas in French, ordering is somewhat more variable. But these approximations to patterns of the target languages can be accounted for in terms of the influence the respective input is likely to exert. (Meisel 1994b:93)

Unfortunately, Meisel does not provide us with examples or quantification, but any language-specific patterning is at odds with his proposed undifferentiated rudimentary protolanguage. Meisel's interpretation of what looks like language-specific patterns is confusing: He explicitly *rejects* the possibility that Ivar is setting the head-parameter to different values in his two languages (head-final VP in German, head-initial VP in French) at this point; instead Meisel claims that the preferred word order is to do with individual variation from child to child, with the input from which 'knowledge about surface order' is 'extracted', and with 'semantic-pragmatic principles' (1994b:93). None of these mechanisms are spelled out, unfortunately.

Finally Meisel (1994b) appears to contradict his earlier findings on the child Caroline (Meisel 1989). Then, he argued for clear language differentiation with regard to word order (non-subject-initial V2 in German but not in French) in Caroline's utterances already at age 2;0. This differentiation is not mentioned in the 1994b article.

Irrespective of whether the particulars of Meisel's analysis (1994b) are correct or not, my point here is that the claims of Single System are alive and well also within current generative language acquisition research amongst supporters of No Functional Categories: Bilingual children from age 1 up to at least 2;0, and perhaps until 2;4 (or longer), have *one* rudimentary grammar only. I will contest this claim on the basis of Katla's early data.

4. The Icelandic-English bilingual data

4.1. The samples

I investigate early morphosyntactic language differentiation on the basis of data from 10 observation sessions during one month (1;6,0-1;7,0), starting with Katla's first word combinations at 1;6,00 (Table 2.2.).

Table 2.2. Information on Katla's early samples

Sample	Date	Age	Length of session	Length of audio-recording
#14	25.07.94	1;6,00	210 min	60 min taped, plus notes
#15	31.07.94	1;6,06	300 min	Taping not tried; notes
#16	01.08.94	1;6,07	120 min	Taping not tried; notes
#17	04.08.94	1;6,11	45 min	Taping impossible, K does not cooperate; hence notes
#18	07.08.94	1;6,14	150 min	Taping not tried; notes
#19	08.08.94	1;6,15	150 min	45 min taped (excluding pauses)
#20	14.08.94	1;6,22	-	K uncooperative; parental report
#21	16.08.94	1;6,24	180 min	Taping not tried; notes
#22	16.08.94	1;6,24	180 min	42 min taped (excluding pauses)
#23	25.08.94	1;7,00	60 min	Taping impossible, K does not cooperate; hence notes

Recall the input situation at 1;6 (Chapter 1): Katla spends most of the day in an Icelandic environment at home with her mother, but has had three months of regular exposure to English (at the crèche, two mornings a week, plus during visits of English-speaking friends). I have been visiting and playing with Katla one to three times a week for 5 months, during which time she has only been exposed to English from me. So while Icelandic input dominates, Katla has had substantial exposure to English. Recall also that during the month of, 1;6,0-1;7,0 are extremely dense, with *three sessions a week*, and not the more customary two to four sessions a month. Katla's willingness to cooperate was unpredictable, though, as becomes clear from the rightmost column in Table 2.2. Consequently, there are 'only' three usable audio-recorded samples, from 1;6,00, 1;6,15 and at 1;6,24. All other samples are detailed written notes, including transcribed short dialogues between Katla and an adult. However, I believe that even to have only these three audio-recorded samples (à 60, 45 and 42 minutes respectively) is relatively good coverage, particularly when compared to other studies. Hardly any bilingual child has been reported on in the literature where quantifiable

audio or video-recorded data exist for age 1;6; instead most studies begin at age 2 or later, and/or are diary studies only.¹²

4.2. Katla's early multi-word utterances

4.2.1. Katla's first two-word combinations

During the first months of observation, Katla does not talk much, as is common with young children her age. In the samples 1;3-1;5,25, she produces relatively few intelligible utterances, and all of those are one-word, i.e. no word combinations occur. Katla's utterances during observation sessions document that Katla's total vocabulary in production is small, below 40 words/types, for Icelandic and English combined (recall Table 2.1.); this is confirmed by her parents' observations.

Katla utters her very first two-word combinations at 1;6,00 (S14). There are initially very few word combinations (less than 1%), whilst one-word utterances and unintelligible utterances dominate. To give an impression of what this means, 87% of all utterances in the 60 min recording at 1;6,00 are produced by adults, only 13% by Katla. Of the child utterances, 60% have to be discounted as probably extralinguistic utterances (such as babbling, and non-language-specific cries to get attention, of the type [ʔæhʔæh]), or as probably linguistic, but too ambiguous to be classifiable (see below). This leaves 40% of the child utterances, virtually all of which are one-word (74/80, or 93%). See Figure 2.3.

Most one-word utterances¹³ are uninteresting from a syntactic perspective, as they consist of Icelandic and English discourse particles such as *no.*, *nei*. 'no', *já*. 'yes', *svona*. 'like this/ this way'; greetings such as *b(l)e(ss)*. 'bye', *bye.* and *byebye.*; proper nouns, *pabbi*. 'daddy', *mamma*. 'mummy', *(U)te.*, and the proper-noun-like *baby.* and *bang(si)*. 'Teddy'.¹⁴ Apart from these, Katla produces – all one-word utterances – the adjective *hei(tt)*. 'hot', the verbs *sitja*. 'sit' (infinitival form), *da(tt)*. 'fallen' (past participle), *búi(ð)*.

¹² Some acquisitionists do carry out quantification on the basis of notes. I believe that for very early child language acquisition, a regularly and carefully kept diary provides valuable insights on the first occurrence of particular forms, on 'curiosities' and on very short-lived constructions. However, to make quantitative statements on the basis of diary notes strikes me as unreliable (contra, e.g. Deuchar 1996; Smoczyńska (class lectures 1997); Vihman 1985, 1997). And in particular, diary data cannot be used to investigate the effects of input, because hardly any input is ever noted.

¹³ The end of each utterance is indicated by a punctuation mark, commonly a full-stop.

¹⁴ As the adults also use *baby* and *bangsi* without an article occasionally, in proper noun fashion, these otherwise singular count nouns should probably not be regarded as constituting obligatory contexts for articles.

'finished' (past participle),¹⁵ and 6 intelligible two-word utterances: *pu(t there.; byebye, Ute!; já, bað.* 'yes bath'; *sit(j)a pabbi.* 'sit daddy'; *pabbi sit(j)a.* 'daddy sit' (twice); *sit(j)a ba(ð).* 'sit/put bath'.¹⁶

Nominals other than proper nouns are virtually non-existent; consequently there are no clear cases of obligatory contexts for determiners. Predications that could be interpreted as copula constructions are non-existent. Thus there are no clear-cut cases in Katla's productions where functors should have been used but were omitted.

I have gone through these early data for the following reasons. I wanted to show that Katla at 1;6,00 really is not advanced in her linguistic productions. She has a small vocabulary, she is producing virtually only one-word/one-morpheme utterances, and as acquisitionists of the various camps agree, one needs longer utterances than that to be able to make claims about the absence or presence of syntactic structure. Such longer utterances do get produced by Katla in the samples in the weeks following (1;6,15, 1;6,24). For these samples I want to argue that language-specific functors are present, and consequently that functional projections and syntax differentiation exist with regard to Icelandic and English. To the extent that my argumentation and evidence is convincing, proponents of No Functional Categories and of Single System might counter 'yes, but Katla is perhaps highly precocious', and 'even if there are some functors at 1;6,24, Katla may well have gone through an earlier stage, say at 1;5, where she combined words but omitted all functors'. This is not the case, so I hope to have warded off such potential criticisms.

The samples following 1;6,00 present much the same picture as the audio-recording, with lots of unclears and one-word utterances, and hardly any two-word utterances. Due to Katla's aforementioned lack of cooperation, taping was not possible and consequently the notes do not allow quantification.

Beginning with 1;6,06, *dedde.* becomes a very frequent and popular one-word utterance. *dedde* 'this', phonetically close to its target, Ice. *þetta* this-SG.NEU, is Katla's only pronominal. It is at first only used alone. Apart from deictic uses in connection with pointing gestures or looks, Katla also uses *dedde.* to indicate that she either does not know or does not want to tell what the indicated object is, thus being facetious. Consider the dialogue in (1), which is representative of many at the time. At 1;6,11 Katla combines *dedde* for the first time with another word in a code-mixed utterance, the copula-less presentational copula structure: *dedde _ car.* (this _ car, i.e. 'This (is a) car.'). This remains an isolated instance.

¹⁵ The one-word utterances *datt* and *búi(ð)* are neuter past participles (also attested as one-word utterances in the input). Katla does not produce any other forms of these verbs however, such as infinitives, so *datt* and *búi(ð)* are probably unanalysed.

¹⁶ The meaning of these *sit(j)a*-utterances is unclear; the adults are confused as to whether Katla wants daddy to sit (down), whether she wants to sit with daddy, sit in the bath herself, set/put something in the bath or whether she wants someone else to sit in the bath.

- (1) Katla at 1;6,11 (S17, from notes)
- %com: Katla shows Mum her various jigsaw pieces
- *MUM: *hva(ð e)r þetta, Katla?*
- %eng: what is this, Katla?
- %com: Mum takes the car and shows it to Katla
- *KAT: *dedde.*
- %ICE
- %com: þetta
- %eng: this
- *MUM: *já, hva(ð) er þetta?*
- %eng: yes what is this?
- %com: Mum shows her the car
- *MUM: *hva(ð e)r þetta, Katla?*
- %eng: what is this, Katla?
- *KAT: *dedde.*
- %ICE
- %com: þetta
- %eng: this
- *MUM: *nei.*
- %eng: no.
- *MUM: *she's doing this on purpose, aren't you, Katla?*
- *UTE: *I know she knows what it is.*
- *UTE: *go on then, what's that, Katla?*
- *KAT: *dedde.*
- %ICE
- %com: þetta
- %eng: this
- *MUM: *hva(ð) segir þetta, Katla, ha?*
- %eng: what say-3SG.PRES this, Katla, hm? = what does it sound like?
- *KAT: *dedde.*
- %ICE
- %com: þetta
- %eng: this
- *UTE: *no.*
- *MUM: *hvað segir það?*
- %eng: what says-3SG.PRES it?
- *KAT: *brrra.*
- %ICE
- %com: 'brra' is the Icelandic onomatopoeic sound that cars make.
- *UTE: *yes.*

4.2.2. Multi-word utterances

1;6,15 (S19) is Katla's second usable audio-recorded sample. In comparison to 1;6,00 (S14), Katla is more talkative, her pronunciation is more intelligible, and she produces more multi-word utterances. This is illustrated in Figures 2.1.-2.3. The recording was made in a mixed context, with both me and Katla's mother present, and for a few moments, Katla's

father. I speak English, the mother speaks Icelandic to Katla, English to me and also some English to Katla, due to the threesome situation. Katla, no wonder, speaks both languages.

Slightly less than half of Katla's utterances in the recording are not usable (unclears, ambiguous), but there remain enough interpretable utterances, mostly one-word but also some multi-word (two words and more). To get an idea of the distribution at 1;6,15: Of 991 utterances altogether, 75% (748/991) are those of adults, only 25% (243/991), are child utterances. 29% (70/243), of the child utterances have to be discarded as they are probably extralinguistic (shouts, cries, babbles, etc.). Another 21% (50/243) are linguistic, but unclear and thus unclassifiable, e.g. Katla's idiosyncratic, perhaps onomatopoeic ['didən] for telephone and other things; chants (with sound sequences repeated over and over again); or the above ['wad 'dʏ:]?, which, due to its extreme phonetic simplification, could be either classified as English or Icelandic, but cannot be glossed with any certainty. This leaves 51% (123/243) interpretable and glossable child utterances. These then form the basis for any morphological or syntactic analysis. 55% (68/123) of these glossable utterances consist of Icelandic items only and thus should be regarded as Icelandic. 24% (30/123) contain English items only and thus are English. 20% (25/123) are in some way ambiguous. Only 2% (3/25) are code-mixes (e.g. *baby sitja*. baby sit-INF). This is a surprisingly low number considering the context, where the adults constantly switch between English and Icelandic utterances, though they do not switch within utterances. The remaining 18% (22/25) ambiguous utterances are utterances that look English, but contain an idiosyncratic neologism by Katla, the status of which is not clear. An example would be [ɪz ə 'bœ:], i.e. *is a bö*. *bö* is neither Icelandic nor English, but a word Katla uses either as an exclamation of disgust, or to refer to certain animals (ants, dogs), both in Icelandic and English contexts. It may thus be a novel English noun, and in that case such utterances should be added to Katla's English score. But it might also be an Icelandic noun, in which case the utterance would be a language-mix. To be on the safe side, I counted them separately.

In the 1;6,15 sample, Katla's interpretable utterance are made up of two thirds one-word, one-morpheme utterances, mainly single demonstratives as the above *dedde* or single nouns (see Figure 2.3.). One third of her utterances are larger than one morpheme or word. I am vague here because I do not want to assume a priori that cliticised copulas are analysed as a separate word. This holds both for her Icelandic and her English productions. The great majority of these multi-word utterances are either nominals on their own (with and without articles), or copula constructions (with or without copula) that contain nominals, e.g. *that's a car.*, *this _ book.*; *dedde _ mjólk*. 'This (is) milk.'. All of these utterances are quantified and investigated in detail in the following sections; here I only want to give an overview of the data. Very few utterances contain thematic verbs (e.g. *de*

teddy sit there!; *ganga bað*. 'go bath'), and the thematic verbs that do occur are very few in type (there is only one English verb, *sit*, and 5 Icelandic verb types).

The samples following 1;6,15 confirm the findings of the audio-recording. Katla's vocabulary, mainly nouns, grows in both languages. But virtually all multi-word utterances continue to be either nominals (with article and noun, or article, adjective and noun) or copula constructions, with or without copula.

The next audio-taped recording is that of 1;6,24 (S22).¹⁷ In comparison to the one ten days earlier, at 1;6,15, the sample size is the same, but now a larger proportion of Katla's utterances is interpretable, and thus usable for quantification (Figures 2.1.-2.3.). The distribution is as follows. 79% (865/1090) are those of adults, whilst only 21% (225/1090) are produced by Katla. Of these, 18% (40/225) are probably extralinguistic, another 13% (30/225) are too unclear to be classifiable. 69% (155/225) of Katla's utterances are interpretable – at 1;6,00 the percentage was 40%, at 1;6,15, 51%.

Like Sample 19, Sample 22 (1;6,24) was recorded in a mixed context with Katla, myself and Katla's parents present, but Katla did not object to being alone with me for short periods. Consequently, there are mixed-language context periods, but also periods during the recording which can be classified as virtually English only. This variation in context is reflected, I believe, in Katla's production. The number of English utterances is higher now for Katla than in the earlier samples: 37% (57/155) Icelandic, 46% (72/155) English, 17% (26/155) ambiguous (4% code-mixes, 13% containing ambiguous neologisms etc.).

Sixty percent of Katla's interpretable utterances are made up of one-word/one morpheme utterances now (S22, 1;6,24). Unlike at 1;6,00, where particles dominated, these one-word utterances are now mainly single nouns, although particles like anaphoric *no*. and *já*. 'yes' continue to be found. Two fifths of Katla's utterances are larger than one word. There are now somewhat more utterances that contain a thematic verb (2 English verb types, 10 Icelandic types), but they are still very few. Again, most multi-word utterances are nominals on their own, or copula constructions that contain nominals.

To summarise, similarly to what Meisel (1994b) reports for bilingual French/German Ivar at 1;6-1;10, and what many studies have found for very early monolingual children, Katla's early multi-word combinations are restricted in type. Virtually all of them are either nominals on their own, or copula constructions that contain nominals (Bohnacker 1997a, Lange and Larsson 1973, and Santelmann 1995 for child Swedish; Bottari, Cipriani and Chilosi 1992 for child Italian; Lleó 1996 for German and Spanish).

¹⁷ Table 2.2. lists two samples for (1;6,24) 16 August 1994. The first one, Sample 21, is an observation session where I baby-sat Katla and took notes. Later in the day, with Katla's parents present, I audio-recorded Sample 22.

It is precisely these very first nominals and copula constructions that we need to look at if we want to say anything about (i) the emergence of functional categories in monolingual and bilingual child language, and (ii) about morpho-syntactic language differentiation in bilingual children. In these first multi-word utterances we find Katla's first functional morphemes in English and Icelandic, namely definite and indefinite articles as well as their precursors, and third person singular copulas. I will argue that they constitute evidence of clear grammar differentiation of the two languages.

Let's now look at Katla's production data. In Section 5, I quantify and analyse her nominals (for determiners) in Samples 19 (1;6,15) and 22 (1;6,24) and compare them to the adult target languages English and Icelandic, as well as to the input. In Section 6, the same is done with Katla's copula constructions.

5. Determiners

5.1. Determiners in the target languages

In adult English, all determiners are prenominal. Singular count nouns must be preceded by an indefinite or definite article *a*, *an*, *the*. Bare singular count nouns are ungrammatical, see (2a, b). Plurals and mass nouns cannot be preceded by an indefinite article, but can take a prenominal definite article.¹⁸

English		Icelandic		
(2)	a. <i>a car</i>	‘a car’	(3)	a. *ART <i>bill</i>
	b. * <i>car</i>			b. <i>bill</i>
				car-NOM
	c. <i>the car</i>	‘the car’		c. *(h)inn <i>bill</i> ¹⁹
				the car
	d. * <i>car-the</i>			d. <i>bill-inn</i>
				car-NOM-the.NOM
				‘the car’

Icelandic is very different from English as far as determiners are concerned. There are *no prenominal articles*. Indefinite singular count nouns cannot be accompanied by an article but must remain bare. An indefinite article does not exist; see (3a, b). However, both

¹⁸ I will not discuss (prenominal) quantifiers, such as *every*, *all*, *some*, *here*.

¹⁹ Older versions of Icelandic did have a prenominal definite article *hinn/hin/hið* 'the.MASC/the.FEM/the.NEU', which was in complementary distribution with the *h*-less postnominal suffixed article *-inn/-in/-ið*. However, today the prenominal article is never used in spoken Icelandic, but is restricted to formal written, elevated registers of Icelandic (Einarsson 1945:48). There is not a single instance of the prenominal Icelandic article in the speech of Katla's parents in any of the samples recorded during the three and a half years of data collection. We can therefore safely treat the Icelandic which serves as input to Katla as not having prenominal articles.

singular count nouns, plurals and mass nouns can be *suffixed* with a *definite* article, as in (3d). All Icelandic determiners, including articles, are inflected for gender, number and case, in accordance with the accompanying noun. These observations on the placement of determiners also hold for nominals that include one or more adjectives.

English and Icelandic singular count nouns, then, behave diametrically opposed to each other as far as obligatoriness and positioning of the article is concerned. Consequently, they make an ideal test case for language differentiation in early bilingualism.

With regard to demonstratives and possessives, Icelandic allows the same word order as English, but has further possibilities. In English, demonstratives modifying a noun must occur in prenominal position, as must possessives, see (4).

In Icelandic, demonstratives modifying a noun are also prenominal. Demonstratives cannot combine with a noun suffixed with the definite article. Possessives can be used prenominally, but only for emphatic contrast, in which case the noun must be bare, i.e. no article suffix, see (5b). Mostly, however, Icelandic possessives are *postnominal* and then follow a noun obligatorily suffixed with the definite article, as in (5d). Demonstratives and possessives overtly agree in case and Φ -features with the noun they modify (or, if they stand alone, with the nominal they refer to).

English		Icelandic	
(4)	a. <i>this car</i> 'this car'	(5)	a. <i>þessi bill</i> 'this car'
	b. <i>[my!!] car</i> 'MY car'		b. <i>[minn!!] bill</i> my car 'MY car'
	c. <i>my car</i> 'my car'		c. <i>*minn bill</i> my car
	d. <i>*car (the) my</i>		d. <i>bill-inn minn</i> car-the my 'my car'

5.2. Katla's nominals at 1;6

5.2.1. Pronouns, proper nouns, common nouns

I grouped Katla's nominals from her glossable utterances at each audio-recorded sample into English, Icelandic, and ambiguous. A nominal was classified as English if Katla's pronunciation was the same or resembled the adult phonetic rendition of an English noun (and potential adjective or pronoun), and if the adult(s) conversing with Katla understood her utterance as English. A nominal was classified as Icelandic if it resembled an Icelandic noun and was understood by the adults as such. A nominal was classified as ambiguous if its language status could not be clearly determined, either (i) because there was a language-mix within the utterance (very few cases), or (ii) because the noun in the nominal was a neologism, like the aforementioned *bö*, e.g. [ɪz ə 'bœ:]. (*is a bö.*); ['dæəz] # ['bœ:]. (*there's bö.*). Such idiosyncratic words are neither English nor Icelandic, but are used by Katla in both English and Icelandic contexts and occur both with and without what could be articles.

Table 2.3. gives a first breakdown of Katla's nominals by language and by nominal type. Katla produces pronominals on their own²⁰ (mainly demonstratives, e.g. *that*; *þessi* 'this/that'), a few proper nouns (e.g. *mamma* 'mummy.'), and many nominals that contain a common noun. The latter are bare nouns (e.g. *jumper.*), nouns modified by an article, by an adjective and article, a negative determiner (e.g. *no man.*), or a possessive determiner (e.g. *my jumper.*). These common nouns will be investigated in detail below.

Table 2.3.
2.3.A. English nominals

	Katla1;6,15, S19	Katla 1;6,24, S22	Adults, S19 + 22
Pronouns	15 = 25%	9 = 10%	495 = 47%
a. demonstratives	12 = 20%	8 = 9%	118 = 11%
b. personal pronouns	3 = 5%	1 = 1%	377 = 36%
Proper nouns	0	0	65 = 6%
Common nouns	46 = 75%	78 = 90%	482 = 46%
a. singular count nouns	46	75	387
b. plural nouns	0	3	68
c. mass nouns	0	0	25
d. noun in idioms	0	0	2
Other	0	0	9 = 1%
Totals	61	87	1051

2.3B. Icelandic nominals

	Katla 1;6,15, S19	Katla 1;6,24, S22	Adults, S19 + 22
Pronouns	29 = 53%	5 = 9%	320 = 50%
a. demonstratives	28 = 51%	4 = 7%	123 = 19%
b. personal pronouns	1 = 2%	1 = 2%	197 = 31%
Proper nouns	4 = 7%	1 = 2%	85 = 13%
Common nouns	21 = 38%	47 = 87%	221 = 34%
a. singular count nouns	18	29	142
b. plural nouns	0	4	42
c. mass nouns	2	14	27
d. noun in idioms	1	0	10
Other	1 = 2%	1 = 2%	17 = 3%
Totals	55	54	643

2.3C. Ambiguous nominals

	Katla 1;6,15, S19	Katla 1;6,24, S22	Adults, S19 + 22
Totals	17	27	25

²⁰ wh-words (*who*, *what*, etc.) and expletives (*it*, *there*, *það* 'it') have not been included in these counts.

Comparison with the adults (third column) shows that Katla uses very few proper nouns (0% in English, 2-7% in Icelandic), fewer than the adults (6% in English, 13% in Icelandic). Katla's proper nouns are all vocatives to attract attention or use as a third person referent, both being entirely targetlike. Occasionally, the adults' proper nouns are so-called Nominal Style, where a proper noun is used for first or second person reference, which is not acceptable in adult-to-adult English or in Icelandic.²¹

Table 2.3. also shows that Katla uses fewer pronouns than the adults, and that she hardly uses any personal pronouns, neither in her English nor in her Icelandic. Only 1%-5% of all her nominals are personal pronouns. See Figures 2.4.-2.5. For the adults, however, every second nominal produced is a personal pronoun (47% for English, 50% for Icelandic).²² The finding that young children do not use many pronouns is not new (e.g. Bloom, Lightbown and Hood (1978), Hyams and Wexler (1993), Radford (1990a, 1990b) for early English;

²¹ Here are some examples by Katla's mother.

- (i) *MUM: *á mamma þessa klukku?*
own.1/3.SG.PRES mum-NOM this watch
'Does **mum** own this watch?/Is it mummy's watch?'
instead of *á ég þessa klukku?* 'Do I own this watch/is it my watch?'
- (ii) *MUM: *ætla Katla (að) sitja?*
intend-2/3SG.PRES Katla (to) sit-INF
'Is **Katla** going to sit down?'
instead of *ætla þú (að) sitja?* 'Are **you** going to sit down?'

Katla does not employ such nontargetlike Nominal Style at all in her early samples at 1;6. Occasional Nominal Style is also found in English input to Katla, though I tried to refrain from using it myself. For a discussion of the issue of Nominal Style in English and Swedish child language, see Bohnacker (1994, 1997a:62, 71-74) vs. Radford (1990a:93-98, 1990b). See also Pizzuto and Caselli (1992), who document Nominal Style in the speech of Italian caregivers to their children, mirrored by Nominal Style in the child productions.

²² The table in (i) provides a breakdown of the adults' nominals sample by sample. Percentages are given for each column, where the column's total equals 100%.

Table i. Adults' nominals

	English S19	English S22	Icelandic S19	Icelandic S22	Ambig. S19	Ambig. S22
Pronouns	190 = 49%	305 = 46%	193 = 51%	127 = 48%		
a. demonstratives	41 = 11%	77 = 12%	83 = 22%	40 = 15%		
b. personal pronouns	149 = 39%	228 = 34%	110 = 29%	87 = 33%		
Proper nouns	29 = 8%	36 = 5%	50 = 13%	35 = 13%		
Common nouns	164 = 43%	318 = 48%	132 = 35%	89 = 34%	6	16
a. SG count nouns	147	240	89	53		
b. PL nouns	11	57	24	18		
c. Mass nouns	5	20	12	15		
d. Nouns in idioms	1	1	7	3		
Other	2	7	6	11		
Totals	385	666	381	262	6	16

Bohnacker (1997a:74-77) for early monolingual child Swedish). However there is a large quantitative difference between different types of pronouns: Katla provides demonstrative pronouns in each sample and each language much more often than personal pronouns, and at 1;6,15, the Icelandic demonstrative *dedde* = þetta 'this/that-NEU' is the most frequent type of nominal (and one she is particularly fond of using when being facetious).

5.2.2. Singular count nouns

Since proper nouns and pronouns are not revealing as regards differentiation between English and Icelandic, let's now focus on Katla's common nouns. As pointed out above in (2) and (3), nominals containing a singular count noun behave very differently in the target languages: English indefinite singular count nouns must be accompanied by a prenominal indefinite article; their Icelandic equivalents must be bare. English definite singular count nouns must have a prenominal definite article, Icelandic ones must have a definite suffix. For Katla we find that singular count nouns occur either bare, or preceded by a syllabic element (a potential article), or followed by a syllabic element within the same intonation contour (a potential article suffix). This is illustrated in the tables below.

The placement of this syllabic element (article precursor) correlates with the language of the noun. The syllabic element cannot be regarded as an extra-syntactic phenomenon (hesitations etc.), as it forms a single intonational unit with the lexical element(s), as we will see presently. Moreover, if the syllabic element were a hesitation, it should be distributed randomly over all syntactic contexts in Katla's utterances, and it isn't. The syllabic element that frequently precedes Katla's English nouns, or that precedes adjective + noun, is either schwa or a consonant plus vowel. I suggest that the syllabic element preceding is in fact a targetlike article, or a precursor to one, as illustrated in (6). Examples are given below in (9-13).

- (6) a. [ə] equals indefinite *a*.
 b. [ðə , zə , də , dɪ , de , le , ə] all equal definite *the*.

Schwa is the adultlike rendition of the indefinite article *a*; [ðə] of the definite article *the*, and the other forms in (6b) are near-targetlike and phonetically highly plausible allomorphs of [ðə], as the consonant is always a dental or alveolar, and the vowel is schwa or the unstressed front vowel [ɛ] or [ɪ]. See Bottari, Cipriani and Chilosi (1992) and Peters and Menn (1993:754) on similar phonetic variability of the article in early monolingual Italian and English child language.

Table 2.4.

Table 2.4A. English: Obligatory contexts for article + singular count nouns

	K 1;6,15 (S19)	K 1;6,24 (S22)
Indefinite article, prenominal, target	14	17
Definite article, prenominal, target	11	13
Precursor schwa for definite article, prenominal	0	4
Prenominal precursor in nontarget context	0	0
Icelandic-style suffixed article, nontarget	0	0
Bare N, indefinite article omitted, nontarget	16	23
Bare N, definite article omitted, nontarget	5	9
Totals	46	66
'Target' article/precursor provision	25/46 = 54%	34/66 = 52%

Table 2.4B. Icelandic: Obligatory contexts for article + singular count nouns

	K 1;6,15 (S19)	K 1;6,24 (S22)
Bare noun, no article, target indefinite	15	25
Suffixed definite article, target	1	1
Precursor definite article suffix	2	2
Suffixed article in non-target context	0	0
English-style prenominal article/precursor, NT	0	0
Bare N, definite article suffix omitted, NT	0	2
Totals	18	30
Target article/precursor provision	18/18 = 100% (where 15/18 bare)	28/30 = 93% (where 25/28 bare)

Table 2.4C. Ambiguous nouns/neologisms

	K 1;6,15 (S19)	K 1;6,24 (S22)
Indefinite article, prenominal	5	9
Definite article/precursor, prenominal	2	0
Suffixed article	0	0
Bare N	8	15
Totals	15	24

As shown in Figures 2.6., 2.7. and Table 2.4A. (top 3 rows), slightly more than half of all of Katla's English singular count nouns are preceded by a syllabic element as in (6), 54% (25/46) in S19 (1;6,15), and 52% (34/66) in S22 (1;6,24).

These figures are probably some percentage points too low, for the following reason. The number of English nontargetlike bare singular count nouns includes bare nouns used as vocatives (e.g. [*doll!!*] # *sit there down!*, two such cases at 1;6,15), which could be

considered targetlike: *doll* here is like a name/proper noun. Furthermore, at 1;6,24, 8/9 bare nouns are instances of the articleless phrase *same ball*. Katla uses this to refer to a stripy ball, and the adults sometimes do so too (*KAT: *same ball*. → *MUM: *same ball*. → *UTE: *that's the same ball as that one, that's right*.). This would alter the figures as follows: at 1;6,15: 3 instead of 5 definite article omissions, consequently 57% (25/44) target article provision. At 1;6,24: 1 instead of 9 definite article omissions, consequently 59% (34/58) target article provision.

Importantly, every single count noun that is preceded by a syllabic element as in (6) is an English noun (Table 2.4A.) or a neologism, which could be an English noun (Table 2.4C.), but no Icelandic nouns ever combine with it (see Table 2.4B.). This distribution is discussed in detail below.

Acquisitionists like Clahsen, Eisenbeiß and Vainikka (1994:99-100, 102, on monolingual German), Koehn (1994, on bilingual German/French), Müller (1994a, on bilingual German/French) and Radford (1990a:83-111, 1990b, on monolingual English) do not accept instances of precursor or targetlike articles in child language before age 2;0 as determiners indicative of DP. They claim that such early forms are imitative or unanalysed chunks, so-called frozen forms, or that they are impostors, i.e. no real determiners.

In our view, the forms *de*, *e*, *ein*, etc. [i.e. the German articles] that occasionally occur in the early utterances, are not lexical realizations of DET, but optional adnominal modifiers which are generated under Spec-NP and occur only if the child wants to convey some additional information, e.g. quantification or deixis.

(Clahsen, Eisenbeiß and Vainikka 1994:102)

Clahsen, Eisenbeiß and Vainikka (1994) do not discuss how they establish that the child 'wants to convey' this 'additional' information. Rather, Clahsen, Eisenbeiß and Vainikka, Koehn, Müller and Radford believe that although there are elements in the child's production which have the same or a very similar phonological shape as their adult counterparts and which occur in the same positions as their adult counterparts, these elements have a different status. The adult-like, functional DET status of these elements comes about only after the respective functional category (DP) has emerged. According to Radford (1990a,1990b) this happens through maturation of DP around age 2;0 ($\pm 20\%$); according to Clahsen, Eisenbeiß and Vainikka (1994), Koehn (1994) and Müller (1994a), DP is constructed once the morphological forms occurring in DET have been learnt, complete with number, gender and case distinctions. Clahsen, Eisenbeiß and Vainikka (1994) suggest DP construction due to lexical learning takes place around 2;1-2;4 for monolingual German Simone, Müller (1994a) suggests 2;11 and 2;8 respectively for bilingual French/German Caroline and Ivar.

In Bohnacker (1997a) I have questioned these claims, and in this chapter I want to question these claims even further, on the basis of Katla's bilingual data at age 1;6. With Bottari, Cipriani and Chilosi (1992:83-84), Lleó (1996), Matos, Miguel, Freitas and Faria (1997), Penner and Weissenborn (1996:178-190) and Pizzuto and Caselli (1992:538-541) I suggest that the positional, structural and functional properties of functional categories are acquired *before* the specific morphophonemic forms in the child's production are targetlike.

In addition to the phonetic congruence of Katla's prenominal syllabic elements in (6) with adult English articles, I suggest that these elements are unlikely to be unanalysed forms, but genuine English determiners, for the following reasons. Firstly, the dental/alveolar plus schwa occurs with count nouns in definite contexts, like a targetlike definite article. Schwa precedes singular count nouns in indefinite contexts, and thus behaves like a targetlike indefinite article, as illustrated in (7-8). (There are also 4 instances of precursor schwa in place of the definite article at 1;6,24, see Table 2.4A.) Mass nouns, proper nouns, and pronouns (personal pronouns, deictics/demonstratives) on the other hand are *never* preceded by such elements, which again is targetlike.

(7) Katla 1,6,15

*KAT: *oh-ah.*

%com: K laughs, singing, jumping about

*MUM: [*hva(ð)!!*] *viltu* [*>segja?*]

%eng: what want~you say-INF = what do you want to say?

%com: K whispers:

*KAT: [*dɔ:g*~].

%com: *dog.*

%com: then K says loud and clearly (in response to M's question):

*KAT: *dog!*

%com: NT indef. art omitted

UTE: [>a dog*].

MUM: [>a dog*].

*UTE: *yeah.*

*KAT: [*ðæd ə brɪdɪ 'dɔ:g*].

%com: = *that a pretty dog*

%com: clear predication construction, pause between 'that' and 'a'; note: no imitation

%com: NT copula omission, but TL Art and Adj

*KAT: [*dY dY "da:!!*]

%com: = xx xx that!

%com: unclear. stress pattern and lengthening on 'that' a-vowel suggests the reading 'look at [that!!], cf. 2-syllable dY dY placeholder for 'look at (that!!)'

*KAT: [*dɛ:z ə 'brɪdɪ "dɔ:g!!*].

%com: = *that's/there's a pretty dog.*

%com: unclear first element ("that" or "there"); overt copula, indef. art, Adj

*MUM: *já, a dog.*

- (11) a. [ˈfauə]. _ flower. (all at 1;6,15)
 b. [its ə ˈfɪwauə]. it's **a** flower.
 c. [ba:] # [dɛd iz ðə ˈfɪwauə]. baa # *that is **the** flower.*
- (12) a. [ðɪz] # [ˈbuk]. *this* _ book. ‘This is a book.’ (all at 1;6,24)
 b. [dɪz ɪz də ˈbuk]. *this is **the** book.*
 c. [zə ˈbuk]? ***the** book?*

When an adjective precedes the noun, the article never occurs between adjective and noun, but is either absent or precedes the adjective in a targetlike manner; consider the following examples (@ stands for unattested).

- (13) a. [dɛ:z ə 'brɪdɪ 'dɔ:g]. *there's a pretty dog.* (all at 1;6,15)
 b. [ɪts ə] # ['bɪ:g] # [dɔ:g]. *it's a big dog.*
 cf. c. attested: *it's a dog.*
 a dog.
 cf. d. not attested: @**pretty a dog.*
 @**big a dog.*

Also, when a possessor precedes the noun, the syllabic prenominal element, viz. article, never shows up. (Katla produces her first possessives at 1;6,24. Note that [mI] *me* is the targetlike colloquial British English possessive.)

- (14) a. [mi 'dʌmbə]. *me (=my) jumper.* (Katla 1;6,24)
 cf. b. attested: *a jumper.*
 cf. c. not attested: @**me the jumper.*
 @**me a jumper.*

And finally, when a determiner-like *no* precedes a singular count noun, the prenominal syllabic element/article never shows up. Again this indicates [D+N] is not a frozen form.

- (15) a. [nou 'mæ:n]. *no man.* (all at 1;6,24)
 b. [nou 'dɛdɪ]. *no teddy.*
 cf. c. attested: *not a man.*
 *and that is **the** teddy.*
 cf. d. not attested: @**no a man.*
 @**no the man.*

From the above distribution facts we can conclude that Katla has separate entries for the noun and the determiners in her lexicon, even though her morphophonological realisations are not always quite targetlike. She is appropriately assigning a complex structure to the nominals that feature overt determiners.

At the same time, nontarget bare singular count nouns are frequent in Katla's English: at 1;6,15 (S19), 46% (21/46) are bare, at 1;6,24 (S22) 48% (32/66).²³ But the same nouns also occur with overt articles in the same sample, for examples, see (9-13). *Optionality* with regard to determiners is typical of early monolingual child English and other early child languages (cf. Bloom (1973); Bloom, Lightbown and Hood (1975); Bohnacker (1994, 1997a); Bottari, Cipriani and Chilosi (1992); Brown (1973); Clahsen, Eisenbeiß and Vainikka (1994); Demuth (1992); Lleó (1996, 1997); Marinis (1998); Müller (1994a); Paradis and Genesee (1997); Penner and Weissenborn (1996); Pizzuto and Caselli (1992); Radford (1990a, 1990b)).

As regards 'nontarget' bare singular count nouns in Katla's production (Table 2.4.), it is illuminating to take a look at Katla's input (Table 2.5.). Note that the adults also produce bare singular count nouns in substantial numbers, though less frequently than Katla; compare the white columns with dotted borders in Figure 2.6. (percentages) and Figure 2.7. (raw figures). The adults omit on average 14% of 'obligatory' determiners in their English, 13% indefinite articles, 1% definite articles. Some examples are given in (16-17).

Table 2.5.

Table 2.5A. English: Adults' singular count nouns

	S19	S22	S19 + S22	
Indefinite article, prenominal, target	53	72	125	= 41%
Definite article, prenominal, target	56	83	139	= 45%
Precursor for def. article, prenominal	0	0	0	
Prenominal precursor in NT context	0	0	0	
Icelandic-style suffixed article, NT	0	0	0	
Bare N, indefinite article omitted, NT	19	20	39	= 13%
Bare N, definite article omitted, NT	3	0	3	= 1%
Totals	131	175	306	
Target article provision	109/131 = 83%	155/175 = 89%	264/306 = 86%	

²³ Recall that the figures for *nontarget* bare nouns are most likely inflated.

Table 2.5B. Icelandic: Adults' singular count nouns

	S19	S22	S19 + S22	
Bare noun, target indefinite	22	40	62	= 39%
Suffixed definite article, target	54	25	79	= 49%
Precursor/Partial def. article suffix	5	5	10	= 6%
Suffixed article in NT context	0	0	0	
English-style prenominal article, NT	0	0	0	
Bare N, def. article suffix omitted, NT	6	3	9	= 6%
Totals	87	73	160	
Target article provision	59/65 = 91%	30/33 = 91%	89/98 = 91%	

Table 2.5B. Adults' Ambiguous nouns

	S19	S22	S19 + S22
Indefinite article, prenominal	3	2	5
Def. article/precursor, prenominal	0	0	0
Suffixed article	0	0	0
Bare N	3	14	17
Totals	6	16	22

- (16) a. %com: Mum shows K a picture of an elephant, teaches her the word
 *MUM: *elephant*.
 %com: note bare N in input
- b. %com: U and K read a book about a boy having his bath.
 *UTE: *hoo!*
 %com: a crocodile appears on the next page, U frightened:
 *UTE: *crocodile!*
 %com: note bare N in input
- c. *KAT: [də 'dɛli].
 %com: *the telly*.
 *UTE: *telly, yes, that's a telly*.
 %com: note bare N in input
- d. *KAT: [ə 'baɪk - 'ga:].
 %com: = *a bike [car!!]*.
 %com: K seems to change her mind from bike to car.
 *MUM: *car?*
 %com: M is surprised, note bare N in input
 *UTE: *uhm*.
 *MUM: *she's driving a car*.

- (17) *who's here?* a. → *little piglet*.
 b. → *teddy*.

Similar 'nontarget' bare nouns have been noted in the speech of English-speaking parents of monolingual children (Bohnacker (1994, 1997a:61-62)). Bare singular count nouns are mainly used when teaching the child a new noun, or citing a noun on its own (16a, b, c), or when echo-questioning (16d). The indefinite bare nouns are overwhelmingly nominals on their own, not part of a clause or larger phrase, i.e. they are referents, but not necessarily arguments. Definite bare nouns are typically nouns used instead of a proper noun, e.g. *doll/Doll; baby/Baby*, as in (17). This description of when English-speaking caretakers use 'nontarget' bare nouns fits very well with the bare nouns produced by the adult controls in Katla's samples. The article omissions have nothing to do with the fact that Katla's parents are non-native speakers of English who might have transferred lack of indefinite articles in their native Icelandic to their L2 English. Also, such an explanation could not possibly hold for the bulk of the adult English utterances, which were produced by the investigator (*UTE, i.e. myself), and neither my native German nor English usually allows bare singular count nouns.

As articleless singular count nouns appear to be allowed in the input under the above-mentioned circumstances, the criterion for what constitutes obligatory contexts for overt articles should perhaps be relaxed for Katla, in which case the percentage of targetlike overtly determinate nominals would increase.

But even if one does not do so and instead holds to the most unfavourable counts (Table 2.4., Figure 2.6.), 54% and 52% of Katla's English singular count nouns occur targetlike with overt articles, both definite and indefinite, productively in her earliest samples. These figures strongly suggest that Katla has the definite-indefinite distinction and has grasped the essentials of adult English nominal structure, where determiners are prenominal, as illustrated in (18a).

(18) a. Det (Adj) N

b. [_{DP} SPEC [_{D'} D NP]]

The acquisition of the abstract function 'determiner' does not appear to be dependent on the acquisition of the full set of its adultlike morphophonological variants, nor on obligatory provision, but precedes it. Katla's nominals are compatible with the assumption that her English grammar realises the DP-system, as in (18b), but they remain unexplained under any account that assumes no functional categories, specifically no DP. I therefore suggest that the No Functional Categories Hypothesis should be rejected.

Let's now look at Katla's Icelandic nominals. Recall from Table 2.4B. that not a single Icelandic noun is preceded by an (English-style) article or precursor. Nominals as in the a.

examples in (19-26) are unattested, but the corresponding targetlike indefinite nominals without a prenominal article are frequent in Katla's productions (b. and c. in (19-26)).

- (19) a. @**a dúkka*.
 cf. b. attested: ['dohga].
 dúkka.
 '(A) doll.' (Katla 1;6,15)

cf. c. attested: ['da^ht^hə].
 dúkka.
 '(A) doll.' (Katla 1;6,15)

- (20) a. @**a(n) eyra*.
 cf. b. attested: ['dɛdɛ] # _ ['eija].
 petta # _ *eyra*.
 'This (is)(an) ear.' (Katla 1;6,15)

- (21) a. @**a bók*.
 cf. b. attested: [nauɪ 'boug].
 ná í _ *bók*.
 'Fetch (a) book.' (Katla 1;6,11)
 cf. c. attested: [bo:].
 bók.
 '(A) book.' (Katla 1;6,15)

- (22) a. @**a bangsi*.
 cf. b. attested: ['dɛda] *bangsi*.
 petta _ *bangsi*.
 'This (is) (a) teddy.' (Katla 1;6,22)

- (23) a. @**a stelpa*.
 cf. b. attested: ['dɛda] ['dɛlba].
 petta _ *stelpa*.
 'This (is) (a) girl.' (Katla 1;6,22)

- (24) a. @**a maður*.
 cf. b. attested: *who's this?* > ['meijə].
 maður.
 '(A) man.' (Katla 1;6,24)

- (25) a. @**a peysa*.
 cf. b. attested: ['peiša].
 peysa.
 '(A) jumper.' (Katla 1;6,24)

- (26) a. @**a/an úlpa*.
 cf. b. attested: *ná i _ úlpu!*
 reach.INF/IMP in coat-NONNOM.SG.FEM
 'Fetch (a) coat!' (Katla 1;6,24)

The fact that all (100%) of Katla's indefinite Icelandic singular count nouns occur targetlike without an article suggests that she has grasped an essential fact about Icelandic: there is no overt indefinite article, or, in generative terms, the prenominal D-head remains empty.

Now compare this to Katla's indefinite English singular count nouns: Even according to the most unfavourable counting criteria, 47% (14/30) at 1;6,15 of these English nouns are preceded with the target indefinite article, and 43% (17/40) at 1;6,24. No Icelandic nouns are preceded by an article, and there are sufficiently many count nouns (18 and 30 in the two respective recordings) to rule out a sampling error. This qualitative difference strongly suggests that Katla differentiates the syntaxes of the two languages in the nominal domain already at 1;6.

Furthermore, 69% (11/16 at 1;6,15) of Katla's English definite singular count nouns are preceded with the target definite article or a precursor, and 65% (17/26) at 1;6,24. Unfortunately, in Katla's Icelandic, obligatory contexts for definite singular count nouns are relatively few. Many of her nominals occur in naming contexts, where an indefinite is called for, and indefiniteness is expressed via a bare noun in Icelandic (e.g. *hver er þetta?* 'Who's this?' → *maður*. man 'A man.'). In a few cases, as Table 2.4B. shows, Katla produces nouns suffixed targetlike with a definite article or precursor (100%, or 3/3, at 1;6,15, and 60%, or 3/5, at 1;6,24), illustrated below. It is important to note that Katla never produces any Icelandic noun preceded by an English-style prenominal definite article. This strongly points to syntactic language differentiation.

The precise structure of Icelandic nominals is far from settled in the generative syntactic literature. Most models assume that Icelandic has a head-initial DP, whose head D remains empty for indefinites (cf. Delsing 1993; Sigurðsson 1993). For definites, the head D is filled, and the noun raises to D for the definite article suffix to join with the noun, as illustrated in (27).

- (27) [_{DP} SPEC [_{D'} [_D N_i+D] [_{NP} t_i]]]

Here I do not want to make any conjectures about whether Katla has adultlike N-raising to D in Icelandic for the suffixed definite article cases, as illustrated in (28).

(28) a. [ə 'ðedə 'bi:ʔi]? (Katla 1;6,15)
er þetta bý-i(ð)?
 is thisbee-the.NEU
 'Is this the bee?'
 Targetlike article.

b. ['do:gu:di]. (Katla 1;6,15)
dúkk-u-mi.
 doll-NONNOM.SG.FEM-the.DAT.SG.FEM
 'The doll.' (is sitting there)
 Nontarget case, perhaps unanalysed article.
 Target: *dúkk-a-n.* (doll-NOM.SG.FEM-the.NOM.SG.FEM)

c. ['lei:ə] sokk. (Katla 1;6,24)
laga sokk.
 fix-INF/IMP sock.STEM/ACC
 'Fix the sock'.
 Nontarget bare N.
 Target: *laga sokk-inn.* (fix sock.STEM/ACC.SG.MASC-the.ACC.SG.MASC)

There are very few suffixed articles in the samples at 1;6 (2 instances, plus 4 potential precursors), and the evidence is not very compelling that Katla analyses these suffixed forms as separate N and D yet. The fact that Katla produces both bare *dúkka* 'doll' and suffixed (but unclear) *dúkkuni* in the same sample (1;6,15) suggests she perhaps might. Unfortunately, the few Icelandic adjectives which Katla produces in these early samples are used predicatively, so we cannot investigate article/noun placement with the help of attributive adjectives.

The No Functional Categories argument would be here that there cannot be any raising in the nominal domain in Katla's grammar, since the functional projection involved (DP) has not emerged yet. From the scanty Icelandic data only we cannot answer the question whether DP is present or not; However, as shown above, the English data firmly point to determiners (indefinite and definite articles, precursors, possessives) in Katla's productions. No Functional Categories approaches would have a serious problem here, since they would have to place these determiner elements in a nominal lexical-only structure without having a position for them to go in.

In sum, the linear ordering of elements in Katla's Icelandic nominals is targetlike, and different from her English. Overt prenominal (English-style) determiners are completely absent in Katla's early Icelandic. In her English however, she provides targetlike prenominal articles and phonetically close precursors in more than 50% of obligatory contexts. Suffixed (Icelandic-style) articles and precursors are relatively rare, but when they occur, they only do so in combination with Icelandic nouns. These findings show that Katla differentiates the

two languages syntactically and constitute clear evidence against the claims of the Single System Hypothesis. Katla's use of articles shows that she adheres to *language-specific* constraints in her production, and consequently she must do so in her mental representations of nominals, too. I will now extend this argumentation to clausal phrases on the basis of Katla's early copula data.

6. Copulas and IP

Investigating the emergence of functional categories and morpho-syntactic language differentiation is more complicated for the clausal domain than it is for nominal phrases, where there are mutually exclusive word orders (D-N vs. N-D) and constraints on overtly determinate versus bare nouns in English and Icelandic. For the verbal and clausal domain, I will look at copula constructions, since they make up virtually all of Katla's first multi-word utterances that aren't nominals on their own (recall Section 4.2.2.).

6.1. Should copulas count?

Many acquisition researchers (e.g. Pinker 1984; Radford 1990a) reject the possibility of looking at copulas as test cases for functional categories and language differentiation in the inflectional domain. This is because copulas and auxiliaries in spoken English often contract onto a host (e.g. *it's*, *I'm*, *there's*), which the child might treat as an unanalysed chunk. Consider the following quotation from Pinker (1984:261) 'many children simply fail to segment these contractions into pronouns and auxiliaries and use them as pure pronouns' (he includes copulas in the auxiliary group). However, I do not think it is right to simply reject copula data. Firstly, the claim that children do not analyse copulas needs to be tested before copula data are discarded, but many researchers don't test it at all. Secondly, copulas (just like articles) are those functional elements that are likely to be frequent in the input (unlike for instance particular complementisers). It may therefore be revealing to investigate whether frequencies have a role to play in the acquisition of functional elements.

In order to say anything about functional elements in very early child language, we need to look at those functors that are most likely to be there, simply because they are the most frequent functional elements in the input young children receive. There is relatively little research on what these high-frequency functional elements might be (e.g. Brown (1973), Forner (1977) for English; Schlichting (1996), de Jong (1979) for Dutch; Strömquist,

Ragnarsdóttir and Richthoff (1997) for Swedish).²⁴ The present tense copula and the articles rank very high, whereas particular auxiliaries and complementisers rank much lower. Oddly enough however, most generative language acquisition studies that have investigated functional categories have not looked at copulas or articles, but at subordinating complementisers (for CP) and tense or subject-verb agreement morphology paradigms for thematic verbs (for IP, AgrP, TP, etc.). The wide-spread rationale, then, is that if one does not find these functors in the productions of young children, the corresponding functional projections must be absent (as argued by e.g. Clahsen (1990/91); Clahsen, Eisenbeiß and Vainikka (1994); Gawlitzek-Maiwald and Tracy (1996); Gawlitzek-Maiwald, Tracy and Fritzenschaft (1992); Meisel and Müller (1992); Radford (1990a, 1990b, 1992, 1994); Vainikka 1993/94 for a critique of this rationale, see Hyams (1992)).

Many acquisitionists in the past have shied away from considering cliticised and contracted elements, in particular contracted copulas and auxiliaries (e.g. *it's*, *that's*, *he's*), in child language production. They discount them on the assumption that children treat them as formulaic expressions or unanalysed chunks, and not as host + auxiliary/copula (e.g. Bloom 1970:40-45; Brown 1973:65; Pinker 1984; Radford 1990a; Meisel 1994b).

Radford (1990a:163-168) hypothesises that young monolingual English children lack IP in their grammars, as they do not productively use elements that would occupy I⁰, such as verbal inflections and auxiliaries. Another prime candidate for the I⁰-head is the finite copula. However, overt copulas are attested frequently below age 2;0, alongside missing copulas, in Radford's own data (spontaneous productions by monolingual British English children). This fact is problematic for Radford's hypothesis. He argues however that none of these overt copulas are genuine copulas, but formulaic utterances, and consequently no I⁰-elements. His arguments are:

- (i) Overt targetlike copulas are not obligatory, but optional for the child before 2;0.
- (ii) Virtually all copulas are third person singular present contracted 's.
- (iii) Uncontracted full form copulas mostly occur in 'set' expressions, e.g. *here it is!*,
there you are!

²⁴ Strömquist, Ragnarsdóttir and Richthoff (1997) carried out a frequency analysis of all lexical elements in transcriptions of the parental input to 4 young Swedish children (1;6.3;4) as compared to the children's productions (Strömquist and Richthoff corpus, University of Göteborg). They found that children largely produce what adults produce: in the input, all of the 20 highest-frequency words were closed-class items, both functors and discourse particles. The present tense copula was the fourth most frequent item in the input, and this was replicated in the children's productions (other items being deictic *den*, *de(t)* 'that', *där* 'there', discourse particles *ja* 'yes', *nei* 'no', and the question-word *va(d)* 'what'). Articles also ranked amongst the 13 most frequent closed-class items. In contrast, particular auxiliaries or complementisers were much rarer in the input; complementisers did not even feature amongst the 50 top-frequency words.

- (iv) Although there is optional third person singular copula 's, there is no evidence of other third person present tense main verb inflection such as *wants*.
- (v) Contracted 's is occasionally used wrongly with plural subjects, e.g. *there's birds* (Radford 1990a:167).
- (vi) Contracted 's is mainly attached to *it, that, what, there, where* which suggests that it is an unanalysed, mis-segmented form for the child.

I believe each of these points to be weak. Firstly (cf. ii/iii), the frequent instances of contracted copulas are entirely targetlike, and the high:low ratio of contracted versus uncontracted copulas mirrors input frequencies (see below). Secondly (cf. vi), the fact that the contracted copula is mainly found on a restricted set of hosts is not unexpected. In spoken adult English (and thus presumably the input), pronouns, deictic elements and wh-words are *the* high-frequency hosts for the copula. Thirdly (cf. v), contracted 's (*there's birds*.) is grammatical with plural subjects in colloquial British English; in fact, if Radford judges *there's birds* to be ungrammatical (and unattested in the input), the fact that young children produce such forms may show that copula constructions are not formulaic. Fourthly (cf. i), the fact that copulas are not yet obligatory does *not* imply that the optional copulas produced are formulaic. To demonstrate formulaicity, one would have to show that the children consistently produce copulas in *nontarget* contexts, e.g. [deictic+contracted 's] + main verb. Radford (1990a) provides no such data. And finally (cf. iv), the fact that children produce *is/s* long before 3SG.PRES -s on thematic verbs is no argument *against* the finite copula being an I°-element. I therefore believe that Radford's (1990a) reasons for not counting copulas in early child language are at best questionable.

Let's therefore not reject copula data a priori. The copula is one of the earliest and most common, perhaps the most common, functor in child English (the same is the case for child Dutch (Schlichting 1996) and child German (Behrens 1993)). *Contracted* copulas make up the vast majority of English copulas both in children's productions and the input children receive; for Katla's input, it certainly is the case. An analysis of the English adult input to Katla in the two audio-recorded samples at 1;6,15 and 1;6,24 reveals that copula *be* is by far the most frequent verb, making up 58%-70% of all finite verbs per sample. 86% (302/350) of these copulas are third person singular present 's/is. The large majority (70% (212/302) of these third singular present copulas are contracted 's. In nearly all affirmative declarative clauses that contain a copula construction, the adults use contracted 's. Uncontracted *is* mainly occurs in initial position in yes/no-questions (*is this a car?*), in tags (... , *is it?*), in negation (*isn't*), and emphatically stressed utterances (*but he [is!!] here.*). There are no instances of copula omission. The percentage of *is/s* of all verbs (70%) would be even higher if auxiliary *be* were included. The huge preponderance of 3SG copulas in the input is most likely to do with the context of play sessions, e.g. naming, question-and-answer games. In later samples, e.g. at 3;0 or 4;0, the finite third person copula 's/is in the

English input is still dominant, but somewhat less so, as the adults use a greater range of verb types.

In the Icelandic adult input Katla receives at 1;6,15 and 1;6,24, the copula *vera* 'be' is also the most frequent verb, making up 43%-50% of all finite verbs per sample (the percentage would be substantially higher if auxiliary *vera* were included). 91% (181/198) of the adults' copulas are third person singular present.²⁵

Considering that copulas (and in particular third person singular present forms) are so prominent in the input, copula data in child language should not be dismissed, but thoroughly investigated (contra Pinker (1984) and Radford (1990a)). All copular constructions in the child productions, with full copulas, contracted copulas and copula omissions, should be carefully analysed. It may turn out that the copula contracts onto *different* hosts (e.g. *it, that, what, there, where, he*) and that these hosts also occur *without* a contracted copula, and/or that the copula sometimes occurs uncontracted. If so, it is highly likely that the child does not treat host + copula as an unanalysed chunk but as separate elements. This appears to be the case for the monolingual English children in the literature (e.g. Bloom 1970; Brown 1973; Radford 1990a), and indeed, this is what I will suggest is happening in Katla's earliest copular sentences.

6.2. Copulas in the target languages

6.2.1. Syntax

Copula constructions in adult English and Icelandic are identical with regard to linear word order. At first sight the languages also appear to be identical as far as obligatoriness of an overt copula is concerned (but see below). The most common copula verb in English is *be*, and in Icelandic its equivalent is *vera* 'be', which links the subject with its predicate, as in (29) and (30). Typically, at least one of the arguments is a nominal.²⁶

²⁵ Pizzuto and Caselli (1992:532-533, 541-545), in their study of three young monolingual Italian children, also find that obligatory context for copula is virtually always (82%-95%) third person indicative present tense, both for the children and for their adult caregivers, particularly at the early stages.

Schlichting (1996:123-124) too, in her cross-sectional study of 100 Dutch children, finds that nearly all copulas are 3SG present tense at the early stages. She suggests that this is due to situational factors during the observation, and to the high frequency of 3SG present copulas in the input (cf. de Jong's (1979) analysis of adult spoken Dutch).

²⁶ I have been unable to find any definition or test to establish what the subject is and what the predicate is in a copula construction. Bonnie Schwartz (p.c. 14 May 1998) suggests a ban on fronting the predicate (*John is a teacher* vs. **A teacher is John*). However, this nonfrontability is not an inherent property of the predicate, but has to do with discourse and definiteness/specificity effects, and the ban certainly does not hold cross-linguistically. The

- (29) a. XP *be* XP
 b. XP *vera* XP

- (30) a. *(she knows that) daddy is a boy.*
 b. *(hún veit að) pabbi er strákur.*
 she knows that daddy-NOM.SG.MASC is.3SG.PRES boy-NOM.SG.MASC
 '(She knows that) daddy is a boy.'

Negation and adverb placement facts point to the finite copula occupying the I°-head (or T°/Agr°) in English declarative clauses (31); the same facts hold for Icelandic, see (32).²⁷

- (31) a. *(she knows that) this is not a car.*
 b. **(she knows that) this not is a car.*

- (32) a. *(hún veit að) þetta er ekki bill.*
 she knows that this is.3SGnot car-NOM.SG.MASC
 '(She knows that) this is not a car.'
 b. **(hún veit að) þetta ekki er bill.*
 she knows that this not is.3SGcar-NOM.SG.MASC

However, the underlying structure of copular sentences is far from settled. How does the copula get to I°? Is it base-generated/inserted or moved there? The existence of nonfinite copulas (e.g. *Lena has not been in today*; *She won't be in tomorrow either*; *I told you not to be so fussy*; *I let her simply be herself*.) supports analyses where the copula is base-generated in a head lower than IP and subsequently raised to I°, as in (33), (e.g. Chomsky 1986; Jackendoff 1972; Koopman 1984; Levin and Rappaport Hovav 1995; Radford 1988:404). This analysis can be directly extended to Icelandic copula constructions. Examples of non-finite, nonraised Icelandic copulas are given in (34).

- (33) [_{IP} SPEC [_{I'} [_I *be*_{i+I}] [_{VP} *t_i* ...]]]

literature appears to use the terms 'subject' and 'predicate' without establishing them first (den Dikken 1996; Levin and Rappaport-Hovav 1995). Intuitively, *John* is the subject in *John is a teacher*; *John is the teacher*., but to determine the subject and the predicate is unclear in many other cases, e.g. *this is John*; *this is the point*; *the point is this*.

²⁷ In questions, the copula raises further from I° to C° (Eng. *is this (not) a car?*; Ice. *er þetta (ekki) bill?* is.3SG this (not) car-NOM.SG.MASC). Most analyses assume that in wh-questions, the wh-predicate raises to Spec C (Eng. *where is the boy?*; Ice. *hvar er strákurinn?* where is boy-NOM.SG.MASC-the-NOM.SG.MASC 'Where is the boy?').

- (34) a. *ég ætla að vera heima.*
 I.NOM intend-1SG.PRES to be-INF home
 'I'm going to be at home.'
- b. *hún mun vera farin.*
 she.NOM may.3SG.PRES be-INF gone-PPP.SG.FEM
 'She's probably gone.'
- c. *hún sagðist ekki vera heima.*
 she.NOM say-PAST-MIDDLE not be-INF home
 'She said she wasn't at home' (lit.: She said not to be at home.)

Whilst the copula is commonly assumed in the generative literature to be base-generated in VP, there is much disagreement about where exactly the copula originates. Certain syntactic models assume that the copula originates as the V-head of a regular VP like thematic verbs do, i.e. that the copula takes a subject DP and a complement XP, see (35).

- (35) [_{VP} DP [_{V'} COPULA XP]]

- (36) [_{VP} SPEC [_{V'} COPULA DP XP]]

According to other analyses however, the copula is ditransitive, taking two complements (36), whilst yet other models assume that the copula takes a small clause complement (cf. Bennis 1984; Stowell 1981), which contains a subject DP and a predicate XP, as in (37).²⁸

- (37) [_{VP} SPEC [_{V'} COPULA [_{SC} DP XP]]]

The finite copula is assumed to raise to I, and the subject DP raises out of the small clause (presumably via Spec V) to Spec I, as illustrated in (38).

- (38) [_{IP} DP_j [_{I'} [_I {*be/vera*_i} +I] [_{VP} [_{V'} *t*_i [_{SC} *t*_j XP]]]]]

However, it is not always the subject that precedes the copula (39a); we also find predicates preceding the copula (copula inversion), consider (39b).

²⁸ For discussion see Bresnan (1994), Bresnan and Kanerva (1989), Coopmans (1989), Emonds (1976), Hoekstra and Mulder (1990), Jackendoff (1972), Koopman (1984), Levin (1986), Levin and Rappaport Hovav (1995) and references cited therein, Moro (1991), Postal (1977), and den Dikken (1996) for a reformulation of the small clause analysis and copula inversion in Minimalist terms.

- (39) a. [SUBJECT *A picture of a politician*] was [PREDICATE *the cause of the riot*].
 b. [PREDICATE *The cause of the riot*] was [SUBJECT *a picture of a politician*].
 (from den Dikken 1996)

Copula inversion is very often found with locatives, both in English and in Icelandic, consider the bolded examples in (40). Locative copula inversion is also common in the colloquial spoken language serving as input to children, including Katla.

- (40) Eng. a. *the teddy is here.* vs. ***here is the teddy.***
 b. *gran's there.* vs. ***there's gran.***
- Ice. c. *bangsinn er hérna.* vs. ***hérna er bangsinn.***
 teddy-the is here here is teddy-the
- d. *amma er þarna.* vs. ***þarna er amma.***
 gran is there there is gran

here and *there* are the prototypical locatives used with copula inversion in English; other locative adverbials and locative PPs are less common and perhaps less acceptable (cf. *?in the water's the teddy.* vs. *the teddy's in the water.*). In Icelandic, the range of commonly used locatives appears to be larger (cf. *í vatnið er bangsinn.* (in water-the is teddy-the), and *bangsinn er í vatnið.* (teddy-the is in water-the)).²⁹

How are these cases to be analysed? The predicate XP has moved to preverbal position, but there is no agreement whatsoever in the literature as to what this preverbal position is. Bresnan (1994) and Hoekstra and Mulder (1990) for instance propose that the predicate in fact becomes the surface structure subject, occupying Spec I. Coopmans (1989), Levin and Rappaport Hovav (1995:263-267) and Stowell (1981) on the other hand assume that the predicate is not fronted to Spec I, but to Spec C or adjoined to IP/CP. The position of the underlying subject in copula inversion constructions is likewise hotly disputed: Does it remain in the VP or is it adjoined postverbally (Levin and Rappaport Hovav 1995:267-271)? Various other analyses have been proposed, some of which include functional projections in the small clause (e.g. den Dikken 1996). Copular sentences that contain an expletive e.g. *it's a boy.*, *there's a car over there.* additionally pose the question what status and position the expletive has.³⁰

If we adopt any sort of small clause analysis, then the subject (or the predicate) in a finite copula construction *has* to be moving out into some higher position, potentially the

²⁹ This difference may have to do with the fact that Icelandic is a verb-second language, where all sorts of non-subject constituents can appear in first position.

³⁰ Hoekstra and Mulder (1990) for instance treat expletive *there* as a locative adverbial and as a surface structure subject.

specifier of a functional category. As regards child language and Katla's early productions, any copula construction with an overt copula could then be evidence for movement to a functional category. I am hesitant to take this step. Rather, I will look at the ordering of elements in copula constructions. If we find variation here (subject-copula-predicate, as well as predicate/locative-copula-subject), we can be quite certain that XP movement past the copula has occurred. Such movement can be taken evidence for the existence of functional projections in the child's grammar.

6.2.2. Dominance of third person singular present copulas

Due to the free play setup and naming games played with Katla during the recording sessions, the context heavily favours third person singular arguments and thus third person singular present tense copulas, for both the adults and the child in the three audio samples at 1;6 (S14, S19, S22). Recall from Section 6.1. that 86% of the English copulas produced by the adults are singular present tense *is* or *'s*. The percentage in Icelandic is equally high: 91% of the adults' copulas are third person singular present tense. (41a) illustrates the well-known allomorphic sibilant variation of the English copula, and (41b) the allomorphic variation of the Icelandic copula.

- (41) a. Allomorphs of English *is* [ɪz , əz]
 's [z , s]

- b. Allomorphs of Icelandic *er* [ɛ:r, ɛr , r , ɛ , ɛə , ə] and [] zero.

In adult Icelandic, this third person singular present tense copula is sometimes realised as *er*, but commonly reduced to schwa, or assimilated with a partially elided preceding syllable and reduced to *r*, and sometimes even omitted completely (11% (20/161) by Katla's parents in S19 and S22). Examples produced by Katla's mother are given in (42-43); brackets indicate inaudible material. Copulas in other persons and numbers are frequently phonetically reduced, too; for instance, plural *erum* (are-1PL.PRES) and *eru* (are-3PL.PRES) are optionally reduced to *er/r/schwa*, as shown in (44).

- (42) Total copula elision

- a. ['θɛ^hta 'nammi]. = *þetta* (*er*) *nammi*.
 this-SG.NEU(is.3SG) sweets.INDECL.NEU
 'This is candy.'

- b. ['θɛ^hta "ɛ^hkl 'bʏxsʏr]. = *þetta* (*eru*) *ekki* *buxur*.
 this-SG.NEU(are-3PL) not trousers-PL.FEM
 'These aren't trousers/That's not trousers.'

c. ['kvar "θɛ^hta]? = *hvar* (er) *þetta?*
 where (is.3SG) this-SG.NEU
 'Where's this?'

d. ['kva'θɛ^hta]? = *hva(ð)* (er) *þetta?*
 wha(t) (is.3SG) this-SG.NEU
 'What's this?'

(43) Partial elision and assimilation of copula with preceding element

a. ['kva:r "θɛ^hta]? = *hvar er þetta?*
 whe(re is.3SG) this-SG.NEU
 Elision is either *hva(r e)r þetta?* or *hvar (er) þetta?*
 'Where's this?'
 cf. full form: ['kva:r ɛr "θɛ^hta]? or ['kva:r ə "θɛ^hta]?

b. ['θɛ^htə"ri:tvjɛ:l]. = *þetta er ritvél.*
 this(-SG.NEU is.3SG) typewriter.NOM.SG.FEM
 Elision is either *þett(a) e(r) ritvél* or *þetta (er) ritvél.*
 'This is a typewriter.'
 cf. full form: ['θɛ^hta ɛr "ri:tvjɛ:l] or ['θɛ^hta ə "ri:tvjɛ:l]

(44) Partial elision of inflected copula, resulting in *er*/schwa

a. *hvar er(u) eplin?*
 where are(-3PL) apples-the.PL.NEU
 'Where are the apples?'

b. *tel~du hva(ð) er(u) marga(r) peysur!*
 count.IMP~you.CL wha(t) are(-3PL) many-NOM.PL.FEM jumper-PL.FEM
 'Count how many jumpers there are!'

c. *hérna e(ru) ljós-in.*
 here are(-3PL) light-the.PL.NEU
 'Here're the lights.'

d. *þett(a) e(ru) flugeldar!*
 this(-SG.NEU) are(-3PL) fireworks-NOM.PL.MASC
 'These are fireworks!' or 'That's fireworks!'

To my knowledge, this phonetic reduction of copulas has not been noted so far in the literature, and most native Icelandic speakers, including Katla's parents, are unaware of it, and even deny they are reducing or eliding the copula. The audio-recordings however show that in connected speech, partial or complete elision of present tense copulas (and the homonymous auxiliary *vera* 'be' forms) is wide-spread in adult Icelandic. The only copulas

that are never elided by the adults in my data are past tense copulas (e.g. *var* 'was', which are consonant-initial than present tense copulas), and all copulas in V1 position (yes/no-questions). As with the contracted 's English copula facts, the reduction of Icelandic copulas in the input should be borne in mind when analysing Katla's Icelandic copulas (and those of monolingual Icelandic children).

In the input Katla receives both in English and Icelandic the copula typically links:

- (i) a *deictic* predicate (demonstrative pronouns *this*, *that*, *þetta* 'this/that') with a subject nominal, e.g. *that's a boy.*; *þetta er strákur*. (this is boy-NOM.SG.MASC 'This is a boy.').
- (ii) a *locational* predicate (mainly *there*, *here*, *þarna* 'there', *hérna* 'here') with a subject nominal, *there's a ball.*; *þarna er bolti*. (there is ball-NOM.SG.MASC 'There's a ball.').
- (iii) a *subject* nominal with a *locational* predicate, e.g. *the teddy's in here.*; *bangsinn er hérna*. (teddy-NOM.SG.MASC-the-NOM.SG.MASC is here 'The teddy is here.').
- (iv) an *expletive* (*it*, *there*, *það* 'it') with a subject nominal, e.g. *it's a boy.*; *það er strákur*. (it is boy-NOM.SG.MASC 'It's a boy.').
- (v) a *wh-word* predicate (mainly *what*, *who*, *where*, *hvar* 'where', *hver* 'who', *hvað* 'what') with a subject nominal, e.g. *what's/is that?*; *hvað er þetta?* ('What is this?'); *where's/is the teddy?*; *hvar er bangsinn?* ('Where is the teddy?').

Less common are predicates that are adjectives (e.g. *þessi er rauður*. this-NOM.SG.MASC is red-NOM.SG.MASC 'This is red.', full nominals (e.g. *daddy is a boy.*), locational prepositional phrases (e.g. *uppi (á skápnum) er ljós*. up (on cupboard-the) is light 'Up there (on the cupboard) is a light.'). Subj-COP-demonstrative, Subj-COP-expletive, Subject-COP-wh are unattested in the data.

6.3. Katla's copulas

The No Functional Categories Hypothesis predicts that Katla should either omit copulas across the board, as they would occupy I°, which is supposed to be absent, or she should only produce 'impostor' copulas in unanalysed chunks (Radford 1990a). The Single System Hypothesis additionally predicts that there should be no language differentiation in copula constructions, that is, we should find random mixing of lexical items from the two languages. If copulas are overt at all, English copulas should not be restricted to English contexts, nor Icelandic copulas to Icelandic contexts. Let's now look at Katla's data.

As was done for the nominals, I grouped Katla's glossable utterances with a copula structure (with or without copula) at each audio-recorded sample into English, Icelandic and ambiguous. The language status of the words *other* than the (potential) copula

determined how the utterance as a whole was classified. Thus, if an utterance contained only English words, i.e. ones that resembled English words and which were understood by the adults as such, it was classified as English; if it only contained Icelandic, it was classified as Icelandic. An utterance was classified as ambiguous if (i) it contained both English and Icelandic items (code-switch/mix), or if (ii) it contained non-language-specific neologisms.

The syntactic contexts that require a copula in Katla’s productions in Samples 19 and 22 are all but one third person singular present (there is one context for third person plural present). The syntactic contexts for the adult controls too mostly require a third person present copula, both in English and Icelandic; for a numerical breakdown, see Table 2.6. below. As mentioned, this is due to the situational context, where a lot of third person singular objects are described and played with. Unfortunately, Katla does not talk in first or second person in these samples, at least not in copula contexts, so we cannot test her acquisition of copulas other than for third person. Note however that in the one utterance with a third person plural subject, Katla produces a non-targetlike third person singular copula *is* (*is [shoes!!]*., 1;6,24). Katla realises copulas morpho-phonologically as follows:

- (45) a. [iz , is , Iz , əz , s , z] and nontargetlike [] zero

all equal *is*, 's.
- b. [εə , ε , e , ə] and [] zero.

all equal *er*.

Table 2.6. gives a breakdown of Katla’s copular sentences by language and copula type. Since no copula constructions occur in Sample 1;6,00 (no clear obligatory contexts, recall Section 4.2.1.), only 1;6,15 and 1;6,24 are considered, in addition to the comparison with the adults; see also Figures 2.8. and 2.9. For examples, see (46-52) below.

Table 2.6.
Table 2.6A. Copulas in English contexts

	Katla 1;6,15, S19	Katla 1;6,24, S22	Adults, S19 + 22
English TL sibilant 3SG copula	18	13	302
a. <i>is</i>	9	6	90
b. 's	9	7	212
No copula, NT omission	4	7	0
English TL copula, not 3SG	1	0	48
Nonsibilant copula, NT, Icelandic-style	0	0	0
Total target copula provision	18/23 = 78%	13/20 = 65%	350/350 = 100%

Table 2.6B. Copulas in Icelandic contexts

	Katla 1;6,15, S19	Katla 1;6,24, S22	Adults, S19 + 22
Icelandic TL copula <i>er/rð</i>	2	4	161
No copula	2	4	20
Icelandic TL other copula	0	0	17
Sibilant copula, NT, English-style <i>is/s</i>	0	0	0
Total overt copula provision	2/4 = 50%	4/8 = 50%	178/198 = 90%

Table 2.6C. Copulas in ambiguous contexts

	Katla 1;6,15, S19	Katla 1;6,24, S22	Adults, S19 + 22
Sibilant <i>is/s</i> , Eng.-style	5	5	0
No copula	1	0	0
Nonsibilant copula <i>er/rð</i> , Icelandic-style	1	2	0
Totals	7	7	0

Table 2.6. shows that English sibilant copula-like elements (45a) only occur in English contexts, and are provided in 78% (18/23 at 1;6,15) or 65% (13/20 at 1;6,24) of obligatory contexts. On the other hand, Icelandic syllabic *er/schwa* copula-like elements (see (45b)) are restricted to Icelandic contexts, where they occur in 50% (6/12) of obligatory cases, though the raw figure total is quite low.

I believe that these elements aren't unanalysed chunks, but instances of genuine, productive finite copulas, for several reasons. Let's start with English. Firstly, in one and the same sample we find minimal or near-minimal pairs *both with and without* English sibilant copula, as illustrated in (46-49). The copula in these pairs is either the full form *is*, contracted/cliticised 's or zero.

- (46) a. [Its ə] # ['bɪ:g] # [dɔ:g]. *it's a big dog.* (all at 1;6,15)
b. [dɛ:z ə 'brɪdɪ 'dɔ:g]. *there's a pretty dog.*
c. [ðæd ə 'brɪdɪ 'dɔ:g]. *that _ a pretty dog.*
d. [dæt] # [ɪz 'sɪlɪ 'dɔ:g]. *that # is silly dog.*
- (47) a. ['dɛə 'dɛdɪ 'dɛdɪ]. *there _ teddy, teddy.* (a.-d. at 1;6,15)
b. [ɛ'əz də 'dɛdɪ:]? *(wh)ere's the [teddy!!]?*
c. [wɛəɪz ðə 'dɛdɪ:]? *where is the teddy?*
d. [nou] # [ɪz ə 'tɛdɪ]. *no, is a teddy.*
e. [ðə 'tɛdɪ 'dɛ:]. *the teddy _ [there!!].* (e. at 1;6,24)

- (48) a. [ʰðɛ:ə 'bɔ:l]. *[there!!] _ ball.* (all at 1;6,24)
 b. [In ə 'ba: ə'bɔ:l]. *in (th)e bath _ a [ball!!].*
 c. [Iz ə 'bɔ:l]. *is a ball.*
 d. [ʰwɛ:əz ə 'bɔ:l]. *where's (th)e ball?*
- (49) a. [u:də] # ['bɔij]. *Ute _ boy! 'Ute (is a) boy.'* (all at 1;6,24)
 b. [its də 'bɔij]. *it's the boy.*
 c. [ðædz ə 'bɔij]. *that's a boy.*
 d. [idzə dæd ə 'pɔij]? *isn('t) that a boy?*

Contrary to Radford's claims (1990a), uncontracted, noncliticised copulas do occur in the child productions. 50% (16/32) of Katla's overt English copulas are uncontracted (10/19 at 1;6,15 (including the nontargetlike *is shoes*. (50a.)); 6/13 at 1;6,24). The totals are relatively small compared to those of the adults, who produce 30% (90/302) uncontracted copulas (see Table 2.6A.). Note that Katla's uncontracted copulas occur in clause-initial position, as well as non-initially, following a range of constituents, with and without pauses, as illustrated in (50). These facts indicate that the copula is not formulaic.

- (50) a. [iz 'ʃu:z]. *is [shoes!!].* (K 1;6,24)
 b. [iz ə 'bɔ:l]. *is a ball.* (K 1;6,24)
 c. [nou] # [iz ə 'tɛdi]. *no, is a teddy.* (K 1;6,24)
 d. [ʰwɔt—] # [əz 'zʌp]? *what # is that?* (K 1;6,15)
 e. [ʰwaph wuz "ðæp—]? *what was that?* (K 1;6,15)
 f. [wɛəriz ðə 'dɛdi]? *where is the teddy?* (K 1;6,24)
 g. [ba:] # ['dɛd iz ðə 'fwauə]. *baa # that is the flower.* (K 1;6,15)
 h. [dæt] # [Iz 'sili "dɔ:g]. *that # is silly dog.* (K 1;6,15)
 i. [wɛəriz ðə 'dɛdi]? *where is the teddy?* (K 1;6,24)
 j. [ðɪz iz də 'buk]. *this is the book.* (K 1;6,24)
 k. [ənæt iz ðə 'dɛdi]. *an(d) that is the teddy.* (K 1;6,24)

Contracted 's, which is more frequent than the uncontracted copula, occurs on a range of hosts, namely *it's* (6 instances in Samples 19 + 22), *that's* (3), *where's* (4), *what's* (1), *there's* (1), and *he's* (1). These hosts correspond to those found by Pinker (1984) and Radford (1990a) in early monolingual child English. Moreover, the hosts correspond to the hosts that are most frequent for cliticised copula 's produced by the adult controls.

Importantly, the potential copula clitic hosts also frequently occur *without* the copula, as illustrated in (51-52). I interpret this fact as indicating that in her earliest copula

constructions already, Katla is treating host + 's as two separate elements, and not as an unanalysed chunk.

(51) a.	[ðæd ə brɪdɪ 'dɔ:g].	<i>that _ a pretty dog.</i>	(K 1;6,15)
b.	['bɛd 'ə bi:g 'bœ:].	<i>that _ a big bö.</i>	(K 1;6,15) ³¹
c.	[dæts 'ə] +... +, [ə 'ga:].	<i>that's a # a car.</i>	(K 1;6,15)
d.	[ðædz ə 'bɔij].	<i>that's a boy.</i>	(K 1;6,24)
(52) a.	['ðɛ:ə 'bɔ:l].	<i>there _ ball.</i>	(K 1;6,24)
b.	['dɛr 'dɛdi 'dɛdi].	<i>there _ teddy, teddy.</i>	(K 1;6,15, (47a))
c.	[dɛ:z ə 'brɪdɪ 'dɔ:g].	<i>there's a pretty dog.</i>	(K 1;6,15, (46b))

Furthermore, copula clitic hosts like *that* and *there* frequently occur in constructions that are not copular. In such cases, they always occur bare, i.e. without any 's. For instance, Katla produces *he's up there.*, but the ungrammatical *@*he's up there's.* is unattested. We find *bike in there.*, but not *@*bike in there's*; we find *the teddy sit there.*, but not *@*the teddy sit there's.*, we find *what's that?*, but not *@*what's that's?*. The lack of copula clitics in nontargetlike contexts suggests that the copula clitics that *are* provided in targetlike contexts are genuine, and not unanalysed forms.

Of course, there are also many nontargetlike omissions of the English copula. This optionality mirrors monolingual English children (e.g. Brown and Bellugi 1964/1971; Brown 1973, Radford 1990a). However, Katla's copulas (cliticised and full form ones), do not appear in nontarget contexts. When Katla does provide a copula in English contexts (in 65%-78% cases), it is always the English-style sibilant. All this suggests that Katla has the essentials of adult English copula structure, with the copula in I°, and one constituent at least as high as in Spec I, as schematised in (33). This constituent commonly is a definite subject DP, a locative or deictic element or an expletive. *wh*-words (*what*, *where*) also occur. The data on these questions at 1;6 are sparse, so I have to remain speculative as regards the existence of functional layers above IP. Targetlike non-subject-initial *wh*-questions such as *where is the teddy?* (47b, c) may be suggestive of *is* occupying C° and *where* Spec C. Recall also the (one example of a) yes/no-question (*isn('t) that a boy?* (49d)), where the copula (arguably in C°) precedes both predicate and subject.

³¹ This utterance was classified as an obligatory context for an English copula, because of the unambiguously English adjective *big* in the nominal. (When nominals and determiners were investigated, the utterance was classified as ambiguous, since the nominal contains the language-nonspecific neologism *bö*.)

Let's now look at Katla's copula constructions in Icelandic contexts (Table 2.6B., Figures 2.8-2.9.). In both samples, 1;6,15 and 1;6,24, *er*/schwa copulas are provided 50% of the time. Examples are given in (53-57). However, due to the low number of obligatory contexts (2/4, 4/8), this percentage is not very telling, and one should be cautious. Nevertheless, there is no instance where an English-like sibilant copula occurs in an Icelandic context. Consequently, the Single System Hypothesis is not supported.

(53) [dɛdɛ] # _ ['eija]. = *þetta* _ *eyra*. (Katla 1;6,15)
 this-SG.NEU ear-NEU.SG
 'This (is) (an) ear.'

(54) [nei] # [dɛd ə "ʔɛg 'ju:]. = *nei*, *það* *er* *ekk(i)* *djú(s)*. (Katla 1;6,15)
 no it is.3SG not juice
 'No, it is not juice.'

(55) a. [ʌpi: 'jouʃ]. = *uppi* _ *ljós*. (Katla 1;6,24)
 up-there light
 'Up there (is) (a) light.'

b. ['upi ɛ "jouʃ]. = *uppi* *er* *ljós*. (Katla 1;6,24)
 up-there is.3SG light
 'Up there (is) (a) light.'

(56) [ə 'ðɛdə "bi:ʔi]? = *er* *þetta* *býi(ð)*? (Katla 1;6,15)
 is.3SG this bee-the.NEU.SG
 'Is this the bee?'

(57) a. ['nammi "got]. = *nammi* _ *gott*.
 food/sweet-NEU.INDECLIN good-NEU.SG
 'Food/Candy (is) good.' (Katla 1;6,24)

b. ['nammi e: "got]. = *nammi* *er* *gott*.
 food/sweet-NEU.INDECLIN is.3SG good-NEU.SG
 'Food/Candy is good.' (Katla 1;6,24)

Note that in one and the same sample there are minimal pairs both with and without syllabic vocalic Icelandic-style copula; compare a. vs. b. in (55) and (57): *uppi ljós*. vs. *uppi er ljós*.; *nammi gott*. vs. *nammi er gott*.). This suggests that the copulas are not restricted to formulaic utterances. Furthermore, there is targetlike word order variation with regard to copular declaratives and copular yes/no-questions: In the former, the copula is in second position, in the latter in clause-initial position (cf. (56)). I suggest therefore that Katla does have a genuine, productive Icelandic copula, at least third person singular present *er*, which occupies I° at surface structure and may even occur higher than IP, in C°.

In the other, non-audiorecorded samples at 1;6 there are 9 further copular sentences in Icelandic contexts (1 in S17 (1;6,11); 5 in S20 (1;6,22); 3 in S21 (1;6,24)). All of these are of the type deictic *þetta* + nominal as in (53), *without* copula. Such copulaless constructions were also noticed by the parents outside observation sessions. These data are admittedly not quantifiable, but the fact that they were noted may indicate a generally low provision of Icelandic copulas, probably lower than the 50% in Table 2.6B.

Why would Katla omit the copula in Icelandic more often than in her English? One possibility is that her Icelandic is 'less advanced' at 1;6 than her English. If this were the case, we would have evidence against a maturational account, as this would seem to predict a similar extent of Infl-elements (and D-elements in the nominal domain) at the same time for both languages. However, considering that Katla has only had 3 months of exposure to English, whereas Icelandic is her L1, it would be quite surprising if Icelandic were 'less advanced'. It certainly does not fit the general impression Kata's parents and I had of Katla's language development at the time.

I think the answer lies instead in the actual phonetic form of the copulas in the input. Whilst the adult controls never (0%) omit English copulas, they do omit Icelandic copulas 11% of the time, recall (42). Thus it is permissible to have phonetically zero present tense copulas in colloquial spoken Icelandic (except clause-initially). Furthermore, due to assimilation and reduction processes in connected speech, the Icelandic copula is often no more than an unstressed vowel (schwa) or approximant (*r*). These sounds are much *lower in acoustic salience* than the English copula, which, even in its reduced cliticised form, still remains an acoustically prominent sibilant (*s*). This, I suggest, may be the reason for Katla's lower copula provision in her Icelandic.

In sum, Katla's copula data are incompatible with the Single System Hypothesis, as she does not language-mix. Instead, she restricts the use of English sibilant third person singular copulas (*is*, *'s*) to utterances with English subjects and predicates. *is* and *'s* do not occur in otherwise Icelandic utterances. Schwa-like Icelandic-style copulas on the other hand are only found in utterances with Icelandic elements. Consequently, Katla's copulas, just like her determiners, are evidence for early language differentiation in the morpho-syntactic domain.

Furthermore, distributional analyses show very clearly that Katla's copulas are not unanalysed chunks, neither in her English nor in her Icelandic. Contracted English copulas occur with a variety of hosts; and these hosts also occur *without* copula, indicating that Katla has different lexical entries for the two. Free-standing copulas occur in a variety of contexts, including clause-medially and clause-initially in declaratives, in *wh*-questions and in yes/no-questions (though there are few instances of the latter). These facts suggest that

copula movement and XP movement out of VP into the functional domains are beginning to be operative. Katla's earliest multi-word utterances, then, bear evidence of the existence of functional projections in her mental representations of grammar.

7. Conclusion

In this chapter I have investigated how Katla differentiates her two input languages lexically and morphosyntactically in her earliest productions. The existence of Icelandic and English translational equivalents for the same referent (from age 1;4) suggests that Katla's lexicon is language-differentiated already at the one-word stage. I interpreted this as evidence against the Single System Hypothesis (Volterra and Taeschner 1978) and against the word learning constraints proposed by Clark (1987, 1993, Principle of Contrast) and Markman (1989, 1992, 1994, Mutual Exclusivity), all of which assume that bilingual children initially have one lexicon only.

As soon as Katla begins to combine words at 1;6, language-specific word orders and functional morphemes can be observed (determiners, copulas). In particular, Katla's nominal phrases show that English-style prenominal indefinite and definite articles co-occur only with English count nouns (targetlike), but never with Icelandic ones. Icelandic-style definite article suffixes on the other hand only occur with Icelandic nouns, again targetlike. I interpreted this adherence to language-specific constraints on the morphological form and positioning of determiners as strong evidence in favour of *separate syntactic development of each language*, as advocated by Bergman (1976), Genesee (1989, 1993), de Houwer (1990) Meisel (1989), Paradis and Genesee (1996, 1997).

The predictions of the Single System Hypothesis that bilingual Katla should start out with a rudimentary one-system syntax or protolanguage were not supported (contra Deuchar 1996; Deuchar and Quay 1997; Meisel 1994a, 1994b; Swain 1972, 1977; Taeschner 1983; Vihman 1985, 1997; Volterra and Taeschner 1978).

On the basis of distributional evidence and minimal pairs I further argued that Katla analyses English and Icelandic articles and article precursors as genuine D°-elements, and that they are not simply parts of unanalysed chunks or impostors, contra the No Functional Categories approaches of Clahsen, Eisenbeiß and Vainikka (1994), Müller (1994a) and Radford (1990a, 1990b). Although determiner omissions are common at 1;6, Katla does provide overt targetlike determiners in the majority of obligatory contexts, and she never produces articles in nontarget contexts. I interpreted this as empirical evidence of the existence of a DP-projection in Katla's earliest representations of nominals.

In my analysis, I have accepted at face value the premise of the No Functional Categories approach, namely that absence of functional elements indicates absence of the category. One might go on to question whether in principle this is correct. Note that under No Functional Categories it is determined whether functional categories exist *only* on the basis of what is observable morphosyntactically in *production*. Yet children do comprehend even when they do not yet overtly realise morphemes associated with functional categories. And the effects of phonetic simplification processes in the children's production, which typically affect also functional morphemes, are simply ignored. But to argue against No Functional Categories approaches empirically, in this chapter I have presented the facts from Katla's production.

I also investigated Katla's copula constructions at 1;6, as they are the first word combinations to occur in the clausal domain. Since adult English and Icelandic copula constructions have much same surface word order, syntactic language differentiation is next to impossible to observe. However, Icelandic and English copulas do differ substantially in morphophonemic form, and Katla clearly differentiates these: She produces English-style third person singular present sibilant copulas exclusively in English contexts (i.e. English words for subject and predicate), whereas Icelandic-style schwa-like copulas are restricted to Icelandic contexts. I argued that these early copulas are indeed productive I°-elements for Katla.

Again, the morphological language differentiation is evidence against Single System, and the productive use of copulas at all is unexpected under No Functional Categories. Indeed, the early emergence of copulas and articles is not compatible with the notion that children acquire lexical categories first and functional ones later.

In brief, Katla's extremely early determiner and copula data point to the existence of functional projections (DP, IP) as soon as multi-word utterances appear. I found no evidence of a lexical-only stage with bare nouns, NPs and VPs. This favours Full Competence accounts (Bohnacker 1997a; Boser, Lust, Santelmann and Whitman 1992; Demuth 1992; Hyams 1992; Paradis and Genesee 1997; Schlichting 1996) over theories that assume functional categories to be universally absent in early language acquisition (e.g. Aldridge 1989; Clahsen, Eisenbeiß and Vainikka 1994; Meisel 1994b; Müller 1994a; Radford 1990a, 1990b, 1992, 1994; Tsimpli 1991, 1992; Vainikka 1993/94). This adds an important *bilingual* dimension to a debate that has mainly been concerned with monolingual child language.

Chapter 3. Progressives and IP

1. Introduction

The preceding chapter dealt with early language differentiation in Katla's productions at age 1;6. I argued that her earliest word combinations already are systematically differentiated on the morphological and syntactic level, and thus that Katla has two grammars, an English and an Icelandic one. This differentiation becomes even more prominent with increasing age, when a greater variety of language-specific morphology (e.g. Icelandic verbal, nominal and adjectival inflections, case morphology on pronouns and other nominals) and language-specific syntax can be observed. Of course, Katla also produces many non-adultlike utterances, just as monolingual children do. However, as she is acquiring both Icelandic and English, it is noteworthy that the language-specific grammars appear so early (cf. determiners in Chapter 2) and that there is so little cross-linguistic influence. However, there are some constructions in Katla's production data which are nontargetlike *and* unattested for monolingual children. I focus on four such constructions and uses (1, i-iv).

- (1) (i) Nontarget, novel analytic verb forms in English, used with a clearly progressive interpretation, e.g. Adult: *what's happening here?* → Katla: **he's a wash*.
(Target: 'He's washing.')
- (ii) Nontarget use of English simple present tense verbs in obligatorily progressive contexts, e.g. Adult: *what am I doing?* → Katla: **you put shoes on*.
(Target: 'You're putting your shoes on.')
- (iii) Nontarget negation-initial imperative construction in English, e.g. **no put!*
(Target: 'Don't put it there!').
- (iv) Nontarget, novel infinitival imperatives with *preverbal* subject in Icelandic, e.g. **þú gera þetta!* you.NOM do-INF this (Target: inflected imperative with *postverbal* subject clitic: *ger-ðu þetta!* do.STEM-IMP-you.NOM.CL this '(You) do it!').

In the present chapter I focus on progressive-related (i) and (ii), whilst imperative-related (iii) and (iv) are taken up in Chapters 4 and 5. Katla uses these constructions over quite some time, optionally, but often enough for them to stand out. I discuss these constructions

in turn and show that they are best explained as construction-specific transfer between English and Icelandic.

2. Progressives

I first describe the English and the Icelandic progressives and their treatment in generative syntax. I then summarise what is known about the progressives in monolingual children, and discuss how Katla's acquisition of progressives compares to monolingual peers. Apart from the aforementioned issue of grammar differentiation versus L1-L2 influence, progressives are treated here since they are interesting with regard to Katla's acquisition of the functional projection IP.

2.1. The English progressive

Adult English has an analytic progressive or continuous form that is composed of the auxiliary *be* and a lexical verb suffixed with *-ing*. The English progressive is prototypically used to describe ongoing actions and events, often of limited duration.¹ In finite clauses in Standard English, progressive auxiliary *be* is tensed, as illustrated in (2). If *be* is not tensed, it must be preceded by a finite auxiliary, as shown in (3).

- (2) a. *She is painting.*
b. *She was painting.*
c. **She be painting.*

¹I will not go into the intricacies of the use of the English progressive in contexts other than ongoing actions/events, but refer to Quirk, Greenbaum, Leech and Svartvik (1985:197-200). To describe a present event in Standard English, the present progressive must be used; note the ungrammaticality of **She paints at the moment*. *She paints* cannot mean *She is painting (at the moment)*. In older English, including Early Modern English, the simple present was widely used to describe a present event that now would be an obligatory context for progressive. Modern English uses the simple present for states and habits, e.g. *She paints, but she doesn't do pottery*. The instantaneous/progressive uses of the simple present are few, and highly restricted; according to Quirk, Greenbaum, Leech and Svartvik (1985:179-183) they are: (i) demonstrations and self-commentaries, e.g. *I pick up the fruit and dip it in batter*. (TV cook); (ii) sports commentary, e.g. *Norton passes the ball to Davies...* (football commentary); (iii) (exclamatory) sentences with initial adverbs (e.g. *Here comes the winner; Up you go!*). These simple present tenses would be simple past in the past tense (*Norton passed the ball.*), but the true progressive is still progressive in the past: *She was painting at that moment*. In addition to the contexts mentioned by Quirk *et al*, the simple present can be used with an instantaneous/progressive reading under any kind of quantification, e.g. *When she paints, she...*

- (3) a. *She 'll be painting.*
 b. *She has been painting.*

Finite present tense forms of *be* can contract onto the preceding subject, e.g. *she 's painting*, *I'm painting*. However, whilst *be* can be phonetically reduced in this way, in spoken (British) English, *be* is not totally elided, as illustrated as follows.²

- (4) a. *She *('s) painting.*
 b. *I *('m) painting.*
 c. *What *('s) he painting?*

Much of the generative literature agrees that the finite auxiliary *be* (as in (2)) occupies a functional category higher than V^0 , typically considered to be I^0 (or T^0/Agr^0) in declarative clauses, as suggested by negation and adverb placement facts (5).

- (5) a. *I knew that she was not painting then.*
 b. **I knew that she not was painting then.*

The existence of nonfinite auxiliary *be* as in (3) suggests that *be* is base-generated in a position lower than IP. In cases of finite *be*, *be* subsequently raises to I^0 , formalised in (6).

- (6) $[_{IP} \text{ SPEC } [_I [_I \text{ be}_i + I] [_{VP} \text{ } t_i \dots]]]$

The exact base position of *be* is, however, less clear (recall the related discussion on the base position of copula *be* in Chapter 2). There are three differing points of view. Certain syntactic models, starting with Jackendoff (1977:54), assume auxiliary *be* to be a verbal specifier underlyingly, expanding V'' into V''' , or V' into V'' , as in (7) (e.g. Jacobsen 1986; Radford 1988:241).

- (7) $[_{VP} \text{ be } [_V \text{ V-ing}]]$

²The only form of *be* that can have a null allomorph in colloquial British English is second person present *are/re*, in the context of questions. However, *'re* elision is heavily restricted: In yes/no-questions, *'re* elision is acceptable only utterance-initially, e.g. *(are) you painting?*, but not utterance-medially: *she asked me *(are) you doing anything tonight?* In wh-questions, *'re* assimilates or elides in rapid speech, e.g. *what('re) you painting?*, *why('re) you doing that?*, *when('re) you going?*. In declaratives, British English does not allow auxiliary *'re* to be null, e.g. *(I know that) you *('re) painting.*

Other analyses, going back to Culicover (1976) and Emonds (1976), assume multiple verbal projections where *be* is not a specifier, but a full verb that heads an independent VP and that takes a VP complement (e.g. Akmajian, Steele and Wasow 1979; Andrews 1982; Baltin 1982; Haegeman 1994:600; Valian 1992:406-408):

- (8) [VP [V' [V *be*] [VP [V' V-*ing*]]]]

A third approach to progressive *be* (and copula *be*) is that of Jaeggli and Hyams (1987). They propose that *be* does not exist underlyingly, but that it is an expletive verb, inserted into the derivation into I° to carry tense and agreement features (see also Sano and Hyams (1994:549); Scholten (1988)). However, we can reject such an analysis, as it disregards the existence of nonfinite forms of *be* in English (i.e. *to be*; *being*; *been*). Recall (3) *She will be painting*, where nonfinite *be* follows the finite auxiliary, and when the clause is negated, *be* follows the negation, indicating that *be* must originate lower than Infl and Neg, e.g. *she will (not) be painting*.

The generative syntactic literature of the 1990s has paid less attention to progressive *be*; yet an analysis of *be* as heading its own VP projection as in (8) should be compatible with many recent GB and Minimalist clause-structure analyses, as this fits their multiple VP projections and the VP-internal subject hypothesis (e.g. Bennis 1984; Chomsky 1995; Koopman and Sportiche 1991; Larson 1988; Stowell 1989).

The progressive suffix *-ing* has not been discussed much in generative grammar (in contrast to lengthy treatments of homophonous *-ing* in nominalisations, e.g. Abney 1987; Chomsky 1970). Being a nonfinite inflection, *-ing* has not been regarded as a functional morpheme that would correspond to a functional projection, at least not until recently. Instead, *-ing* has been treated as part of the lexical verb (Emonds 1976; Jackendoff 1977; Radford 1988). Lately, however, an aspectual phrase has been introduced into clausal structure, which is lower than IP (TP/AgrP), but higher than VP (e.g. Baker 1996; Cinque 1997; Travis 1991a; Tsimpli 1992; Koopman 1994:268-270). *-ing* may be seen as heading this AspP, as suggested by Sano and Hyams (1994:551). Sano and Hyams' (1994) approach is schematised in (9), with the lexical verb obligatorily raising into Asp° to combine with *-ing*, or – under Minimalism – already inflected with *-ing*, to check features to do with Asp° (Sano and Hyams (1994) do not give any details). Recall from the discussion above that Sano and Hyams' (1994) placement of *be* in I° cannot be correct; I therefore give a more plausible version in (10) where *be* heads a second VP projection and raises to I°.

- (9) [IP SPEC [I' [I *be*] [AspP [Asp' [Asp V_i + *ing*] [VP [V' t_i]]]]]]

- (10) [IP SPEC [I' [I *be*_j] [VP₁ [V' t_j] [AspP [Asp' [Asp V_i + *ing*] [VP₂ [V' t_i]]]]]]]]

However, there is currently no consensus in the literature about the placement, function or existence of such an AspP.³ Therefore, I will assume English progressive *be* to simply take a VP complement, as in (8).

2.2. The Icelandic progressive

Icelandic, too, has a progressive, which, like the English construction, is used to describe ongoing actions and is extremely common in the spoken language. Yet unlike English, where ongoing events *must* be described with an analytic progressive form, Icelandic has two options. Typically, ongoing events are expressed with an analytic progressive form (11a), but a simplex, non-progressive form with a progressive reading is also possible (11b). Icelandic resembles Shakespearean English more than Modern English (recall fn. 1).

- (11) a. *nú er hann að labba með hundinn sinn.*
 now is he to walk-INF with dog-the his
 ‘Now he’s walking the dog.’

- b. *nú labbar hann með hundinn sinn.*
 now walk-3SG.PRES he with dog-the his
 ‘Now he’s walking the dog.’

³Sano and Hyams’ (1994) Asp for progressive aspect marking in English should not be confused with other AspP proposals (e.g. Arad 1995, 1996; Borer 1993; Tenny 1987, 1992, 1994). These researchers have suggested that an aspectual projection, or rather several, are needed for deriving the inner aspect, or *aktionsart*, of an otherwise unstructured VP, by moving arguments of the verb into Spec Asp (and raising the verb to Asp^o). Related to such proposals is the projection of *v*P within VP, where the verb raises from V^o to *v*^o to derive the thematic structure of the verb (Chomsky 1995, cf. also Larson 1988). Sano and Hyams’ (1994) AspP is nothing to do with *aktionsart* or thematic structure of the lexical verb; it is a functional projection higher than VP.

If we were to assume an aspectual phrase for progressives as Sano and Hyams (1994) do, for consistency we should also have an AspP for the perfective (e.g. *have painted*, cf. Schoorlemmer 1997 class lectures; Sekerina 1997). The auxiliary *have* would be heading a VP that takes a perfective AspP as its complement, with past participle *-ed/-en* in Asp^o. However, it is not clear what should happen with perfect progressives (e.g. *have been painting*), as these would have to be analysed as having two different Asp projections. This leads to a proliferation of AspPs – an extreme example of this is Cinque (1997) – and questions such as how to analyse clauses with verbal constructions other than progressives and perfects: Do these lack Asp(s), or do they have some other, non-progressive Asp projection(s)? And more generally, how much functional structure in analytic verb constructions should be assumed for the verbal complement of a(n auxiliary) verb? Is this verbal complement an AspP (possibly recursive), or does it also contain other projections such as AgrP? This is plausible for languages such as Icelandic, Swedish or Catalan where the nonfinite lexical verb (past participle) shows agreement. And should passive voice marking (e.g. *is being read*) be translated into additional functional structure in the verbal complement of the auxiliary? In the literature, there is no consensus on these matters.

However, no Icelandic analogue exists to the English *ing*-progressive; *að labba* is an infinitive. The auxiliary *vera* ‘be’ is employed to form the progressive. Auxiliary *vera* and its inflectional paradigms are homophonous with the copula *vera*, just as auxiliary and copula *be* are homophonous in English. A finite form of *vera* ‘be’, inflected for number, person and tense, is combined with the infinitival marker *að* ‘to’ and the infinitival form of the main verb, ending in *-a*. Thus we get forms such as the following:

(12) a.	<i>ég er að mála.</i>	I am to paint-INF	‘I am painting.’
b.	<i>þú ert að mála.</i>	you.SG are-2SG to paint-INF	‘You are painting.’
c.	<i>hann/hún/það er að mála.</i>	he/she/it is to paint-INF	‘He/she/it is painting.’
d.	<i>við erum að mála.</i>	we are-1PL to paint-INF	‘We are painting.’
e.	<i>þið eruð að mála.</i>	you.PL are-2PL to paint-INF	‘You are painting.’
f.	<i>þeir/þær/þau eru að mála.</i>	they.MASC/they.FEM/they.NEU are-3PL to paint-INF	‘They are painting.’

Corresponding forms exist for past progressive, present perfect progressive, past perfect progressive, future progressive and several types of subjunctive, but the formation is always auxiliary *vera* + *að* (+ nonfinite participle/infinitive) + lexical verb infinitive.

In spoken Icelandic, *að* is not pronounced as the citation form [a:ð], but simply as a short vowel [a] or [ə], and can also be omitted entirely. Furthermore, in connected speech, present tense forms of the auxiliary *vera* are also reduced to a vowel, [ε] or [ə], and can even be omitted. As with the homophonous copula *vera* (recall Chapter 2), the only position from which complete elision of auxiliary *vera* appears to be prohibited is clause-initially, as in yes/no questions or V1 declaratives:

- (13) **(er) hún (að) mála?*
 (is) she to paint-INF
 ‘Is she painting?’

As with copula *vera*, assimilation and reduction processes affect the present tense forms of auxiliary *vera*, which are all vowel-initial and phonetically close to schwa. When adjacent, *vera* and *að* often also assimilate into one shadow vowel. Progressive *vera* + *að* are adjacent in affirmative declaratives, but not adjacent in negated clauses, questions and non-subject initial clauses, see (14). Adjacency is a precondition for the assimilation of auxiliary and *að*, but elision of one or both elements can also occur when they are not adjacent (see (18a) below). Thus, it is possible to elide present tense auxiliary *vera* and/or *að* also from non-subject-initial root clauses, embedded clauses, and negated clauses.

- (14) a. *ég er ekki að mála*
 I am not to paint-INF
 'I'm not painting.'
- b. *er ég að mála?*
 am I to paint-INF
 'Am I painting?'
- c. *núna er ég að mála.*
 now I am to paint-INF
 'Now I'm painting.'

However, the metrically heavier past tense forms of the auxiliary, which start with a consonant (*var* 'was-1/3SG', *varst* 'were-2SG', *vorum* 'were-1PL', *voruð* 'were-2PL', *voru* 'were-3PL'), to my knowledge remain unaffected by reduction. *að* can be elided whatever tense the progressive is in (e.g. *hann var (að) loka baðhurðinni*. he was (to) close-INF bath-door-the.DAT 'He was closing the bathroom door.').

To summarise, phonetic reduction and elision processes can make the Icelandic progressive resemble a bare infinitive phonetically, as illustrated below.

- (15) Realisations of *ég er að mála*. 'I'm painting', starting with carefully enunciated speech in a., turning into progressively more connected speech.

- a. *ég er að mála.* [jɛ:ɣ ɛr að 'mau:la] (rare)
 b. *ég er a mála.* [jɛ:ɣ ɛr a 'mau:la]
 c. *é r a mála.* [jɛr a 'mau:la]
 d. *é æ mála.* [jɛ æ 'mau:la]
 e. *é mála.* [jɛ 'mau:la]

To my knowledge, these phonetic reductions have not been discussed in the literature (cf. Einarsson 1945, Helgason 1993). As with similar reductions of the homophonous copula, many non-linguist native Icelandic speakers, including Katla's parents, are unaware of and even dismissive of them. Yet in connected speech, partial or complete elision of present progressive auxiliary *vera* and *að* is widespread in adult Icelandic (Jóhanna Barðdal, p.c., 15 May 1998). This is amply documented in the audio-recordings of Katla's parents; some such examples of the input Katla received are given in (16-18), where brackets indicate inaudible material.

- (16) Realisation of both *vera* and *að*
- a. *hva(ð) er hann a(ð) gera?*
 wha(t) is he to do-INF
 'What's he doing?'

b. *hann er a(ð) snúast i hring.*
 he is to turn-INF-MIDDLE in circle.ACC
 'It's turning round and round.' (*hann* = a toy car (MASC), spinning on the floor)

c. *þeir eru kannski a(ð) flýta sér.*
 they.MASC are-3PL perhaps to hurry-INF themselves
 'Perhaps they hurrying (up).'

(17) Elision of either *vera* or *að*, resulting in one shadow vowel plus infinitive

a. *hann e(r að) mála, hva(ð) e(r) hann (að) mála?*
 he i(s to) paint-INF wha(t) is he (to) paint-INF
 'He's painting, what's he painting?'

b. *þú e(ri) (að) telja hva(ð) er(u) margar.*
 you are(-2SG) (to) count-INF what are(-3PL) many
 'You're counting how many there are.'

c. *mennirnir (eru) a(ð) leika me(ð) boltann.*
 men-NOM-the.NOM (are) to play-INF with ball-ACC-the.ACC
 'The men are playing with the ball.'

(18) Complete *vera* and *að* elision, resulting in a bare infinitive

a. *hva(ð) (er) (h)ann (að) gera?*
 wha(t) (is) (h)e (to) do-INF
 'What's he doing?'

b. *hún (er) (að) gefa blómum vatn.*
 she (is) (to) give-INF flowers-DAT-the.DAT water.ACC
 'She's giving the flowers (some) water.'

c. *(h)ann (er) (að) bolta.*
 (h)e (is) (to) ballplay-INF
 'He's playing (with a ball).'

From 20 samples across the observation period (1;6-4;7), I extracted 300 progressives produced by Katla's mother and father and classified these progressives into 4 types. 53% (160/300) had some form of an overt auxiliary (including schwa) *and* overt *a(ð)*. 30% (90/300) had some overt auxiliary, but no *að*; 14% (43/300) were bare infinitives, and 2% (7/300) bare *a(ð)* infinitives. I did not observe any major distributional shifts over time. These 300 progressives include different tenses, moods and word orders, including past tense auxiliaries and V1 word orders, which do not allow auxiliary elision. When only present tense progressives and non-V1 word orders are considered, the 53% figure of 'full' progressives diminishes by about half, and bare infinitives are substantially more frequent. I am not aware of any generative descriptions of the Icelandic progressive and have only found a few passing remarks in the literature (Sigurðsson (1989:52-74); Þráinsson

(1979:345, 441-443, 1986:140)). In analogy with English, I suggest that finite auxiliary *vera* occupies the I°-head (or T°/Agr°) in declarative clauses, considering that it must occur to the left of negation, also in subordinate clauses, as illustrated in (19).

- (19) a. *Ég veit, að hún er ekki að mála núna.*
 I know that she is not to paint-INF now
 'I know that she isn't painting now.'
- b. **Ég veit, að hún ekki er að mála núna.*
 I know that she not is to paint-INF now

Nonfinite auxiliary *vera* also exists and must occur to the right of finite auxiliaries and to the right of negation, as shown in (20).

- (20) a. *Ég mun (ekki) vera að mála.*
 I will (not) be-INF to paint-INF
 'I'll be/won't be painting.'
- b. **Ég mun vera ekki að mála.*
 I will be-INF ekki to paint-INF

These facts suggest that *vera* is base-generated lower than IP, in VP. In cases of finite *vera* as in (19), *vera* subsequently raises to I°, illustrated in (21). So far, then, English *be* and Icelandic *vera* are syntactically parallel.

- (21) [IP SPEC [I [I *vera*_i+I] [VP *t*_i ...]]]

As shown above, there is no difference in meaning/interpretation between the progressives with full, reduced or no overt auxiliary and with or without *að*. The full forms are simply more common in slower, more formal and more carefully enunciated speech. They should therefore have the same syntactic representation, only that the finite auxiliary in I° may have a null allomorph.

Just like English progressive *be*, *vera* takes a complement. However, unlike *be*, which takes a nonfinite *-ing* complement, *vera* takes a complement consisting of the infinitival marker *að* 'to' and an infinitive. The status of this *að* complement is unclear, cf. (22).

- (22) [VP [V' [V *vera*] [IP/VP/?P *að* INF]]]

Historically, *að* probably was the head of a prepositional phrase: *vera* + [PP [P *að* XP]], where XP typically was an NP: 'be at something', i.e. be doing something (Benediktsson 1976, Þráinsson 1979:443). In modern Icelandic however, not NPs, but only infinitival

verbs are used together with progressive *að*.⁴ Today we are most likely not dealing with a PP, since the phrase [*að* + INF] cannot undergo topicalisation movement, nor can it be dislocated, whilst real PPs readily can. Consider the grammatical topicalised *að*-PP and the ungrammatical topicalised *að*-progressive in the following example:

- (23) a. [*að morgni*]_i *er hún sofandi* t_i.
 [at morning-DAT] is she asleep.
 ‘In the morning(s), she is asleep.’
- b. **[að mála]*_i (*það*) *er hún* t_i.
 [to paint-INF] (that) is she
 ‘Painting, (that) she is.’

Furthermore, if *að* in progressives were a true preposition, it would behave strikingly different from the other Icelandic prepositions, which take nominal complements and assign morphological case to them (genitive, dative, accusative). Also, as mentioned above, *að* elision in progressives is commonplace; however, genuine prepositions cannot be omitted from PPs in spoken Icelandic (e.g. *hún er sofandi* [_{PP} *(*að*) *morgni*]. she is asleep [_{PP} *(in) morning-the]). I therefore reject an analysis of the Icelandic progressive as *vera* + PP.

Following Emonds’ (1976:220-221) proposal for the English infinitival marker *to* in tenseless clauses, Icelandic *að* in (22) might be a lexicalised I°.⁵ But there appear to be important differences between Icelandic progressives with *að* and Icelandic control infinitivals, which also sport *að*. For instance, binding facts point to the existence of a PRO subject in control *að* constructions, but not in *að* progressives (Sigurðsson 1989); *að*-control infinitives and *að*-progressives behave differently with regard to fronting; and

⁴There is one case where a (pro)nominal can be used to refer back to the infinitive of the progressive *vera að* construction (Þráinsson 1979:443):

- (i) *er hann að borða?* → *já, hann er að því.*
 is he to eat-INF yes he is to it-DAT.SG.NEU
 ‘Is he eating? Yes, he is (doing so).’

því refers to the preceding VP. Only the dative singular neuter pronoun is possible, even for referring to two conjoined infinitives, e.g. *er hann að borða og (að) drekka?* → *já, hann er að því.* (‘Is he eating and drinking? Yes, he is.’).

In non-progressive cases, *að* is a regular productive preposition that assigns dative to its DP object, e.g. *að morgni* to morning-DAT ‘in the morning(s)’, *að meðaltali* to middle-number-DAT ‘on average’, (*fá bókina*) *að láni* get book-the-ACC to loan-DAT ‘(get the book) on loan’. Icelandic *að* is cognate with English *at*, the Old English preposition *on*, which also assigned dative to its object. *on* plus a nominal V-*ing* is the likely OE origin of today’s progressive *-ing*. Furthermore, *að* is the equivalent of the English complementiser ‘that’.

⁵It is standardly assumed that *to* occupies I° in control infinitivals (e.g. Haegeman 1994:168-171, 255-261; Ouhalla 1994: 105-109; Radford 1988). Þráinsson (1979:442) has proposed the same for Icelandic. For Icelandic and some other Germanic languages however, it is often argued that *to*-equivalents in control constructions have ‘to’ in C° (e.g. Holmberg 1986:154ff, Platzack 1986:215ff, 1998:151-155; Sigurðsson 1989:52-76).

phonetically, *að* in progressives can more easily be elided than in control infinitives. I will not discuss Icelandic control constructions here; however, there is a consensus in the literature that they are clausal, viz. that they are at least IPs (or even CPs), with *að* in I° (or C°), Platzack 1998; Sigurðsson 1989; Þráinsson 1979). The progressive *að* constructions at hand are sub-clausal, presumably VPs. Þráinsson (1986:140) labels progressive *að*-phrases without argumentation as VP. Like Þráinsson, Sigurðsson (1989:69, 74) assumes that progressive *vera* takes a 'non-clausal complement'. Yet he remains undecided as to whether this non-clausal complement is an IP with *að* as lexicalised I° without a (PRO) subject, or whether it is a bare VP complement, where *að* is 'only some kind of a proclitic on the nonfinite verb' (Sigurðsson 1989:53, 71). He does not discuss any details of this proclitic.

Platzack (1998), discussing a similar construction of auxiliary + *att* 'to' + infinitive for Swedish, suggests that *att* is an enclitic to the auxiliary – and not a proclitic to the infinitive. According to Platzack (1998:150), [auxiliary + *att*] is inserted straight from the lexicon as one complex verb. However, such an analysis must be rejected for the Icelandic progressive, since *að* always 'sticks' to the infinitival thematic verb, and never to the auxiliary: When finite auxiliary *vera* moves overtly such that it is separated from the thematic verb, as in raising past negation or adverbs, or in V1/V2 clauses (recall 16a, c, 19a), morphological material intervenes between *vera* and *að*, but never between *að* and the infinitive. *að* is thus more closely tied to the thematic infinitive than to auxiliary *vera*.⁶

At the risk of oversimplification, I treat the Icelandic progressive as a VP, where the V *vera* takes a VP infinitival complement with a slightly mysterious proclitic *að*, as in (24).

$$(24) \quad [_{VP1} \quad [_{V'} \quad [_{V'} \text{ vera}] \quad [_{VP2} \quad [_{V'} \text{ að } V]]]]$$

I will treat the English and Icelandic progressives both as VPs that contain a nonfinite VP complement, whilst the morphology of these complements differs. A finite form of *vera* occupies I° and thus signals the existence of IP. However, phonetic reductions and elisions of *vera* are permitted in connected speech, but the interpretation of progressives with and without auxiliary and with and without *að* is the same. I thus suggest that the progressive in spoken adult Icelandic consists of an IP, the head of which can be phonetically null. Consequently, the lack of an overt progressive auxiliary in Icelandic does *not* signal lack of IP. This is worth bearing in mind as we consider the acquisition data.

$$(25) \quad [_{IP} \text{ SPEC } [_{I'} \{ \text{er}_j / \emptyset \} \quad [_{VP1} [_{V'} t_j \quad [_{VP2} [_{V'} \{ \text{að} / \emptyset \} \quad V]]]]]]$$

⁶ It also is possible to conjoin progressive infinitives with and without *að*, as in (i).

(i) *mína er Lilja að borða og (að) tala i símann.*
 now is Lilja to eat-INF and (to) speak-INF in phone-ACC.the
 'Lilja is eating and talking on the phone right now.'

My analysis of adult Icelandic is reminiscent of 'Null Aux' and 'Modal drop' proposals about child grammars, particularly of German, English and Dutch (e.g. Boser, Lust, Santelmann and Whitman 1992; Bennis, Beukema and den Dikken 1997; Ferdinand 1996; Schlichting 1996:93; Whitman 1994). These researchers suggest that when children produce a (nontargetlike) root infinitive, there is in fact a finite null auxiliary (typically a modal) in their mental representation of the clause (for further discussion see Chapter 6). Whilst I am positively disposed towards these Aux drop accounts, they have not been able to explain why a child would posit null auxiliaries in the first place, if they do not exist in the adult language.⁷ In spoken Icelandic however, there is a high-frequency progressive construction that makes use of the infinitive (no such progressive constructions exist in the other Germanic languages). And crucially, the auxiliary in this progressive construction can be null, which may have an effect on the productions by Icelandic children.

3. The acquisition of the Icelandic progressive by monolinguals

Little is known about the acquisition of the progressive by monolingual Icelandic children. Anecdotes from parents and linguists suggest that two- and three-year-olds produce both targetlike full form progressives (*vera* + *að* + INF) as well as bare infinitives with a progressive reading.⁸ To date, there are no studies of monolingual Icelandic children below the age of 2;0, so we have no data on their earliest word combinations. Sigurjónsdóttir (1991) is a longitudinal study of verb placement (V2) in two Icelandic children, Birna (2;0,19-3;1,28) and Ari (2;0,19-3;7,16).⁹ She does not look at verbal inflections or auxiliary

⁷ There are no null allomorphs of auxiliaries in present-day German and the German dialects I am familiar with; I believe the same to be true for Dutch. With regard to the Scandinavian languages, the only null auxiliary I am aware of is a null variant of the Swedish perfective *ha* 'have', commonly found in the adult language in embedded clauses in all registers, in rapid colloquial speech also sometimes in non-embedded clauses, as well as in child Swedish (Lundin 1987). Spoken British English has null auxiliaries in restricted contexts (Radford 1994): null allomorphs of progressive ((a)re) V-ing in questions (cf. fn. 2) and of ((ha)ve/(ha)s) got. Neither of these result in root infinitives.

⁸ Elisabet Arnardóttir, p.c. August 1997; Jóhanna Barðdal, p.c. August 1998; Hrafnhildur Ragnarsdóttir, p.c. August 1997; Sigríður Sigurjónsdóttir, p.c. May 1997.

⁹ These data were collected during a period of 1 year (Birna) and 1½ years (Ari), in 90 min audio-recording sessions, which began in autumn 1981. The data were collected, transcribed and analysed by Randa Mulford and students at the University of Iceland (Reykjavik). The data are now held by Hrafnhildur Ragnarsdóttir at the Icelandic University College of Education (formerly Teacher Training College). Transcriptions are orthographical but try to represent speech (and not written Icelandic); nevertheless it is unclear exactly how true the examples are to phonetics.

omissions, and she does not investigate progressives. However, as she provides quantified data on verb types, including auxiliary *vera*, we can extract details on Birna's and Ari's progressives in non-subject-initial (NSI) clauses, i.e. questions and declaratives with topicalisation. Unfortunately, Sigurjónsdóttir's data do not cover SV(O) declaratives, which would be the most frequent type of clause and word order in Icelandic.

Both Ari and Birna produce progressives in questions and in NSI declaratives in their early samples (2;0-2;1), but at low numbers. Progressives with both overt auxiliary and *að* do occur, already by 2;0,19 for Birna (in wh-questions, see below), though they remain rare throughout the observation period. Yet there are several instances of progressives with overt auxiliary + infinitive (and no *að*), overt *að* + infinitive (and no auxiliary), or only an infinitive (neither auxiliary nor *að*). As the progressive goes unmentioned in the generally sparse literature on Icelandic acquisition, I give some examples, where inaudible material is enclosed in brackets, and the likely interpretation below.

(26) Early overt auxiliary and *að*

- a. *mamma, hvert ert(u) að fara?*
 mum where-to are(~you) to go-INF
 'Mum, where're you going?' Birna 2;0,19 (Sigurjónsdóttir 1991:69)

- b. *hvað er X að gera?*
 what is X to do-INF
 'What is X doing?'¹⁰ Birna 2;0,19 (Sigurjónsdóttir 1991:67)

- c. *hvað er X að gera?*
 what is X to do-INF
 'What is X doing?' Ari 2;1,14 (Sigurjónsdóttir 1991:72).

- d. *Þessi er a(ð) gera?*
 this is to do-INF
 No gloss, probably: 'This (one) is doing (it)?'
 Birna 2;5,2 (Sigurjónsdóttir 1991:54)

(27) *að* omitted, auxiliary overt

- a. *Þett(a) er hún (að) fela.*
 this-NEU is she (to) hide-INF
 'This she's hiding.' Birna 2;0,19 (Sigurjónsdóttir 1991:89)

- b. *hva(ð) ert(u) (að) setja?*
 what are(~you.CL) (to) put-INF
 'What are you putting (there/down/etc.)?'
 Birna 2;0,19 (Sigurjónsdóttir 1991:67)

¹⁰ For reasons of anonymity, X replaces a name in utterances b. and c.

(28) No auxiliary

- a. *mamma, (ertu að) skrifa Óli prik?*
 mummy, (are~you to) write-INF Óli stick?
 'Mummy, are you drawing (a) moon-face?' (called Óli prik in Icelandic)
 Birna 2;0,19 (Sigurjónsdóttir 1991:53)
- b. *(var hann) að hilla?* (subject omitted)
 (was he) to sleep-INF
 'Was he sleeping?'
 Birna 2;0,19 (Sigurjónsdóttir 1991:52)
- c. *(er/var) mamman úti að labba m(eð) barnið sitt?*
 (is/was) mummy-the out to walk-INF w(ith) child-the REFLEXIVE
 'Is/Was the mother walking outside with her child?'
 Ari 2;7,24 (Sigurjónsdóttir 1991:58)
- d. *nú (er) hann að koma.*
 now (is) he to come-INF
 'Now he is coming.'
 Birna 3;1,28 (Sigurjónsdóttir 1991:90)
- e. *svo (er) alltaf Auður að keyra mig.*
 so (is) always Auður to drive-INF me-ACC
 'So Auður is always taking me there.'
 Birna 3;1,28 (Sigurjónsdóttir 1991:90)

Since we are dealing with progressives in questions and NSI clauses only, conclusions about Birna's and Ari's progressives in general have to be speculative. But since progressives occur both with and without auxiliaries and *að* early on in questions and NSI clauses, it can be conjectured that the children produce progressives in SVO declaratives also with and without auxiliaries and *að*. Many of the cited omissions are targetlike in colloquial Icelandic, recall equivalent productions by adults in (16-18). However, some of Birna's and Ari's progressives are omissions of *era* from *initial* (V1) position in yes/no-questions (28a-c), which is nontargetlike (recall (13)).

SVO declaratives with and without progressive auxiliary are discussed in Sigurjónsdóttir (1998a:71-72) for Birna at age 2;0-2;6. Sigurjónsdóttir notes cases of Subject + INF, e.g. *ég fara til Dódiar*. I go-INF to Dódi-GEN 'I (am) going to Dódi.' (Birna 2;06,13). Sigurjónsdóttir (1998a) interprets these as *nontarget* progressives, because the auxiliary *era* is not overtly realised. She relates these Icelandic examples to progressive auxiliary *be* omissions in early child English (e.g. *he crying*.) and suggests that both are cases of underspecified or missing I°. This is a tempting interpretation; however, we independently know from Sigurjónsdóttir (1991) that Birna and Ari at 2;0 and 2;1 also produce targetlike progressives *with* overt auxiliary; even in wh-questions with subject-auxiliary inversion, recall (26, 27). These data go unmentioned in Sigurjónsdóttir (1998a).

Sigurjónsdóttir also notices Subject + *að* + INF in progressive contexts, e.g. *hann að gráta*. he to cry-INF 'He (is) crying.' (Birna 2;01,07), which she interprets as nontargetlike Aux omissions.¹¹ However, recall that adults don't pronounce *að* as [a.ð] in colloquial Icelandic but at best as a short vowel [a] or [ə], which may be an amalgam of auxiliary + *að*. We can surmise then that this is also the case for the child utterances Sigurjónsdóttir cites. I therefore suggest that the vowel-like element may well be an assimilation of auxiliary + *að*, and thus (near-)targetlike, a view shared by Hrafnhildur Ragnarsdóttir (p.c. August 1997), who holds the Icelandic data files.

It would be interesting to see how *overt* auxiliaries develop in the productions of Birna and Ari. And it would be crucial to compare their productions with the parental input they received. Sigurjónsdóttir (1998a) does not do so, she simply states that the children's auxiliary-less progressives are nontargetlike. This, as we have seen, cannot be correct, as colloquial adult Icelandic does permit progressive auxiliary (and *að* elisions). It is therefore highly likely that Birna's and Ari's input also contains auxiliary-less progressives, as is the case for Katla's input and colloquial spoken adult Icelandic in general. Consequently, the auxiliary-less progressives produced by Birna and Ari would not be cases of underspecified or missing I° at all, but targetlike.

In sum, today we know too little about the acquisition of the Icelandic progressive by monolinguals. No data exists on children before the age of 2;0, and no investigation has been carried out as to what they do after 2;6. From Sigurjónsdóttir (1991, 1998a) we know that monolinguals from 2;0 to 2;6 produce progressives with overt auxiliary and *að*, without auxiliary but with *að*, and with neither, but we can only guess about the targetlikeness of the child productions with regard to parental input.

¹¹ In a manuscript which I received after the completion of this thesis, Sigurjónsdóttir (1998b) investigates infinitives with subject in 8 of Birna's files (2;00,19-2;6,13) quantitatively. As shown by her table (8), the infinitives gradually decrease over the 6-month investigation period. Sigurjónsdóttir finds that "many" of Birna's infinitives, including the above *ég fara til Dódiar*, are amenable to a progressive interpretation, and may thus be analysed as nontargetlike progressive *vera*-Aux drop.

(8): Ratio of root infinitives vs. infinitives with the infinitival marker *að* 'to' (Sigurjónsdóttir 1998b)

Age	RI		<i>að</i> +verb (inf.)		Total infinitives	
	N	%	N	%	N	%
2;00:19	80	42%	10	5%	= 90	47%
2;01:07	38	25%	15	9%	= 53	34%
2;02:00	34	22%	10	7%	= 44	29%
2;03:12	20	9%	25	10%	= 45	19%
2;04:09	30	10%	8	3%	= 38	13%
2;05:02	17	4%	24	6%	= 41	10%
2;05:23	6	3%	8	4%	= 14	7%
2;06:13	29	7%	16	4%	= 45	11%

4. The acquisition of the English progressive

4.1. Monolingual child English data

In the acquisition literature, there is a wide consensus that progressive *-ing* is produced extremely early by monolingual English children. Mostly it is the very first inflectional morpheme to occur, usually already at the two-word stage and before age 2;0 (Brown 1973; Cazden 1973; de Villiers and de Villiers 1973, 1985; Ingram 1989:451-454; Radford 1990a:159-160). Furthermore, the morpheme order studies of the 1970s found *-ing* in many children to be the first grammatical morpheme out of 14 to reach Brown's 90% acquisition criterion: A morpheme must be provided in 90% of obligatory contexts in three consecutive samples to qualify for the label 'acquired'. Brown (1973) found for Adam, Eve and Sarah combined that they acquired *-ing* before any other inflectional morpheme, at a MLU (mean length of utterance) of 2.33 (Brown 1973:274). Cazden (1968, 1972, 1973:232-233) and Brown (1973:271) also looked at the three children individually and found *-ing* to be amongst the first bound morphemes to be acquired. For Eve, *-ing* was the very first bound morpheme to reach criterion (Stage II, age 1;9); for Adam *-ing* and plural *-s* simultaneously came first (Stage II, age 2;6). For Sarah, who acquired plural *-s* first, *-ing* was the second bound morpheme to reach criterion (Stage II, age 2;10). These findings were replicated by de Villiers and de Villiers (1973) in a cross-sectional study of 21 English-speaking children between 1;4 and 3;4, where progressive *-ing* (and plural *-s*) were the first bound morphemes to reach the 90% criterion. To summarise, progressive *-ing* is acquired very early by monolinguals. Overuse of the progressive has not been attested (Brown 1973:324; Fletcher 1979:274-275). Nontargetlike *-ing* omissions are very rare.

On the other hand, auxiliary *be* appears to be one of the grammatical morphemes to be acquired *last* by monolingual children (Brown 1973; Cazden 1973; de Villiers and de Villiers 1973, 1985:68; Ingram 1989; Radford 1990a; Valian 1992). Researchers, irrespective of whether they are working with MLU or age as a point of independent measure, have pointed out unanimously that the earliest progressives produced by English-speaking children are nontargetlike auxiliary *be* omissions of the following type:

- (29) a. *She _ painting.*
- b. *You _ drinking milk.*
- c. *What _ doing?* (auxiliary and subject omission)

Radford (1990a) in fact claims that in his data of various (British) English-speaking children, he could not find any auxiliary *be* before age 2;0; he does not provide quantified data though to back up his claim (cf. Valian 1992, below).

At later ages or higher MLUs, targetlike progressive *be* does get produced in obligatory contexts, but typically it does so only optionally, for a long time (Brown 1973; Cazden

1973; Ingram 1989; Radford 1994, 1996; Valian 1992:413-417). In Brown's (1973) morpheme order study, auxiliary *be* is amongst the last of the inflectional morphemes to be acquired: Uncontracted auxiliary *be* is in 12th place out of 14, contractible *be* is 14th. Again, this finding has been replicated by the cross-sectional study of de Villiers and de Villiers (1973), who found uncontracted and contractible auxiliary *be* to occupy 14th and 13th place, respectively, of a total of 14 morphemes. Cazden (1973), also studying Adam, Eve and Sarah, confirms Brown's results: none of the three children attain the 90% criterion for auxiliary *be* before Stage V (MLU > 4.0 morphemes), i.e. at the end of the study. Cazden's study is interesting because she provides data on each child one by one, and thus documents individual differences: At Stage V, Eve supplies 18% of auxiliary *be* in obligatory contexts, Adam 23%, and Sarah 79%, a much higher percentage (Cazden 1973:231-233).

Valian (1992:413-421), in her cross-sectional study of 21 (American) English-speaking children, did find progressive auxiliary *be* already to be produced by her youngest test group of 6 children at 1;10-2;2, with MLUs of 1.53-1.99, though at low numbers. These youngest test subjects produced auxiliary *be* in 39% of obligatory contexts, with a range of 0%-83%; only two out of the six children did not produce auxiliary *be*. This suggests that Radford's claim that young English-speaking children categorically omit auxiliary *be* is too sweeping.

For her 3 groups with higher MLU (2.0-2.76; 3.00-3.72; 4.00-4.38 – and higher ages (2;2-2;8)), Valian (1992:421) found that the provision of auxiliary *be* in obligatory contexts slowly increases, up to a mean of 77% (with a range of 73%-80%) for children with MLU >4.00. Valian's data suggest that whilst there is a quantitative difference in the provision of progressive *be* between children at very low and higher MLUs, there is no qualitative difference for the majority of children. Her cross-sectional data thus corroborate Brown's (1973) and Cazden's (1973) longitudinal findings that auxiliary *be* is acquired gradually, and omissions of *be* linger on until late.

The literature is sparse on whether monolingual children produce nontarget progressives *other* than auxiliary *be* omissions. Cazden (1972; 1973) investigates other types of nontarget progressives, such as *-ing* omissions (e.g. **I'm play* instead of *I'm playing*), in Adam's, Eve's and Sarah's longitudinal data, and finds hardly any. Eve never uses a form of progressive *be* without *-ing*; Adam and Sarah do so occasionally. However, in all of Sarah's longitudinal data, Cazden finds only 9 constructions with finite auxiliary *be* + infinitive, and these do not have a progressive, but a future, intensional reading (e.g. **I'm play with it = I'm going to play with it*). This use has also been found in the speech of lower-class black American children from Roxbury, as Cazden (1972:38-39) notes; it would have been important to know though whether Sarah was exposed to this dialect, and we are not told. Cazden describes the *be* + infinitive cases as follows:

These utterances seemed to have different derivations in the two children's language. In Sarah's speech there were nine instances, all of them "I'm" plus verb, such as, "I'm play with it" and "I'm twist his head". These constructions are probably reduced catenatives conveying intention rather than referring to ongoing action. In Adam's speech, only one utterance was counted as Auxiliary without *ing*—"Dey are stand up." But there were many instances of "its" plus verb, such as, "Its go up" and "Its went away." Elsewhere (Brown et al., 1969) Adam's use of "its" has been analyzed as a temporary segmentation error which led him to consider "its" as a variant of "it" in subject position, perhaps because in his mother's speech "it" was followed much more often by "is" than by a main verb. (Cazden 1973:232)

Unfortunately, Cazden does not discuss Adam's *its* + verb constructions in context. Note that some of these verbs are *not* infinitives (*its went away*) and have a clearly non-progressive target (past *it went away* or perfect *it's gone away*). The adult targets of others, such as *its go up*, remain unclear from Cazden's article (*it goes up?*, *it's gone up?*, *it went up?* or perhaps progressive *it's going up?*). By consulting Brown, Cazden and Bellugi (1973:312-314), we find that the majority of Adam's *its* + verb are not *its* + infinitive, but *its* + *inflected* verb, where Adam uses *its* as a variant of the subject pronoun *it* (e.g. *its fell*, *its has wheels*, *its hurts*, *its went on the top*). Thus, Adam's novel synthetic verb constructions are not novel progressives.

I am not aware of any investigation of nontarget progressives (other than *be* omissions) in the literature apart from the brief mention by Cazden (1972, 1973). However, beginning with the morpheme order studies of the 1970s, progressive *be* and progressive *-ing* have been investigated in detail, and every study has found frequent and persistent *be* omissions, whilst *-ing* reaches criterion (90%) extremely early. I have found no mention of errors in the literature on monolingual child English that progressive *-ing* is used in nonprogressive contexts; or errors where *-ing* is omitted, but progressive *be* provided (except for the above **dey are stand up* instead of *they are standing up*); or where both auxiliary *be* and *-ing* are omitted, resulting in a bare infinitive in a progressive context (such as **they stand up* instead of *they are standing up*.) It can thus be conjectured that such nontarget progressives do not occur in monolingual child English at any noticeable level. I will show that Katla's English is different, and that this is most likely due to Icelandic influence.

4.2. Approaches to progressive acquisition in monolinguals

4.2.1. Morpheme order studies

Why progressive *-ing* is acquired so early by monolinguals has been less studied. The late 1960s and 1970s frequently attempted to explain early versus late acquisition of morphemes by syntactic and semantic complexity. Brown (1973) for instance suggested a metric of

cumulative complexity as an index of grammatical and semantic difficulty. For syntactic complexity of a morpheme, one counted the number of transformations involved in deriving the syntactic structure this morpheme occurred in; for semantic complexity, one counted so-called dimensions of meanings that are involved in the use of a particular morpheme. However, procedures of this kind fell into disrepute, as they relied on soon outdated transformational models, and as the procedures to determine semantic complexity were dubious (for discussion see de Villiers and de Villiers 1985).

There have also been attempts to link the early acquisition of *-ing* by children to a high frequency of *-ing* in the input they receive. As the description of ongoing actions is a common situation in child-adult interactions, transcripts of recorded play sessions of young English-speaking children often contain many obligatory contexts for progressives, as well as many progressives in the input by the parents/caretakers. In this context, a study by Forner (1977) cited by de Villiers and de Villiers (1985:72-73) is relevant: Forner (1977) found a high correlation of the order of acquisition of 5 bound morphemes (progressive *-ing*, third person present *-s*, possessive *'s*, plural *-s*, past *-ed*) with the frequency of these morphemes in parental speech: For both Adam and Eve, whose first morpheme to reach 90% was progressive *-ing*, *-ing* was the most frequent bound morpheme in their input; for Sarah who had plural *-s* first, followed by *-ing*, plural *-s* was the most frequent bound morpheme in her input.¹² On the other hand, Brown (1973), who investigated input frequency and morpheme order in Adam, Eve and Sarah for his 14 morphemes, did not find any significant correlations. However, it should be pointed out that Brown (1973) calculated one average parental input frequency profile out of the inputs of various caretakers to several children. This profile was created on the basis of parental utterances in very early samples, often a long time before the child reached criterion. Brown (1973) did not consider that input might change over time, and that his average input profile might not be representative of the input the child received when actually acquiring a morpheme or construction. Brown's average input profile also disregards the fact that input can vary considerably from person to person and depends on the type of activity; in fact an average profile just may not be representative of *any* individual. It should also be borne in mind that not finding a correlation between input frequency and morpheme order acquisition (90% criterion) does not exclude a correlation between input frequency and first (or productive) use of a morpheme. The role input frequencies play, then, is still unclear.

Whilst high parental input frequencies of *-ing* may lead to early productive use in children, it is unlikely that input frequencies alone determine early morphological acquisition. Adam's, Eve's and Sarah's parents did frequently produce progressive *-ing*. However, since progressives in English obligatorily consist of auxiliary *be* as well as *-ing*,

¹²Unfortunately, de Villiers and de Villiers (1985) do not report which input data from parents Forner (1977) used as a basis for his/her input frequency calculations.

the parents must have produced a lot of finite *be* auxiliaries too, and a cursory look at CHILDES transcripts confirms this. Despite this high input of *be* forms, Adam, Eve and Sarah omitted progressive auxiliary *be* for a far longer period and much more frequently than they omitted *-ing*. Of course, all progressives sport *-ing*, whereas the form of *be* changes depending on tense, number and person (e.g. *am, are, is, was, were*). The frequency of each individual auxiliary form is therefore lower than that of *-ing*. It remains to be shown whether these frequencies are the cause of the children's low auxiliary provision. If so, children should acquire those forms of auxiliary *be* first that are most frequent in the input (such as third person singular present *is*, in contrast to lower frequency past tense *was*); I am not aware of any investigations of this.

4.2.2. Functional category approaches

Generativists have approached progressive acquisition from different directions, namely that of functional categories. *-ing* is a nonfinite inflection, and as discussed above, for a long time, *-ing* has not been regarded as a morpheme corresponding to a functional projection. Consequently, supporters of No Functional Categories have easily been able to explain the early occurrence of *-ing* in child language: *-ing* is just part of the verb, so it can occur long before the clausal functional projections (IP/TP etc.) mature or are constructed by the child (e.g. Aldridge 1989; Radford 1990a:41-45, 158-160). In contrast to *-ing*, auxiliary *be* is a functional element, occupying I°. Thus, No Functional Categories can account straightforwardly for early child English: *-ing* is provided, *be* omitted. For models in which *-ing* corresponds to a functional aspectual head (e.g. Sano and Hyams 1994), such an explanation of early *-ing* would need changing to the effect that certain functional projections like Asp mature or get constructed earlier than others (I°/T°/Agr°). Radford (1994:143-144) argues to this effect: Like Sano and Hyams (1994) he assumes progressive *-ing* to be associated with an Asp head immediately above VP, whilst auxiliary *be* is hosted in a much higher functional projection, Agr°, above T° for Radford (1994:144).¹³ What would need explaining under such an approach is *why* the functional projection of Aspect matures or is constructed earlier. Is it because Aspect is a lower functional projection in the syntactic tree, and does 'lower' always mean 'acquired earlier'? If so, is this the case cross-linguistically? Such a claim is made by Vainikka and Young-Scholten (1996a:30). Radford (1990a, 1994, 1996) does not address this issue. Alternatively, is *-ing* acquired earlier than *be* because Aspect is conceptually, semantically, cognitively more 'basic' than Tense and Agreement? This is discussed below.

¹³In a later paper, Radford (1996:45), appears to discard this analysis and reverts to a syntactic model without Asp, placing *-ing* again in V, as in Radford (1990a).

Recall that Valian's (1992) quantified data showed that English-speaking children below MLU 2.0 *do* optionally produce progressive *be*, in contrast to Radford's claims that they do not. Consequently, a limited grammar with no projections above VP or AspP – and thus no host for *be* – is untenable for empirical reasons. Furthermore, Valian (1992) found that similar to her subjects below MLU 2.0, children at MLUs between 2.0 and 3.0 as well as children with MLUs *higher* than 3.0 were inconsistent in their use of auxiliary *be*. Valian's findings of quantitative, but not qualitative differences between the MLU groups for 4 out of 6 children cast doubts on maturational and constructionist accounts, which predict a sudden shift: If the functional projection that hosts finite *be* in progressives only emerges around or after age 2;0 (or a certain MLU), *be* should be categorically absent until then, but after that age, *be* should be provided targetlike in close to all obligatory contexts. This is clearly not the case empirically, as the acquisition of progressive *be* is extremely protracted. Valian (1992:147) explains the gradual decrease in *be* omissions as an increase in performance capability in the child. In contrast to a No (or Few) Functional Projections account, Valian (1992) ascribes to Full Competence, or Strong Continuity, where all functional projections exist in early child language; the child needs to learn the language-specific morphology and pair it off with the corresponding functional categories. But there are *performance* limitations which are only gradually overcome with time and age. *Be* omissions are simply production problems and 'can be attributed to cognitive savings' (Valian 1992:416). With increasing age – and increasing cognitive development? – children perfect their performance and eventually *be* omissions peter out. Such an account is certainly plausible, and matches the empirical facts far better than No Functional Projections. However, Valian's (1992) processing explanation also has a weak point: Valian leaves unexplained why *-ing* reaches criterion so early. Why do performance limitations only affect the provision of *be*, but not of *-ing*? Valian does not discuss this issue.

Another approach to the progressive is that of Sano and Hyams (1994), for whom all functional projections exist in early child language, but where certain projections remain empty or 'unspecified'. Asp would be the lowest and the first functional head to get filled – with *-ing* (Sano and Hyams 1994:551; Tsimpli 1992; Vainikka and Young-Scholten 1996a). That is why children provide *-ing* at criterion so early. *Be* on the other hand is acquired late because I° is 'unspecified' for the child, and as long as I° is unspecified (for tense, finiteness and agreement in Φ -features, presumably), morphological material such as finite *be* cannot occur in it. Unfortunately, Sano and Hyams (1994) do not discuss how I° comes to be

specified.¹⁴ Nor do they discuss why it is that children optionally *do* fill this unspecified, non-adultlike I° with targetlike finite forms of auxiliary *be*.¹⁵

Also, an explanation is needed *why* the functional projection of Aspect is lexically filled so much earlier than I°. Here, Sano and Hyams are very brief. They mention reasons of 'economy' (Sano and Hyams 1994:550), i.e. Asp should be filled earlier because it is a lower functional projection. Further, they speculate that aspectual distinctions are easier for children than temporal distinctions and allude to the Aspect Hypothesis of Antinucci and Miller (1976), also known as the Aspect Before Tense Hypothesis. This hypothesis became very popular during the 1970s and 1980s, and is still with many researchers today, despite substantial counter-evidence. The hypothesis was originally proposed to account for the fact that Italian, French and English children appear to use past/perfective morphology on punctual/telic verbs earlier than past tense morphology on other verbs (e.g. Aksu 1978 for Turkish; Antinucci and Miller 1976 for Italian; Bloom, Lifter and Hafitz 1980 for English; Bronckhart and Sinclair 1973 and Ferreiro 1971 for French).

Under the Aspect Hypothesis, it is surmised that young children lack knowledge of tense/finiteness and knowledge of temporal relations, and that those verbal inflections children do produce encode inherent lexical aspect (e.g. punctuality, result) or verbal aspect (e.g. perfectivity).¹⁶ Indeed, the claim is even stronger than that: Not only do children encode aspect first, but they encode aspect *instead* of tense, that is, morphology that is used for tense marking in the adult language is used as aspect marking by the children. Sano and Hyams (1994:550-552) and Hyams in subsequent publications (Hyams 1996:102-103; Hoekstra and Hyams 1995, 1996:258) explicitly subscribe to this view: English finite verb inflections (*-s*, *-ed*) are not tense/agreement markers for young children, but aspect markers in Asp°, unlike in adult English, where they occur in I°.

¹⁴ Elsewhere, in her work on root infinitives, Hyams proposes that un(der)specification of Infl disappears when a pragmatic principle, to do with number agreement, matures sometime before age 3;0 (Hoekstra and Hyams 1996:258; Hyams 1996:120).

¹⁵ As unspecified I° means *be* omissions, targetlike *be* provisions should mean that I° is specified. Under this scenario, there is an optional *be* stage where the child switches between two grammars, one with a specified, one with an unspecified I°. Sano and Hyams (1994) however do not mention any such interchangeable grammars (proposed e.g. by Kroch 1994 and Lebeaux 1988); moreover, what would trigger the disappearance of the unspecified I°-grammar? Alternatively then, another interpretation of Sano and Hyams (1994) is that during the period when *be* is optional, the targetlike finite *be* forms are cases of unspecified I°, exactly as the nontargetlike *be* omissions are. However, nothing suggests that the finite *bes* produced by children during the optional stage are defective, rather their agreement and tense inflection is targetlike (also according to Sano and Hyams (1994)). Since *bes* produced *before* the point at which I° allegedly gets specified are identical to the *bes* produced *after* that point, I cannot see why we should assume that they are qualitatively different. Consequently, the hypothesised I°-specification loses its explanatory value.

¹⁶ The Aspect Hypothesis has then be extended to encompass not only perfective, but also other types of aspect, like progressive.

Of the different models discussed, I believe that a Full Competence approach like Valian's (1992) describes the monolingual acquisition data best and keeps stipulations at a minimum. However, apart from Valian's proposed gradual decrease in performance limitations, I conjecture that the reason for the low provision of auxiliary *be* is also to do with input frequencies: *-ing* has only one form, easily learnt, and is more frequent than the individual forms of finite auxiliary *be*, which, due to the wide range of forms, is more open to performance limitations. Moreover, *-ing* is perceptually more salient than *be* since (a) its form *-ing* is invariant, (b) *-ing* is metrically heavy because of the non-reducible vowel and the closed syllable, (c) *-ing* often occurs at the edge of a prosodic domain.

Let's now look at Katla's acquisition of progressives and compare her to monolinguals. I start with Icelandic, as this is more straightforward than the English data.

5. Katla's Icelandic progressives

The first contexts for Icelandic progressive in Katla's data occur at age 1;6,15 (S19), 1;6,24 (S22) and 1;7,21 (S24). For an overview, see Figure 3.1. In these early samples, Katla produces one finite auxiliary *vera* + infinitive, as illustrated in (30), whilst all 10 other progressives are subject plus bare infinitive (31-34).

(30) Katla 1;6,15 (S19)¹⁸

%com: M and K playing with dolls, a mother and a baby girl

*MUM: *er dúkkan a(ð) sitja?*

%eng: is doll-NOM.SG.FEM-the.SG.FEM to sit-INF = is the doll sitting (down)?

*KAT: [ɛ 'side].

%com: *e(r) sitja.*

%eng: is sit-INF = is sitting.

%com: no question intonation, V1 declarative, null 3SG subject

Ice. progressive, cf. 'dúkkan/hún er að sitja' (= the doll/she is sitting.)

¹⁸Katla's utterance consists of a front vowel homophonous to third person singular present *er* 'is' and an approximate rendering of infinitive *sitja* 'sit'. This follows a question by Katla's mother which also contains *er* and *sitja*; note though that Katla's utterance is not an imitation. Katla does not use rising question intonation as her mother, but a targetlike, declarative level pitch contour. She does not repeat the mother's utterance verbatim, but the auxiliary immediately precedes the infinitive. It is plausible that there is a null topic (3SG subject) and that *er* occupies I⁰, as it would in the adult grammar.

(31) Katla 1;6,15 (S19)

*MUM: *átt(i) hún (að) sitja hjá mömmu?*

%eng: should she sit with mummy?

%com: M puts the girl doll next to the mother doll.

*MUM: *svona.*

%eng: like this.

%com: K moves the dolls over to the stairs made of lego bricks.

*UTE: *no ## they have to sit on the stairs.*

*MUM: *yeah.*

*KAT: ['beibi 'sid "ðεð].

%com: = *baby sit # [there!!]*.

*KAT: ['ðæt].

%com: unclear, perhaps = that?

*KAT: ['beibi "si:djð].

%com: *baby sitja.*

%eng: baby sit-INF = Baby is sitting.

%com: K describing what the doll is doing: progressive 'baby er að sitja'.

(32) Katla 1;6,15 (S19)

*MUM: *a [doll!!]*.

*KAT: ['dodədu "si:də].

%com: *dúkkuna sitja.*

%eng: doll-the sit-INF = the doll is sitting.

*KAT: *doll!*

*KAT: [dədədə] # ['sidə] # ["si:də].

%com: *dúkkuna sitja # [sitja!!]*.

%eng: doll-the sit-INF sit-INF = the doll is sitting, sitting!

*UTE: *hm.*

*KAT: *[doll!!]*.

*MUM: *já.*

%eng: yes.

(33) Katla 1;6,24 (S22)

%com: M and K are in the living room, while D is making dinner in the kitchen.

*MUM: *er pabbi a(ð) búa til matinn núna?*

%eng: is daddy-NOM to prepare-INF to food.ACC.SG.MASC-the now?
= is daddy fixing dinner now?

%com: K does not answer.

*MUM: *hm.*

*KAT: *pabbi bú(a) nammi.*

%eng: daddy-NOM prepare.STEM food/candy.INDECLIN = daddy is fixing food.

%com: progressive context, cf. *pabbi er (að) búa til nammi.*

*MUM: *já.*

%eng: yes.



(34) Katla 1;7,21 (S24)

Bare infinitives with progressive readings, Katla describing ongoing actions.

- a. *pabbi ýta.*
Daddy-NOM push-INF
'Daddy is pushing.' cf. *pabbi (er að) ýta.*
- b. *(U)ti ýta.*
Ute push-INF
'Ute is pushing.' cf. *Ute (er að) ýta.*
- c. *sskaka ýta.*
Katla-NOM push-INF
'I am/Katla is pushing.' cf. *Katla (er að) ýta.*
- d. *hann labba.*
he walk-INF
'He's walking.' cf. *hann (er að) labba.*
- e. *Po(st)man Pa(t) labba.*
Postman Pat walk-INF
'Postman Pat is walking.' cf. *Postman Pat (er að) labba.*
- f. *sskaka labba.*
Katla walk-INF
'Katla is walking.' cf. *Katla (er að) labba.*

As bare infinitives are acceptable variants of *vera* + *að* + INF in Icelandic connected speech, Katla's early progressive bare infinitives without auxiliary (31-34) cannot be taken as evidence against IP. Yet I hesitate to take the bare infinitives on their own as evidence for the existence of IP – they are ambiguous, and could be either nontarget VPs-only, under a No Functional Projections approach, or they could be full clauses with IP with a null auxiliary allomorph in I°, under a Strong Continuity approach. However, the existence of IP in Katla's grammar at 1;6,15 has already been established on the basis of copula data in Chapter 2; and alongside progressive bare infinitives Katla produces the Aux + INF in (30). I therefore think it is most plausible to treat Katla's early utterances with bare infinitive progressives (31-34) as IPs.

Figure 3.1. illustrates the development of Katla's Icelandic progressives: At 1;11,24 (Sample 34) and 2;0,00 (Sample 35), Katla produces bare infinitives in progressive contexts again, but also overt Aux + infinitive and a first instance of bare *að* + infinitive, see below.

(35) Katla 2;0,00 (S35)

%com: Katla and adults playing with K's baby doll.

*ADU: *hún vill sofa.*

%eng: she.NOM want-3SG.PRES sleep-INF = she wants to sleep.

%com: K installing doll in the cot

*KAT: [hun ə'so:va "lɛŋg].

%com: *hún er sofa [leng(i)!].*

%eng: she.NOM is.3SG sleep-INF long.ADV = she's sleeping for a [long!!] time.

%com: Ice. progressive, cf. 'hún er að sofa lengi'.

[...]

*KAT: [hun ô su "so:va lengð].
 %com: *hún er so+... [sofa!!] lengi.*
 %eng: she.NOM is 3SG sl- sleep-INF long.ADV = she's sleeping for a long time.
 %com: Ice. progressive
 *UTE: *okay, she's sleeping long?*
 [...]
 %com: more dolls are put into the cot
 *UTE: *going to sleep.*
 *KAT: [Iʒl gou:in tu "bæd]?
 %com: *is she going to bed?*
 %com: Eng. progressive -ing, T BE Aux, rising question intonation
 *KAT: [hun a "so:va nu].
 %com: *hún a(ð) sofa nú.*
 %eng: she.NOM to sleep-INF now = she's sleeping now.
 %com: Ice. progressive, cf. 'hún er að sofa nú'.

(36) Near-minimal pairs of progressives with *sofa* 'sleep' with and without auxiliary
 Katla 2;0,00 (S35)

a.	<i>hún er sofa leng(i).</i>	'She is sleeping long.'
b.	<i>hún er su+... sofa lengi.</i>	'She is sleeping long.'
c.	<i>hún er su+... sofa.</i>	'She is sleeping.'
d.	<i>hún _ a(ð) sofa nú.</i>	'She is sleeping now.'
e.	<i>baby _ sofa.</i>	'Baby is sleeping.'
f.	<i>baby _ so+... sofa lengi.</i>	'Baby is sleeping long.'
g.	<i>vi(ð) _ sofa á golfi(ð).</i>	'We're sleeping on the floor.'
h.	<i>vi(ð) _ sofa.</i>	'We're sleeping.'
i.	<i>doll _ sofa.</i>	'The doll is sleeping.'
j.	<i>that doll _ sofa.</i>	'That doll is sleeping.'

As Fig. 3.1. shows, contexts for Icelandic progressives are not very common in Katla's samples before age 2;10 and her productions mostly take the form of bare infinitives. When Katla's progressives are grouped by age range and percentages are calculated for each progressive type, substantial distributional shifts over time are revealed, as illustrated in Fig. 3.2. For the 22-month period from 1;6 to 2;10, 79% (27/34) progressives are bare infinitives, and 6% (2/34) bare *að* + INF. Only 15% (5/34) are Aux + INF, and full form Aux + *að* + INF do not occur at all. After 2;10, the percentage of bare infinitives decreases and that of overt Aux + INF, with and without *að*, increases significantly. In samples 2;11-3;3, bare infinitives make up 41% (22/54) of progressives, Aux + INF 50% (27/54), Aux + *að* + INF 9% (5/54). In the last samples (3;4-3;6), bare infinitives have decreased to 0% (0/7), as Fig. 3.2. shows. However, this disappearance of bare infinitives is likely to be a sampling artefact, due to the low raw figure total (7). A cursory look at Katla's samples beyond 3;6, which I have not quantified, suggests that bare infinitives continue to be

produced occasionally in progressive contexts, as is the case for adult Icelandic. Table 3.1. therefore gives an alternative breakdown of progressives, with only two sample groupings (1;6-2;10 versus 2;11-3;6).

Table 3.1. Katla's Icelandic progressives, percentages. 2 age ranges.

Progressive type	Age range 1;6-2;10	Age range 2;11-3;6
Aux + INF	5/34 = 15%	31/61 = 51%
Bare INF	27/34 = 79%	22/61 = 36%
Aux + að + INF	0/34 = 0%	7/61 = 11%
Bare að + INF	2/34 = 6%	1/61 = 2%

The cut at 2;10/2;11 was chosen for maximum effect; a different cut would make the shift towards more overt auxiliaries somewhat more gradual. Yet it is not plausible to explain the 'sudden' increase in overt auxiliaries with maturation or construction of IP at 2;11. This would be extremely late. Maturation and constructionist approaches regard IP to be instantiated around age 2;0 (e.g. Aldridge 1989; Aldridge, Borsley and Clack 1995; Clahsen 1990/91; Lebeaux 1988; Meisel 1994a, 1994b; Platzack 1990; Radford 1990a, 1992, 1994, 1996). Moreover, if we were to assume that IP emerges that late (2;11) in Katla's Icelandic and a reflex of that is the sudden higher provision of overt auxiliaries, should we not also find a similar reflex of IP emergence in Katla's English, such as a substantially higher provision of auxiliaries? But we don't (see below). I think that the visible increase in Katla's overt Icelandic progressive auxiliaries at 2;10/2;11 is rather to do with external influence: Katla spent 3 weeks in an all-Icelandic environment in Iceland at that time (Christmas 1995), and the Icelandic input boost 'lasted' upon her return to the UK and the English-dominant environment. Katla's full form progressives and her wider range of auxiliary forms that occur from 2;11 are exemplified in context below.

(37) Katla 3;0,17 (S61); minimal pairs of 'full form' and *að*-less progressives

%com: Katla and Mum are playing an Icelandic game, *bingó*, where cards need to be turned and matched against pictures.

*KAT: *hvað kemu(r) næst?*

%eng: what.NOM/ACC come-3SG.PRES next = what's next?

*MUM: *ég veit ekki, smíðu.*

%eng: I know not, turn.IMP~you.CL = I don't know, turn (a card).

*KAT: *hver er með, með stelpa sem er að lúlla á koddinn sinn?*

%eng: who.NOM is with with girl that is to sleep-INF on pillow-
-NOM.SG.MASC-the-NOM.SG.MASC REFL-NOM/ACC.SG.MASC
= who's got a girl that is sleeping on a pillow?

%com: Ice. progressive, overt Aux + a

*MUM: *heyðou, er það ekki dvergur sem er a(ð) lúlla á koddanum sínum?*
 %eng: hear.IMP~you.CL, is that not dwarf-NOM that is to sleep-INF on pillow-
 -NONNOM.SG.MASC-the.DAT.SG.MASC REFLEX-DAT.SG.MASC
 = listen, isn't that a dwarf that's sleeping on a pillow?
 %com: M points out that not a girl, but a dwarf is depicted, K corrects herself:
 *KAT: *hver er með dvergu(r) sem lúlla á koddann, koddinum sínum?*
 %eng: who is with dwarf-NOM that sleep-INF on pillow-NONNOM.SG.MASC-
 the.ACC, pillow-NOM.SG.MASC-the.DAT.SG.MASC REFL-DAT.SG.MASC
 = who's got a dwarf that's sleeping on a pillow?
 %com: Ice. progressive, bare infinitive
 *KAT: *ég.*
 %eng: I.NOM = me.
 %com: K answers her own question as she realises she has the card herself.

- (38) Katla 3;0,17 (S61); minimal pairs of 'full form' and *að*-less progressives
 %com: M and K are playing the card game bingó.
 *MUM: *hver kemur næst?*
 %eng: who.NOM come-3SG.PRES next = who's next?
 *KAT: *hver er með dvergu(r) sem er a(ð) gera svona?*
 %eng: who.NOM is with dwarf-NOM that is to do-INF so
 = who's got a dwarf that's going like that?
 %com: K is demonstrating what the depicted girl is doing.
 %com: Ice. progressive, overt Aux + *að*
 *MUM: *ekki [ég!!].*
 %com: not I.NOM = not [me!!].
 *KAT: *ég, ég var það.*
 %eng: I.NOM, I.NOM was it = it was [me!!].
 %com: K realises she has the matching card herself.
 *MUM: *hann, hún er a(ð) lyfta upp höndunum sínum, er það ekki?*
 %eng: he, she.NOM is to lift-INF up hands-DAT.PL-the.DAT.PL REFLEX-DAT.PL,
 is it not = he, she is lifting up her hands, isn't she?
 *KAT: *það er ég.*
 %com: it is I.NOM = it's me.
 *KAT: *hún er gera svona.*
 %eng: she.NOM is do-INF so = she's going like that.
 %com: K illustrates what the depicted girl is doing.
 %com: Ice. progressive, overt Aux, no *að*.

- (39) Katla 3;0,17 (S61); first instance of present perfect progressive
 %com: Mum and Katla discuss why a girl in K's book had a traffic accident.
 *MUM: *af hverju fer hún til læknis?*
 %eng: why goes she-NOM to doctor-GEN = why is she going to the doctor's?
 *KAT: *af því hann hefu(r) verið (að) fara á rauða ljósið.*
 %eng: because he has-3SG.PRES been-PPP (to) go-INF on red light-the.ACC
 = because he (i.e. she) was running a red light.
 *MUM: *fór hún yfir á rauða ljósið?*
 %eng: went she over on red light-the.ACC
 %com: K nods

For most of the observation period, full forms (Aux + *að* + INF), *að*-less Aux + INF and auxiliary-less *að* + INF cooccur with bare infinitives in progressive contexts, often in near-minimal pairs with the same thematic verb in the same sample as in (37-38), e.g. ...*sem er að húlla* and ...*sem húlla*, both meaning '...that is sleeping'. This strongly suggests that the auxiliary-less progressives should also be treated as IPs, with a null allomorph of *vera* in I°.

Katla's development of progressives is difficult to compare to that of Icelandic monolinguals, since there are no quantified data available for them; recall the discussion of Sigurjónsdóttir (1991, 1998). Katla's progressives are not any different from those examples by monolinguals cited in the literature. However, Sigurjónsdóttir (1998a) suggests that Birna at 2;0-2;6 oftens produce auxiliary-less progressives but with overt *að*.¹⁹ This would be different from Katla, who only has 7% and 2% progressives of this type. When comparing Katla's progressives to the input she receives from her parents (Section 2.2.), we find that her low percentages match that of the adults (2% bare *að* + INF).

Katla's other types of progressives differ in frequency from those of her parents: For all age ranges, bare infinitives are more common for Katla (1;6-2;10: 79%, 2;11-3;6: 36%) than for the adults (14%). Full form Aux + *að* + INF (1;6-2;10: 0%, 2;11-3;6: 11%) are much less common than for the adults (53%). This difference is partly to do with the fact that the adults ask more V1 questions and produce more past tense progressives, which do not allow auxiliary elision, than Katla does, who mainly produces progressives with elision-prone 3SG present *er* (schwa).

The main developmental change over time is that Katla's overt realisation of the finite progressive auxiliary *vera* gradually increases.²⁰ This trend most likely continues past the 3;6 cutoff point. We have thus found an Icelandic equivalent to the gradual increase in progressive auxiliary *be* that is attested for monolingual English-speaking children (e.g. Valian 1992). The difference is that in Icelandic, auxiliary-less progressives also occur in adult speech and thus that many of Katla's progressive bare infinitives are acceptable, whereas auxiliary-less progressives in English (i.e. bare *-ing* forms) would not be targetlike. With this in mind, let's now turn to progressives in Katla's English productions.

¹⁹ Sigurjónsdóttir (1998b) states that 3%-10% of Birna's verbs are bare *að* + INF, and that 'a substantial proportion' of her root infinitives contain *að*. However, she does not investigate how many of Birna's progressives (with or without auxiliary) contain *að*.

²⁰ This increase is not due to distributional shifts over time in the progressives in Katla's input. The total number of progressives per sample certainly varies considerably from sample to sample, and also within a sample, depending on the type of activity. However, the input frequencies of progressives on the whole do not increase or decrease over time. And crucially, the input frequencies of particular progressive *forms* do *not* shift over time (such as bare infinitives becoming rarer, as they do in Katla's productions).

6. Katla's English progressives

Katla produces progressives in English (i.e. utterances composed of English lexical elements, in English discourse contexts) somewhat later than in her Icelandic. The first *-ing* form (40) is produced at 1;8,28, two and a half months later than the first Icelandic progressives (at 1;6,15). In (40) progressive auxiliary *be* is omitted. Katla's first overt auxiliary *be* in a targetlike English progressive occurs at 1;10,09, see (41).

(40) Katla 1;8,28 (S25), first *-ing* form.

%com: Katla and Ute discussing different kinds of animals

*UTE: *a mouse goes like this.*

%com: Ute imitating a mouse with her fingers

*UTE: *but a rabbit jumps like this.*

%com: Ute imitating rabbit jumping

*KAT: *rabbi(t) jumping.*

(41) Katla 1;10,09 (S31); first occurrence of progressive auxiliary *be* + *-ing* form

*UTE: *and what is the big teddy bear eating, # spaghetti?*

*UTE: *bread?*

*UTE: *what is he eating, hm, [>yoghurt]?*

MUM: [>what*] *is the teddy getting?*

*MUM: *rice crispies?*

*MUM: *no.*

KAT: [?ais*].

%com: *rice.*

*MUM: *rice.*

*UTE: *rice?*

*UTE: *oh right.*

%com: lots of noise and coughing, as K makes the teddy eat imaginary rice

*KAT: [*iz 'i:diŋ "O:l*].

%com: *is eating [all!!].*

%com: TL Eng. progressive, null topic: 3SG subject (he = teddy bear)

*UTE: *oh right!*

This is the only instance of a targetlike progressive in Katla's English productions before 1;11,24. All other progressives are auxiliary-less bare *-ing* (as in monolingual English-speaking children), and *novel* constructions, unattested for monolinguals.²¹ Katla's novel progressives take the form of finite auxiliary *be* + [a] + infinitive, e.g. *he's [a] sit down*. 'He's sitting down.', finite auxiliary *be* + infinitive, e.g. *she was stand on her head*. 'She was standing on her head.', as well as finite auxiliary *be* + [a] + *-ing* form, e.g. *snowman's [a] crying*. 'The snowman is crying.' These idiosyncratic progressives are argued below to

²¹Unattested means not mentioned in the existing literature on the acquisition of progressives by monolingual English-speaking children, as reviewed in Section 4.1.

be due to Icelandic influence. Novel progressives occur from 1;6,24 to 3;4,20 (Sample 72), and nontarget auxiliary-less *-ing* progressives occur until age 3;6,07 (Sample 76), plus in the non-quantified data beyond that point (3;6-4;7).

To investigate Katla's 452 English progressives, it proves worthwhile to classify them as monolingual-style (358) versus non-monolingual style (94). Monolingual-style progressives are of two subtypes: targetlike Aux + *-ing* and nontargetlike bare *-ing*. Fig. 3.3. shows the raw figures for both subtypes combined for each sample. With age, monolingual-style progressives increase in number and also in percentage out of all progressives. Compared across 3 age ranges, Katla's monolingual-style progressives make up 66% (116/176) at 1;6-2;10, increasing substantially to 85% (182/213) at 2;11-3;3, and to 95% (60/63) at 3;4-3;6 (see Figs. 3.3.-3.4., grey bars).

Let's look at these progressives by subtype. Fig. 3.5. gives the raw figures sample by sample across the observation period; borderless dark grey bars represent targetlike overt Aux + *-ing*, black-bordered bars represent nontargetlike bare *-ing*. Visually the raw figure diagram suggests that bare *-ing* predominate in the early samples, whilst in the later samples bare *-ing* are outnumbered by targetlike Aux + *-ing*.²² This is confirmed by the breakdown by percentage in Figs. 3.6., 3.7. and 3.8. Fig. 3.6. groups Katla's samples into 4 age ranges to display distributional shifts in her progressives with maximum effect. Figs. 3.7. and 3.8. group the samples into 13 age ranges, of exactly 2 months each, for a more detailed analysis.

Let's start with Fig. 3.6. During the first stage (1;6,00-1;10,00), there are no targetlike Aux + *-ing* at all, bare *-ing* making up 100% (3/3). At the second stage (1;10,09-2;4,23), targetlike Aux + *-ing* make up nearly half of the monolingual-style progressives, namely 41% (18/44), and bare *-ing* 59% (26/44). After that, targetlike Aux + *-ing* constitute the overwhelming majority of Katla's progressives, 81% (209/257) at the third stage (2;4,27-3;3,11) and 89% (48/54) at the fourth stage (3;4,07-3;6,07). Bare *-ing* decrease to 18% (47/257) and 11% (6/54), respectively. This gradual decrease of nontarget bare *-ing* over time is also shown clearly by the more detailed graphs in Figs. 3.7 and 3.8., going from 100% (1/1) at 1;8-1;9 down to 11% (4/32) at 3;6.²³

²²Throughout the entire observation period (1;6-3;6), Katla produces only one instance (i) of nontarget overt *nonfinite* Aux + *-ing*, at 3;1,20 (Sample 64):

(i) *KAT: *because they be washing.* (Target: 'Because they are washing.')

This translates into a negligibly low percentage of nontarget *nonfinite* progressives, 0.3% (1/358) of monolingual-style English progressives, or 0.2% (1/452) of all English progressives. Katla's data mirror what has been found for monolingual English children: They do not use *nonfinite* auxiliary *be* instead of finite *be*. They may omit the auxiliary, but when provided, it is correctly inflected for tense and agreement (de Villiers and de Villiers 1985; Stromswold 1990).

²³ The rise-fall from 37% (16/43) at 2;4-2;5 up to 67% (10/15) at 2;6-2;7 and down to 13% (2/16) at 2;8-2;9, which disturbs the otherwise smoothly declining curve of bare progressive

The interpretation of these data is straightforward: From an initial stage of purely auxiliary-less progressives, Katla goes through an extended period of optionally overt auxiliaries until overt progressive auxiliary *be* reaches the 90% acquisition criterion nearly, but not quite, at the end of the observation period. Katla thus mirrors the acquisition of progressives as documented for monolinguals longitudinally and cross-sectionally (recall Section 4.1.; Brown 1973; Cazden 1973; Valian 1992; de Villiers and de Villiers 1973).

Some examples of Katla's progressives during the optional auxiliary period are given in (42-43), note the near-minimal pairs within the same sample.

(42) Katla 2;0,00 (S35)

- a. *is she going to bed?*
- b. *it's going.*
- c. *and it _ going to bed.*
- d. *they _ going to sleep.*
- e. *they **are** falling down?*
- f. *we're falling down.*
- g. *it's falling down.*

(43) Katla 2;6,17 (S49)

- a. *I'm falling down, mummy.*
- b. *I _ falling down.*
- c. *I'm jumping now.*
- d. *I _ jumping.*
- e. *I _ first jumping.*

The complete omission of progressive *be* before 1;10 (cf. (40)) might be interpreted such that that Katla's grammar initially lacks IP. Note however that the 100% *be*-omissions equal 1 omission out of a total of 1 context at 1;8,28; not particularly strong data to argue against IP. Is there any evidence then that Katla instantiates IP at this point? There is – overt finite auxiliary *be*, i.e. a morphological realisation of Infl, occurs in Katla's Icelandic-style progressives at 1;6 and 1;10 (see below). Recall also from Chapter 2 that Katla's English and Icelandic copula data point to an existing IP already at 1;6, i.e. her earliest multi-word utterances.

-ing, is not significant, but has come about by the arbitrary age range division from year;even month to year;uneven month. As readers can verify for themselves (Fig. 3.5.), if the 2-month ranges were to be counted from year;uneven month, sample 2;5,04 (with a low total of bare *-ing*) and sample 2;6,17 (with a high total of bare *-ing*) would not fall into different age ranges as they do in Fig. 3.6, but into the same age range 2;5-2;6, evening out the rise-fall. I therefore hold fast with the conclusion that Katla's bare *-ing* shows a smooth decline over time.

To conclude, Katla's English progressive data, just like her Icelandic progressive data (Section 5.), do not provide evidence in favour of No Functional Projections before 1;10. Katla's English progressives from 1;10 onwards provide evidence against No Functional Projections. I interpret her developmental data as supporting Full Competence.

Let's now turn to those progressives that are neither targetlike Aux + *-ing* nor bare *-ing*, i.e. progressive forms idiosyncratic to Katla (94 instances). These novel progressives are:

- (i) Finite auxiliary *be* + [a] + infinitive (16%, 15/94),
e.g. *he's [a] sit down*. 'He's sitting down.' (2;4,27, S47); *it is [a] work*. 'It is working.' (3;0,07, S59); *that way I'm [a] wash my hand*. 'That way, I'm washing my hands.' (3;0,07, S59); *cause she's [a] want to make it hot*. '(Be)cause she's wanting to make it hot.' (3;0,29, S62); *he's [a] cry*. 'He's crying.' (3;3,02, S68).
- (ii) Finite auxiliary *be* + infinitive (69%, 65/94),
e.g. *I'm eat water*. 'I'm eating water.' (2;4,27, S47); *he's put a foot on red*. 'He's putting a foot on red.'²⁴ (2;5,04, S48); *I'm not have tea*. 'I'm not having tea.' (2;6,17, S49); *monkey is sit in the car*. 'The monkey is sitting in the car.' (3;0,07, S59); *she was stand on her head*. 'She was standing on her head.' (3;4,07, S70).
- (iii) Finite auxiliary *be* + [a] + *-ing* form (11%, 10/94),
e.g. *I'm [a] jumping*. 'I'm jumping.' (2;4,27, S47); *snowman's [a] crying*. 'The snowman is crying.' (3;0,14, S60); *she's [a] walking*. 'She's walking.' (3;2,28, S67); *what is she is [að] talking?*; 'What's she talking/saying?' (3;1,10, S63). *it's [a] flying*. 'It's flying.' (3;2,28, S67).
- (iv) Bare [a] + *-ing* form (4%, 4/94), rare, e.g. *what [a] doing?* (2;6,17, S49).

As the examples show, there is a wide range of verbs and subjects, with the auxiliary inflected for tense and agreement. These novel forms, produced in progressive contexts, are unattested for monolingual English-speaking children. For Katla, they make 21% (94/452) during 1;6-3;6, compared to 79% (358/452) monolingual-style progressives. I suggest that the large majority of the novel progressives ((i) + (ii), 85%, 80/94) are straightforward transfer of the Icelandic progressive construction Aux + *að* + INF into English, as illustrated in (44).

(44) Eng.:	finite <i>be</i>	↘		<i>-ing</i> form (nonfinite)
Ice.:	finite <i>vera</i>	↘ →	(optional <i>að</i>) →	infinitive (nonfinite)

Finite auxiliary *vera* is realised by its English equivalent *be*, targetlike inflected for tense and agreement. *að* [a] is optionally realised, but more often than not omitted, exactly as in adult

²⁴ The context rules out a perfective reading of this utterance.

Icelandic and Katla's child Icelandic. The Icelandic infinitive is realised as an English infinitive. I suggest that ([a]) + INF is the VP complement to auxiliary *be*. Finite *be* has raised from V to Infl, inflected for tense and agreeing with the subject in Φ -features (recall (6), (8)). Despite their nontargetlike form then, the progressives show that Katla's English grammar has an IP-projection. The first novel forms occur at 1;6,24, in the first obligatory contexts for English present progressive. Katla describes what a character in a book is doing, see (45).

(45) Katla 1;6,24 (S22)

%com: Ute and Katla looking at a picture of a girl sitting on a huge ball

*KAT: [hi:z 'zida i: "bɔ:l].

%C/S

%com: *he's sit(j)a i(n) ball.*

%eng: he's sit-ICE-INF in ball = he's sitting on (a) ball.

%com: 's' of 'he's' and 's' of 'sitja' are clearly separated

%com: Eng.-Ice. progressive, cf. he's sitting on a ball./hann er (að) sitja á bolta.

*UTE: *no # this is not a [boy!!].*

%com: U corrects gender of the child depicted

*UTE: *this is a [girl!!].*

Katla produces an English-Icelandic code-mix: a targetlike finite English progressive auxiliary ('s cliticised to the English subject *he*) with a thematic Icelandic verb infinitive and arguably an Icelandic PP. In subsequent samples, Katla produces more novel progressives, but now all lexical material is English, as exemplified in (46-49).

(46) Katla 1;10,00 (S30)

%com: Katla describes what she is doing: putting the doll 'there', i.e. in the cot.

*KAT: ['put] # ['aim pud "ðεə].

%com: *put # I'm put [there!!].*

%com: NT Ice.-style progressive, T: I'm putting (her) there.

(47) Katla 2;0,16 (S36)

%com: Katla is trying to climb into the pushchair by herself.

*KAT: *I'm go in dere.*

%com: NT progressive, T: I'm going in there.

*KAT: *I'm going in dere # in dere.*

%com: TL progressive.

*KAT: *I'n going in dere.*

[...]

%com: Katla again climbing into the pushchair, pretending she is going to sleep.

*KAT: *I'm gon in bed.*

%com: = I'm goin(g) in bed, i.e. to bed.

*KAT: *I'm go i(n) bed.*

%com: NT progressive, T: I'm going to bed.

(48) Katla 2;4,27 (S47)

%com: K playing with dishes in the sink, tap water splashes on the colander.

*KAT: *splash in there.*

[...]

*KAT: *it's splash, Ute.*

%com: NT progressive, T: it's splashing.

%com: 's' of 'it's' and 's' of 'splash' are clearly separated.

*UTE: *is it splashing?*

*UTE: *oh dear.*

(49) Katla 2;4,27 (S47)

%com: K picking up badger (cuddly toy), who's lying on the floor.

*KAT: *he's + ... # don't want to like here.*

%com: 'like' = 'lie', 3SG null subject, T: he doesn't want to lie here.

*UTE: *huh?*

*KAT: *don't want to like here.*

%com: 'like' = 'lie', 3SG null subject, T: he doesn't want to lie here.

*UTE: *what?*

%com: K moves badger and sits him down in another place.

*KAT: *he's [a] sit down on here.*

%com: NT Icelandic-style progressive cf. hann er að sitja ...

%com: NT progressive, cf. hann er (að) sitja ..., T: he's sitting down here.

Note that idiosyncratic *be* (+ *að*) + INF progressives are in random alternation with *be* + *-ing* in the discourse ((47), *I'm go* vs. *I'm going*). Katla allows both Icelandic-style and English-style progressive constructions. Indeed, they co-occur for most of the observation period, as the following minimal pairs from her later samples show.

(50) Katla 3;0,29 (S62)

a. *cause I'm take it.*

cf. Ice. *af því ég er (að) taka það.*

Target: cause I'm taking it.

b. *I'm taking it.*

c. *I'm taking your bag.*

(51) Katla 3;3,02 (S68)

*UTE: *what're you doing?*

%com: K demonstrates what she is doing: turning round and round

*KAT: *I'm do like that.*

%com: NT progressive; cf. Ice. *ég er (að) gera svona.*

Eng. target: I'm doing/going like that.

[...]

*KAT: *I'm doing very dizzy.*

%com: TL progressive; Katla is getting/making herself dizzy.

*KAT: *I'm doing dizzy.*

(52) Katla 3;3,02 (S68)

- a. *he's [a] cry.* cf. Ice. hann er (að) gráta. Target: he's crying.
- b. *why he's crying?*
- c. *(he) was cry.* cf. Ice. (hann) var (að) gráta. Target: he was crying.
- d. *he was crying.*

In addition to these Icelandic-style progressives, from 2;4,27-3;1,20, Katla produces a small number of novel forms that feature *að* and an *ing*-form ((iii) + (iv), 14/94 or 15% of all novel progressives, 14/452 or 3% of all English progressives. They are illustrated in Fig. 3.9. (raw figures, sample by sample, black bars) and Fig. 3.4. (percentages, black bars). I treat them as mixes of the Icelandic and English progressive constructions, as follows.

(53) **finite *be*** $\searrow$ $\nearrow$ **-*ing* form (nonfinite)**
 (optional finite *vera*) $\rightarrow$ (optional *að*) $\rightarrow$ infinitive (nonfinite)

The transfer of a construction from one into the other language is perhaps not surprising in a successively bilingual child. Note that the transfer goes from Icelandic (L1) to English (L2), not vice versa.²⁵ Recall that Katla's first progressives in her Icelandic occur at 1;6,15, one week before the production of her first Icelandic-style progressives in her English at 1;6,24). The first English progressive *-ing* appears later, at 1;8,28, remaining rare before 1;11,24 despite a wealth of English multi-word utterances from 1;6 (cf. Chapter 2). Katla's English, then, is somewhat different from what is known about monolingual English-speaking children. As discussed in Section 4.1., monolinguals typically produce ample *-ing*, even at low ages and low MLUs and they do not omit *-ing* (cf. Brown 1973; Cazden 1972, 1973; Ingram 1989; Radford 1990a; de Villiers and de Villiers 1973, 1985). Due to the successively bilingual exposure and L1 Icelandic influence, Katla's *-ing* may have been slightly delayed. From 1;11,24 though, as the discussion of Figs. 3.3.-3.7. has shown, Katla's development of *-ing* progressives is similar to that of monolinguals, except that she continues to allow Icelandic-style progressives alongside English-style ones in her English.

²⁵There are no cases at all of English-style progressives (with *-ing*) in Katla's Icelandic throughout the entire observation period (1;6-4;7), and only once does an Icelandic verb stem combine with *-ing* (i). This however is not an Icelandic, but an English discourse context and Katla produces an English sentence (where the 2 subjects, 2 auxiliaries, 2 *-ing* forms, 1 verb stem, 1 definite article are all English), with one Icelandic verb stem (*bord*), immediately self-corrected to English *eat*.

(i) Katla 2;10,15 (Sample 55)

%com: Katla and Ute are playing with puppets

%com: K has the crocodile puppet, pretending to eat bread

*UTE: *what're you doing?*

*KAT: *he's bording, he's eating the braud.*

%eng: he's eat.ICE-ing, he's eat-ing the bread.ICE

Here it is worthwhile to look at the development of novel progressives over time. Fig. 3.3. (raw figures) and Fig. 3.4. (percentages across 3 age ranges) illustrate Icelandic-style progressives (i.e. (i) + (ii)) with black-border white bars and English-Icelandic mixes (i.e. (iii) + (iv)) with solid black bars. During the first sample grouping, 1;6-2;10, 27% (47/176) of all of Katla's English progressives are Icelandic-style and 6% (10/176) mixed-style, decreasing to 12% (25/213) and 3% (6/213) respectively in the middle sample grouping, 2;11-3;3, and virtually vanishing by 3;4-3;6 (5% (3/63) and 0% (0/63) respectively). The developmental trend seen in Fig. 3.4. is clear: Novel progressives decrease from about a third of all progressives down to a negligible level at the end of the observation period.

However, the grouping into only three age ranges should be compared with the more fine-grained analysis of Fig. 3.8., which groups the samples into 13 age ranges of the same length, 2 months each (Ice.-style and mixed-style are combined here). The curve of Icelandic-influenced progressives steeply declines from 100% (2/2) at 1;6> (note however that this percentage is unreliable due to the low total of 2), and then oscillates between 0% and 43%. In fact, the lows of 0% (0/1) at 1;8> and 0% (0/2) at 2;2> should be treated with caution because of the low totals (1 and 2 respectively). The totals for all other age ranges are considerably larger (15 to 125) and thus more trustworthy. Disregarding the two 0% lows at 1;8> and 2;2> then, for all other age ranges, Icelandic-influenced progressives make up between 10% and 23% of all of Katla's progressives, but with a four-month peak of 43% (32/75, 2;4>) and 42% (11/26, 2;6>),²⁶ only to disappear very late at 3;6 (0%, 0/36).

Why is it that Katla produces progressive forms unattested in monolinguals for such a long time, for 2 years? Initially, the transfer of a construction from Icelandic into English can be explained as influence of the more dominant L1 on the L2, which Katla at 1;6 has only been exposed to for a few months. Lanza (1990, 1993), Meisel (1989) and Schlyter (1993) have advocated the idea that in child bilingualism transfer phenomena are unidirectional, that they occur only if one of the languages is dominant, and then only from the dominant language at the time into the weaker language. (Unfortunately, 'weaker language' is often not clearly defined. It is assumed that the language in which the child produces substantially fewer utterances is 'weaker'.) Recall from Chapter 2, though, that at 1;6, Katla's English is not really weak: She produces a large number of English utterances both in English and in mixed English-Icelandic contexts. As shown in Chapter 2, she also has a clearly English-specific grammar with regard to DP-structure, which is kept separate from her Icelandic one. And certainly from 1;11,24 onwards, English is not the weaker language at all; if anything, English productions strongly predominate. (Recall that Katla attends an English-only nursery 8-10 hours a day from 1;9-2;10). Nevertheless, Katla continues to produce

²⁶The 'peak' is partly to do with the new emergence of Icelandic-English mixes of the (iii) and (iv) type at 2;4, cf. Fig. 3.9.

Icelandic-influenced progressives in her English, indeed the percentage of such forms slightly increases when her English is strong. This makes it implausible that it is a 'dominant' Icelandic grammar that influences Katla's English for 2 years (à la Lanza 1993, Schlyter 1993). Note also that Katla *does* produce monolingual-style English progressives in great numbers during these years.

I have argued that novel progressives are transferred from L1 Icelandic into English at 1;6. They *persist* for such a long time, I suggest, because there is no evidence that forces Katla to delearn them. The Icelandic progressive structure, consisting of a finite auxiliary and a nonfinite VP complement, is entirely compatible with English IP and VP, *once the slots are filled with English lexical elements*; the structures are next to identical (54).

$$(54) \quad [_{IP} \text{ SPEC } [_{I'} \text{ } [_{I} \text{ Aux}_I + I]] \text{ } [_{VP} \text{ } t_i \text{ } [_{VP} \left\{ ([a])V/V\text{-ing} \right\}]]]]$$

The morpheme [a] does not occur in English and the English nonfinite thematic verb does not take the infinitival, i.e. bare form, but *-ing*. From her input, Katla might be able to extrapolate that [a] (*að*) never occurs in English progressives (indirect negative evidence?). But the difference between English and Icelandic is fuzzy: *að* is often not realised in the Icelandic input Katla receives. Observing percentage differences between the languages and consequently delearning optional [a] in English takes time. On an indirect negative evidence explanation, delearning the infinitival form of the thematic verb should in principle be easier, since here there is a categorical (not only a percentage) difference between Icelandic (never *-ing*) and English (obligatory *-ing*). Observing this categorical difference may have led to the early, high provision of *-ing* in Katla's English progressives (from 1;10), and also to nontargetlike mixes of the type *I'm [a] painting*. On this approach, it remains unclear however why Katla continues to produce Icelandic-style progressives with an infinitive instead of the *ing*-form.

I suggest that Katla's novel progressives are due to initial L1 transfer. This transfer is all the more plausible because progressives in the two languages are structurally compatible, consisting of an auxiliary *vera/be* that takes a VP complement, and which raises to Infl in finite clauses (54). To arrive at two completely separate adult-like morphosyntaxes for the progressive, Katla has to compare and evaluate the input and delearning of the transferred Icelandic-style progressive will be slow.

7. Conclusion

In this chapter, I have investigated Katla's acquisition of progressives. In Icelandic, Katla produces only forms also attested for monolingual children; in her English, she

overwhelmingly does so. Initially, progressives in both her languages are mostly auxiliary-less; bare infinitives in Icelandic, bare *-ing* in English. Should this finding be interpreted as evidence against the existence of functional categories (IP)? My view is that it should not. For Icelandic, I have pointed out the commonness of auxiliary-less progressives in colloquial adult speech – Katla's input. Their interpretation is entirely the same as that of progressives with an overt auxiliary, a morphological instantiation of IP. Consequently, we must assume that there exists a null auxiliary allomorph in Infl in adult auxiliary-less progressives. Katla's Icelandic auxiliary-less progressives should therefore not be taken as evidence against IP, but as reflecting the input she receives. Nevertheless, she produces far more bare infinitives in progressive contexts than the adult controls. As these bare infinitives are acceptable and in alternation with Aux + (*að*) + INF, often in near-minimal pairs in the same sample, I have suggested that we should regard them as instances of IP. I pointed out that the substantial decrease in Katla's bare progressives at 2;11 (down from 79%, bare progressives at 1;6-2;10 to 36% at 2;11-3;6) and the increase in her overt progressive auxiliaries happens far too late as to be taken as indicative of the emergence of an IP projection at that time. Moreover, this shift in Katla's overt Icelandic progressive auxiliaries is not mirrored in her English. I suggested that the Icelandic increase may have been induced by Katla's 3-week immersion stay in Iceland at 2;10/2;11.

Katla's English auxiliary-less progressives are nontargetlike, and there are no null auxiliary allomorphs in adult English (fn. 2) that would serve as a model to the child. The decline of Katla's auxiliary-less progressive forms is gradual and slow, nearing adult use only after two years (3;6). Here, Katla mirrors the development found by Cazden (1972), Valian (1992) and others for monolingual children.

I then turned to Katla's English *nontarget novel* progressives with overt auxiliaries, Icelandic-style, but with English lexical elements, e.g. *he's [a] sit down on here*. I argued that their existence points to Katla instantiating IP in her English grammar already by age 1;6, and certainly before 2;0 – in a domain other than the copula constructions discussed in Chapter 2. I have discussed these novel progressives, unattested for monolingual English child language, in detail. I have suggested that they occur in Katla because of transfer of the Icelandic progressive construction into English at 1;6,24. This is not a transfer of parametric settings from L1 to L2, but a *transfer of an L1 construction compatible with* the grammatical structure of the (L2) English progressive. In addition, Katla acquires the English progressive construction with *-ing*. Novel progressives persist in Katla's data exactly because their Icelandic structure fits the English one so well, once the slots are filled with English lexical elements.

8. Addendum: Nontarget simplex verbs in progressive contexts

I want to mention one other progressive-related type of error, the use of English simple present verbs in obligatorily progressive contexts. Throughout the observation period, Katla occasionally uses simplex verbs with a progressive interpretation. These simplex verbs occur in fully-fledged clauses with overt subject, as well as in subjectless elliptic answers. These simplex verbs are treated separately here because they are neither cases of clearly nontarget root infinitives, RIs (as omissions of 3SG *-s* and past *-ed*, see Chapter 6), nor clearly nontarget progressive forms (such as bare *-ing* or novel progressives, this chapter, Section 6). Consider for instance the following:

(55) Katla 2;4,27 (Sample 47)

%com: Katla watching Ute, who is putting on her shoes the wrong way round.

*UTE: *what am I doing?*

*KAT: *you **put** shoes on.*

%com: progressive, T: you're putting shoes on.

(56) Katla 2;6,17 (Sample 49)

%com: Ute and Katla are playing with the toy buggy, pushing it about.

*UTE: *now it's, it's going uphill, woom!*

*UTE: *very nice.*

*KAT: *I **go** like that.*

%com: progressive, T: I'm going like that.

*UTE: *what are you doing?*

(57) Katla 2;8,28 (Sample 52)

%com: Katla is serving pretend-tea, but then she's having the tea herself.

*UTE: *oops, you're drinking it yourself?*

*KAT: *yeah, I **drink** it.*

%com: progressive, T: I'm drinking it.

(58) Katla 3;0,14 (Sample 60)

%com: K is putting pen tops on her little table.

*KAT: ***put** on my table.*

%com: progressive, T: I'm putting them on my table.

[...]

*KAT: *I **put** my head.*

%com: 'head' is K's word for a pen top, but U doesn't understand.

%com: progressive, T: I'm putting my top (on ...).

*UTE: *what?*

*KAT: *I put my head.*
 %com: progressive, T: I'm putting my top (on ...).
 *UTE: *you put your +...?*
 *KAT: *+, head on.*
 *UTE: *what're you doing then?*
 *UTE: *you're putting, you mean you put the top on, of the, on the pen?*
 *KAT: *yeah.*
 *UTE: *right, but that's not your head.*
 *KAT: *no.*
 *UTE: *no, so you can't say 'I put my head on', can you?*

(59) Katla 3;6,07 (Sample 76)

*KAT: *wow, a bag!*
 *UTE: *it's a bag, yeah.*
 %com: Katla has spotted an empty plastic bag blowing in the wind, floating across an archaeological dig.
 *KAT: *it floats here.*
 %com: progressive, T: it's floating (t)here.
 *UTE: *yeah # floating, flying there.*

The full clauses in (55-59) are not ungrammatical as such, the verb is targetlike with regard to number agreement and tense (though most cases are bare forms). Nevertheless they are distinctly odd, because the context calls for progressive *be* + *-ing*. The same holds for elliptic utterances, where instead of the bare form, an *-ing* form is called for.

(60) Katla 2;4,02 (Sample 44)

*UTE: *what are you doing?*
 *UTE: *are you putting your foot inside # hello, hello?*
 %com: K laughing, taking U's purse and starts taking coins out.
 *KAT: *take the money out.*
 %com: progressive, T: (I'm) taking the money out.

(61) Katla 2;6,17 (Sample 49)

%com: Katla jumping, giggling, throwing jigsaw pieces in the air.
 *UTE: *what're you doing?*
 *KAT: *throw it.*
 %com: progressive, T: (I'm) throwing it.
 *UTE: *throwing jigsaw pieces?*

For the fully-fledged clauses, Katla's simplex verbs with a progressive reading can be interpreted in two ways, either as nonfinite root infinitives (RIs), or as finite, but inappropriate verb forms. It is not easy to decide between the two, since most simplexes are bare forms, homonymous with both the infinitive and the finite present tense form. On the RI interpretation, Katla's nontarget simplexes lack a finite auxiliary, i.e. the auxiliary is there, but is null, à la Boser, Lust, Santelmann and Whitman (1992), or it – and the

corresponding Infl-projection – is underspecified, à la Sano and Hyams (1994), or truly absent, à la Radford (1990a). What remains unexplained, however, under all of these RI approaches is: why is aspectual, nonfinite *-ing* also absent? Note that for monolingual English-speaking children (recall the literature review in Section 4.1.), simplex verbs instead of progressives are unattested; monolinguals omit auxiliaries, but they don't omit *-ing*. Note further that occasionally at least, Katla uses a simplex verb overtly inflected for finiteness instead of a present progressive (cf. (59), where the 3SG *-s* indicates that we are dealing with a finite verb).

I therefore suggest that Katla's simplex verbs are not RIs, but inappropriately used finite verbs, and I further suggest that their inappropriate use is due to Icelandic influence. Recall from Section 2.2. (11b), repeated below, that in Icelandic, as in older versions of English, simplex verbs can be used not only for states and habits, but also for ongoing actions, i.e. progressives.

- (62) a. *mí er hann að labba með hundinn sinn.*
 now is he to walk-INF with dog-the his
 'Now he's walking the dog.'
- b. *mí labbar hann með hundinn sinn.*
 now walk-3SG.PRES he with dog-the his
 'Now he's walking the dog.'

Having transferred such usage to English, there is no negative evidence to tell Katla that in English, simplex verbs cannot *optionally* be used to describe progressives. This may be the case why it takes so very long to delearn inappropriate simplexes: At 3;6,07, there are still some instances (cf. (59)). It would be interesting to see whether Katla has delearnt them now, some years after the end of the observation period. Near-native *adult* second language learners of English with L1 Icelandic, such as Katla's parents, seem unable to delearn them, still producing occasional simplexes in progressive contexts in their L2 English.

Chapter 4. Imperatives and verb raising

1. Introduction

Katla's language separation as witnessed at 1;6 (Chapter 2) becomes even more visible with age, increasing utterance length, more developed lexicons and morphology. In the remainder of this thesis, I focus on grammar differentiation as reflected in the syntax: Thematic verb raising past adverbs and past negation in Icelandic, but not in English (*have* excepted); thematic verb raising past the subject in Icelandic in questions and in non-subject-initial topicalisations, but not in English; verb raising and subject pronoun clitisation in Icelandic imperatives, but not in English imperatives; verb-second word order in Icelandic, but not in English; *do*-support for negation, question formation, ellipsis and emphatic affirmation in English, but not in Icelandic.

In the generative Principles and Parameters literature of the 1980s and 1990s, such word order differences between two languages have been described as different settings of one or several UG parameters, which are considered to have binary values, [+] and [-] (e.g. Atkinson 1992; Borer 1984; Chomsky 1981, 1986; Hyams 1986; Meisel 1995; Ouhalla 1994; papers in Roeper and Williams 1987; Travis 1991; papers in Weissenborn, Goodluck and Roeper 1992). Examples of such parameters are the pro-drop or null subject parameter (e.g. Hyams' 1986 groundbreaking work; Jaeggli and Hyams 1987; Jaeggli and Safir 1989; Platzack 1987a, 1987b; Rizzi 1982, 1986; Sigurðsson 1989); the head parameter, which regulates whether phrases are head-initial or head-final (e.g. Atkinson 1992, den Besten 1977/1981/1983; Koster 1975), and the verb movement parameter. For Katla's acquisition of Icelandic and English, the verb movement parameter is one of the most relevant. Its [+] setting forces thematic verb raising from V° to I° (Icelandic), whereas the [-] setting, as in English, disallows such verb movement (e.g. Chomsky 1981, 1986; Emonds 1970, 1976, 1978; Ouhalla 1994; Platzack 1996; Pollock 1989; White 1989, 1990/91). For both languages, it is standardly assumed that subjects are generated in VP and, at least in finite clauses, raise to the functional domain, specifically to Spec I. The exact mechanisms (feature checking, subject case assignment, spec-head agreement between subject and a functional head) that might drive such XP movement are still under debate in the literature.

The existence of a V2 constraint in Germanic languages like Icelandic versus the lack of V2 in English has also been described as a parameter, the finiteness parameter or V2

parameter.¹ To this end, an operator in Comp has been proposed to be present [+] or absent [-]; alternatively the proposed operator is parametrised with regard to its location, in Comp or in Infl (e.g. Holmberg 1986; Holmberg and Platzack 1991; Platzack 1998; Platzack and Holmberg 1989; Rizzi 1990; Tomaselli 1990; Vikner 1991:52-160, 320 and references cited therein; cf. also Clahsen and Penke 1992; Hyams 1992; Santelmann 1995; Travis 1991). Such a parameter based on an operator feature foreshadows Minimalist-style parametrisation: In Minimalist models (e.g. Chomsky 1993, 1995; Wilder and Cavar 1994; Zwart 1993, 1994), word order differences are put down to different feature values (strong versus weak), which need to be 'checked' by overt or covert movement. Some models assume that these features are located in the functional heads involved and thus 'attract' the lexical item, whilst in other Minimalist models, features exist both on the functional head and the matching lexical head and need to be checked off against each other. Whatever the model, the task for the child is to set parameters to the right values or acquire the right feature strength values, respectively. For a bilingual child like Katla, this is a double task: to figure out the correct parameter settings/feature values for each of the two languages.

¹ As is well known, in V2 languages, the finite verb appears in second position in declarative clauses. Generative frameworks describe this syntactic phenomenon as a double movement of the verb and another constituent to functional positions. In contrast to English, there can be only one constituent to the left of the V2-verb. (An exception to this rule are cases of V3 in the Scandinavian languages, involving a small class of adverbs, e.g. 'only', 'perhaps/maybe'.) The constituent to the left of the V2-verb need not be a subject (as in English), but is often a 'topicalised' object, an adverbial, a prepositional phrase, etc. Some V2 languages, such as Icelandic and Swedish, also allow the negation particle to be fronted (see Chapter 5), others, such as German and Dutch, allow fronting of a partial constituent, so-called 'remnant topicalisation'. Today, we only have a provisional understanding of the syntactic representation of V2, with competing views in the literature, two prominent ones being the following: The 'symmetric' school treats any constituent to the left of the V2-verb as fronted to Spec C and the verb as fronted to C (e.g. den Besten 1977/1981/1983; Gärtner and Steinbach 1994; Haider 1986; Holmberg and Platzack 1995; Lenerz 1993; Platzack 1986a, 1986b; Platzack and Holmberg 1989; Schwartz and Vikner 1989, 1996; Vikner 1991). On the other hand, the 'asymmetric' school credits only non-subject topicalisation with movement to the CP domain, whereas subject-initial clauses are analysed as movement only as far as the IP domain (e.g. Barbier 1995; Santelmann 1995; Travis 1984; Zwart 1993, 1994). There are also some recent asymmetric models with a split CP, e.g. Branigan (1996), which locate clause-initial non-subject topics in a high projection of the CP domain and subjects in a lower projection in the CP domain.

All V2 languages also allow V1 clauses, where the verb fronts, but the XP does not. Apart from the well-known verb-initial yes/no-questions, V1 is found in imperatives (discussed in this chapter), and in certain declaratives, known as 'narrative inversion' (e.g. Einarsson 1945:173-174; Önnarfors 1997; Platzack 1998:98; Sigurðsson 1983; Sigurjónsdóttir 1991:97-98; Þráinsson 1986).

The following chapters investigate Katla's acquisition of verb raising, where I show that with regard to unambiguously *finite* verbs, her Icelandic productions exhibit targetlike verb raising (and also V2).² Crucially, Katla *never* exhibits non-subject-initial V2 and lexical verb raising (except targetlike *be* and *have*) in *English*. She keeps the grammars of the two languages separate; transfer of verb movement is non-existent. This is noteworthy, because children somewhat older than Katla who start with V2 as their first language (Norwegian, German) and acquire English do transfer verb raising and V2 into their early L2 English (Ravem 1968/74; Wode 1977, 1981/1983:146-147). These Norwegian and German children approach English with an already fully developed L1 grammar, arguably as the initial state of L2A (Schwartz and Sprouse 1996). Katla's case is different: She has only had 14 months of Icelandic input before exposure to English begins, and her own productions before exposure to English amount to 5 single Icelandic words; recall the discussion of Katla's early lexicon in Chapter 2.

In the present chapter, I focus on Katla's acquisition of imperatives. I restrict myself to positive imperatives (e.g. *Run!*); negative imperatives (e.g. *Don't run!* and their Icelandic equivalents) are investigated alongside negation in Chapter 5. In striking contrast to English imperatives, Icelandic imperative verbs precede sentence adverbs and the subject.

I first describe imperatives in (adult) English and Icelandic and their treatment in the syntactic literature. I summarise what is known about imperatives in monolingual children and discuss how Katla's developmental data compares to monolingual peers. Since imperatives have been much neglected in acquisition studies, I also present quantified data on the use of imperatives in the spoken language of Katla's Icelandic and English caretakers, to have a valid point of comparison with the child data. Katla's imperatives are interesting because they provide a test case for parametric language-differentiation, as well as for the existence of functional categories in the clausal domain.

2. Are imperatives finite?

2.1. Traditional grammar

The imperative is considered to be one of the three traditional moods or sentence modes: indicative, subjunctive and imperative. Some languages have particular imperative

² This does not mean that all of Katla's Icelandic utterances exhibit targetlike V-raising. She sometimes uses nonfinite verbs in contexts where the adult language obligatorily would have a finite verb. Interestingly, these nontargetlike infinitival verbs do not raise, as shown by their following negation and sentence adverbials. See Section 6 of this chapter and Chapters 5 and 6. Such 'root infinitives' have been observed in the early productions of children acquiring a range of verb-raising languages (e.g. Dutch, French, German).

inflections (e.g. Latin, Spanish); others, like English, instead use the simplest possible form of the verb. Imperatives are associated with the uttering of directives and commands (e.g. *Do it!*, *Run!*). However, as Davies (1986:4-7, 47-55) points out, there is no full match between imperative verbal category/inflection, sentence type and 'imperative' illocutionary force: Forms other than imperative verbs can also express directives (e.g. auxiliary constructions (e.g. *Will you get back in line!*), *let's* constructions, negated infinitives, see e.g. Davies (1986), Drosdowski (1984:176). Also, imperative forms can be non-directive, e.g. *I'm going to report you for that.* → *Okay, report me then!*, where the imperative is not a command, but indicates lack of expected opposition. In this thesis, I disregard the non-directive use of imperatives, as they are absent in my child language data. However, an important group of non-imperative directives will be investigated in detail, namely negation-initial infinitives (targetlike in Icelandic, nontargetlike in English, see Chapter 5).

Let's now consider how imperatives should be analysed with regard to finiteness. Traditional grammars classify imperatives as finite together with indicatives and subjunctives. Infinitives, participles, gerunds and supines on the other hand are treated as nonfinite (e.g. Bayer 1979; Drosdowski 1984; Einarsson 1945; Holmes and Hinchliffe 1994; Jespersen 1924; Quirk, Greenbaum, Leech and Svartvik 1985). This classification also appears in the sparse generative literature on imperatives (e.g. Huddleston 1984; Radford 1988; Rupp 1998; Sigurðsson 1989, though there are dissenting views, e.g. Beukema and Coopmans 1989; Platzack and Rosengren 1998).

Traditionally, three arguments are given for the finiteness of imperatives. The first one is their 'sentence-building power' (Jespersen 1924:87), i.e. imperatives can stand on their own, just as declaratives and interrogatives with indicative (finite) verbs do. I think however that this is not a particularly convincing argument, since nonfinite clauses can also stand on their own, given the right context (e.g. *Oh to win the lottery!*; *Why not try?*; *To be taken on an empty stomach.*).

Secondly, it is occasionally suggested that a nominative subject in a clause is a finiteness criterion, and since imperatives can have overt subjects (e.g. *You run!*, *Everybody sit down now!*), they must therefore be finite (e.g. Huddleston 1984; Joos 1964:14). Again, this argument is not very good: Imperatives also occur without an overt subject, but this presumably does not affect the status of the imperative verb. (The status of the subject in imperatives is further discussed below.) Furthermore, many (null subject) languages do not usually use overt subjects with indicative (finite) verbs. Thus, [$\pm$] overtness of nominative subject cannot be the criterion for [$\pm$] finiteness. Note also that in certain languages, such as Icelandic, finite verbs can take *non*-nominative oblique subjects. Finally, in some cases, overt nominative subjects may occur with nonfinite non-imperative infinitival verbs, e.g. in German. I shall therefore discard 'nominative subject' and 'sentence-building power' as defining characteristics of finiteness and imperative. Likewise, I reject 'absence of overt

subject' as an indication of nonfiniteness (in imperatives), as has been suggested by Platzack and Rosengren (1998).

The third traditional argument for why imperatives should be regarded as finite concerns morphology and is discussed in the next section.

2.2. Finite imperative morphology and word order

Languages with overt morphology on the infinitive usually mark the imperative *differently* from the infinitive (and other nonfinite verbs such as participles). Consider the following examples of second person singular and plural imperatives from German and Icelandic, as compared to infinitives, and the paradigms in (3).

- (1) a. Ger. infinitive *er ließ Leo lauf-en.*
 he let.PAST Leo.ACC run-INF
 'He let/made Leo run/get away.'
- b. Ger. imperative (i) *(Leo,) lauf!*
 Leo run.STEM/IMP.2SG
 '(Leo,) run!'
- (ii) *(Leo und Lena,) lauf-t!*
 Leo and Lena run-IMP.2PL
 '(Leo and Lena,) run!'
- (2) a. Ice. infinitive *hann lét Leo hlaup-a.*
 he let.PAST Leo.ACC run-INF
 'He let/made Leo run.'
- b. Ice. imperative (i) *(Leo,) hlaup-tu!*
 Leo run.STEM/IMP.2SG~you.2SG.CL
 '(Leo), run!'
- (ii) *(Leo og Lena,) hlaup-ið-i!*
 Leo and Lena run-IMP.2PL~you.2PL.CL
 '(Leo and Lena), run!'

(3) Paradigms of German *laufen* 'run' and Icelandic *hlaupa* 'run'.³

NONFINITE	PRESENT INDICATIVE	PAST INDICATIVE	IMPERATIVE
INFINITIVE <i>laufen</i>	1SG <i>laufe</i>	<i>lief</i>	-
PRESENT PARTICIPLE <i>laufend</i>	2SG <i>läufst</i>	<i>liefst</i>	<i>lauf(e)</i>
PAST PARTICIPLE <i>gelaufen</i>	3SG <i>läuft</i>	<i>lief</i>	-
	1PL <i>laufen</i>	<i>liefen</i>	-
	2PL <i>lauft</i>	<i>lief</i>	<i>lauft</i>
	3PL <i>laufen</i>	<i>liefen</i>	-

NONFINITE	PRESENT INDICATIVE	PAST INDICATIVE	IMPERATIVE
INFINITIVE <i>hlaupa</i>	1SG <i>hleyp</i>	<i>hljóp</i>	-
PRESENT PARTICIPLE <i>hlaupandi</i>	2SG <i>hleypur</i>	<i>hljópst</i>	<i>hlaup</i>
PAST PARTICIPLE <i>hlaupinn, -in, -ið</i>	3SG <i>hleypur</i>	<i>hljóp</i>	-
	1PL <i>hlaupum</i>	<i>hlupum</i>	-
	2PL <i>hlaupið</i>	<i>hlupuð</i>	<i>hlaupið</i>
	3PL <i>hlaupa</i>	<i>hlupu</i>	-

In contrast to traditional grammars, Platzack and Rosengren (1998) suggest that imperatives should be regarded as nonfinite (in German, Icelandic, English, Swedish), because 'the imperative form is usually morphologically meagre' (1998:194). They claim this because imperatives take the simplest morphological form, homophonous with the infinitive or a nonfinite bare verb stem, and have fewer forms than indicative verb paradigms. These facts are by and large correct;⁴ however, they do not prove that imperatives therefore must be nonfinite. Firstly, as the above data from German and Icelandic show, imperatives *are* marked morphologically and are distinct from infinitival, or other nonfinite, verb forms. (The rich imperative paradigms of e.g. Latin and Spanish would be another case in point.) Secondly, imperative directives typically have second person addressees, it is therefore not surprising that many imperative paradigms only have entries for second person. Thirdly, whilst Platzack and Rosengren (1998) are right that in many languages the second person singular imperative takes the form of the verb stem, this does not prove that the imperative form is morphologically meagre or nonfinite: German and Icelandic also have *indicative* verb forms without overt inflection which are homophonous with the verb stem (e.g. Ger. *ich lauf* I run.STEM/1SG.PRES.INDIC 'I run/I'm running.', *ich weiß* I know.STEM/1SG.PRES. INDIC 'I know.', Ice. *ég hleyp* I run.STEM/1SG.PRES.INDIC 'I run/I'm running.', *ég veit* I know.STEM/1SG.PRES.INDIC 'I know.'), nevertheless these are indisputably finite and unanimously considered so. The second person singular imperatives

³ For a small group of verbs in German and Icelandic, the imperative form also shows a stem-internal ablaut vowel change.

⁴ Platzack and Rosengren (1998) however ignore the fact that for all German verbs the second person singular imperative can take the form stem + *-e* (e.g. *lauf!*, *laufe!* 'Run!'), and for some verbs it must do so (Drosdowski 1984:174).

I shall therefore leave imperative morphology and turn to syntax. Usually, word order is neglected by traditional grammars, but it is an excellent test case to show whether imperative verbs behave like finite verbs or like nonfinites/infinitives. In languages such as German and Icelandic, where indicative thematic verbs raise to the left of negation and sentence adverbs, imperative verbs must do so too, whereas (nonfinite) infinitives cannot raise past negation/adverbs (4-5). These facts suggest that imperatives are finite.

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b. Ice. imperative (i) *hlaup_i-tu* *aldrei t_i!*
 run.STEM/IMP.2SG~you.2SG.CL never
 'Never run!'

(ii) **aldrei hlaup!*
 never run.IMP.2PL

c. Ice. infinitive (i) **Leo vill hlaupa_i aldrei t_i.*
 (hlaupa) Leo wants run-INF never

(ii) *Leo vill aldrei hlaupa.*
 Leo wants never run-INF
 'Leo never wants to run.'

Also, in languages where finite thematic verbs can raise to the left of the subject, as in German and Icelandic, imperatives do so too (V1), see (6-7). Again this suggests that imperatives are finite verbs.

(6) a. Ger. V1 *läufst_i du t_i heute t_i?*
 run-2SG.PRES.INDIC you today
 'Do you run today?/Are you running today?'

b. Ger. imperative *lauf_i du (t_i) heute t_i!*
 run.IMP you today
 '(You) run today!'

(7) a. Ice. V1 *hleypur_i-ðu t_i í dag?*
 run-2SG.PRES.INDIC~you.2SG.CL today
 'Do you run today?/Are you running today?'

b. Ice. imperative *hlaup_i-tu t_i í dag!*
 run.2SG.IMP~you.2SG.CL today
 '(You) run today!'

To summarise, the inflections (notably subject-verb agreement) on German and Icelandic imperatives suggest that functional categories are instantiated, and the word order data point to the imperative verb raising to the Infl and Comp domains, as do finite verbs (indicative and subjunctive). In this thesis, I maintain the view that German and Icelandic imperatives are indeed finite and that a child acquiring these languages can easily read off this property from the input because of word order and morphological facts. I show below that monolingual Icelandic children indeed work out finiteness of imperatives (and overt verb raising) very early on. However, bilingual Katla takes a different developmental path. This is to do with English, where, as we will see, the finite/nonfinite status of English imperatives is obscure, both for the linguist and for the child.

2.3. Lack of finite imperative morphology and word order

In contrast to German and Icelandic, English marks neither infinitives nor imperatives overtly (cf. *He made you run*_{INF} vs. *(You) run*_{IMP}!). The finite or nonfinite status of English imperatives is ambiguous, because of their homonymy with both the infinitive and with uninflected, though finite, present tense forms (except third person singular). Word order does not help either to distinguish finite from nonfinite, since thematic finite verbs in English do not raise. Consequently, finite indicative verbs, nonfinite infinitives and ambiguous imperative verbs all pattern together in being preceded by adverbials and negation, see (8).

- (8) Eng. a. Indicative *You always/never run.*
b. Infinitive *He made you always run.*
c. Imperative *Always/never run!*

Whilst word order cannot tell us about the syntactic status of the English imperative, morphological facts might do. The lack of tense differentiation, lack of agreement (third person singular *-s*) and the use of *be* in imperatives have occasionally been used for nonfiniteness (Bolinger 1977; Culicover 1971, 1976; Davies 1986:100, 107, 127-130; Stockwell, Schachter and Partee 1973). These early generative frameworks liken imperatives to nonfinite clauses and suggest that the constituent Aux, a precursor to Infl, which is responsible for tense and agreement, is absent in imperatives. Similarly, some generativists have recently suggested that the functional projections to do with finiteness (IP, TP, Fin(iteness)P) are assumed to be absent or empty in imperatives (Beukema and Coopmans 1989:428; Platzack and Rosengren 1998).⁵ Since they too base their argumentation on the lack of past tense, agreement and use of uninflected *be* in imperatives, let's have a closer look at these facts.

Firstly, consider the lack of tense differentiation and lack of past tense imperatives. This does not strike me as a particularly strong argument: We can only give directives for now and the future, but not for the past – where a counterfactual or irrealis reading would be forced. Consequently, past tense imperatives are logically impossible; their absence does not prove that imperatives (about the present or future) must therefore be nonfinite.

The lack of overt agreement in English imperatives is a fact: Though imperatives most commonly are addressed to second person, third person imperatives do exist, and in third person singular imperatives as (9b), there is no *-s* on the verb.

⁵ Platzack and Rosengren (1998), adopting Rizzi's (1995) split-CP analysis and Chomsky's (1995) Minimalist Program, suggest that imperatives have an impoverished CP-domain phrase structure, lacking FinP, but containing ForceP, where the imperative verb raises to Force⁰. ForceP, for illocutionary force, is the highest of four functional projections in the CP-domain, FinP (finiteness) the lowest. The technical details are irrelevant here.

- (9) a. Indicative *Everybody/Nobody/The boy in the white shirt on the left moves.*
 b. Imperative *Everybody/Nobody/The boy in the white shirt on the left move!*

However, the absence of third person *-s* on imperative verbs does not strike me as a convincing piece of evidence against subject-agreement and finiteness in imperatives. Just why should the imperative paradigm have to be identical with the indicative paradigm in English? The imperative and indicative paradigms are different in all other languages that I know of, and morphologically rich languages such as German, Icelandic, Latin and Spanish have number-person distinctions on imperatives, though agreement may take a different morphological form than that on indicatives. English, with its impoverished verbal paradigm, seems a rather bad choice to investigate agreement. Let's therefore take a look at the third piece of evidence frequently cited for imperatives being nonfinite: Whilst the verb *be* occurs as *am, are, is* etc. in indicatives and has *aren't, isn't* etc. as its negated forms, in imperatives *be*, occurs as uninflected *be* and *don't be*, e.g. (10). At first glance, the argument is straightforward: Imperative *be* is homophonous with infinitival (nonfinite) *be*, therefore both forms must be nonfinite.⁶

- (10) Indicative a. *You are always careful.*
 b. *You aren't careful.*
 Imperative c. *Always be careful!*
 d. *Don't be careful!*

However, it is pointed out less commonly that imperative *be* and infinitival *be* also differ considerably, despite being homophonous. Firstly, only imperative *be* can take an overt subject (*You be careful!, Don't you deny it!*). Secondly, when negated, imperatives take the form *don't be*, but infinitives take *not be*, see (11).

- (11) Imperative a. *Don't be silly!*
 b. **Not be silly!*
 Infinitive c. **I told you to don't be silly/*I told you don't to be silly.*
 d. *I told you not to be silly.*

Imperatives with subjects and negated imperatives with *do*-support are a problem for analyses that liken imperatives to nonfinite infinitival clauses (e.g. Beukema and Coopmans 1989). They resort to treating *don't* in imperatives not as *do*-support, but as an untensed

⁶ Sentential adverbs follow *am, are, is* etc., whilst they precede imperative and infinitival *be*. However, imperatives with the word order *be* + Adv are marginally found, e.g. *Be always careful!* (Davies 1986).

[illegible]

(13) a. *Why don't you be an angel and make some coffee?*
(cf. ??*Why aren't you an angel and make some coffee?*)

b. *Why don't you be a teacher?* (future interpretation)
(cf. *Why aren't you a teacher?* (reference to present state))

c. *If you don't be quiet, I'll send you to bed.*
(Also: *If you aren't quiet, I'll send you to bed.*)

d. *If you be quiet, you can stay here.*
(Also: *If you're quiet, you can stay here.*)

3. The syntactic representation of imperatives in adult English

⁷ Note also that Old English, Middle English and Early Modern English had distinctive second person singular and plural imperative forms, which crucially differed from the infinitive form and from the indicative forms (Fichte 1980: 66, 76-77; Rupp 1998:9-10), consider 15th century IMP.2SG *bring!* and *be!*, IMP.2PL *bringeth!* and *beth(e)!* The absence of overt inflection on imperatives today can be attributed to the general loss of inflectional morphology in the history of English.

thematic verbs. Typically there is no overt subject, but if there is, the imperative verb can never precede it (14). In generative terms then, at surface structure English imperative verbs remain in V^o (15).

- (14) a. *Never run!*
 b. **Run never!*
 c. *[You!!] run!*
 d. **Run you!*⁸

- (15) [VP (you) [V [V V]]]

It has been suggested in the literature (Platzack and Rosengren 1998) that *you* in imperatives is not a prototypical subject, but an entirely optional nominal ('Imperative NP'), more of an address than a referent. This may be so, but don't the addressee properties of *you* lie in the nature of imperatives? Imperatives are typically directives, and thus used to address someone. The pronominal in question is not a vocative, which would be separated from the remainder of the utterance by a pause (#), see (16a), but a pronominal *inside* the intonation contour of the clause (16b).

- (16) a. Vocative *You, # run!*
 Leo, # run!
 b. Subject *(Leo,) # you run!*

Imperative subject *you* is often stressed. It may be contrastive and single out one person or set of persons as the addressee in question (*[You!!] (Leo) run and [you!!] (Lena) stay!*). Alternatively, *you* may also be non-contrastive.⁹ According to Quirk, Greenbaum, Leech and Svartvik (1985:828-829), non-contrastive *you* conveys admonition, irritation,

⁸ The prohibition on postverbal subjects holds for imperatives in Standard English and many English dialects. Some Irish dialects, however, do allow the word order IMP + *you*, e.g. *Run you now!* (Henry 1996). I have also noticed occasional IMP + *you* in elderly speakers from rural Radnorshire and Shropshire, i.e. the Welsh-English borders. The grammar of Katla's English-speaking caretakers (Standard British English and Northern-accented English) does not permit any postverbal subjects in imperatives.

⁹ Quirk, Greenbaum, Leech and Svartvik (1985:828-829) claim that imperative subject *you* is always stressed, contrastive or not, e.g. *[You!!] go up there!*. Noncontrastive *you* in statements, such as when giving directions, is not stressed. *You go up here until you reach the off-licence, and then you turn left.* (Note that subject *you* in directive statements, but not in imperatives, can be rephrased by *one*, e.g. *one goes up here until one reaches...* vs. **Leo, one runs!* in the sense of *You run!*). Whilst there certainly is a tendency to stress imperative subject *you*, I do not think that Quirk *et al* are right that it must be stressed; for instance, *You be good!* is perfectly well-formed with unstressed *you*.

insistence, or adds a more persuasive tinge. Davies (1986:147) sums up the function of this *you* particularly well: “the speaker is laying claim to a certain authority over the addressee.”

Platzack and Rosengren (1998) are right in that the pronominal subject is entirely optional in imperatives – at least for English. This has long been known in traditional and corpus-based grammars. Consider the following quotation: “by far the most common type is the subjectless second person imperative” (Quirk, Greenbaum, Leech and Svartvik (1985:830)). However, the fact that a nominal is easily omitted from a clause does not mean that therefore it isn’t a subject; null subject languages would be a case in point. And as Platzack and Rosengren (1998:196, fn. 28) themselves admit, certain languages (such as spoken Icelandic, see below) require the imperative subject to be overt.

In fact, I believe there are good reasons why we should treat imperative *you* (and equivalents in other languages) as a proper subject. Firstly, *you* acts as the binder of a reflexive anaphor (17a).

- (17) a. *You_i wash yourself_i!*
 b. *e_i wash yourself_i!*

Secondly, *you* can act as a controller of an empty subject in embedded *without*-clauses (18), from Beukema and Coopmans (1989:419).

- (18) *You_i do this [without further e_i arguing about it]!*

Thirdly, the argument structure and thematic role assignment of a verb does not change, irrespective of whether the verb occurs in an indicative clause or in an imperative. These facts about anaphor binding, control, and thematic role assignment also hold for imperatives without subject *you*. It is plausible then to posit a non-overt subject in subjectless imperatives, as in (17b). I will not discuss the status of this null subject (such as *pro*) here, see for instance Beukema and Coopmans (1989), Davies (1986: Chapter 5), Radford (1988:333), Stockwell, Schachter and Partee (1973).

We may wonder what the insertion site of the imperative subject is, overt or not. It might be inside VP, as in (19a), or vacuously moved to or inserted into the specifier of a functional projection, such as Spec Infl (19b).

- (19) a. [VP (*you*) [_{V'} [_V V]]]
 b. [IP (*you_i*) [_{I'} [_I] [VP (*t_i*) [_{V'} [_V V]]]]]

Whether the imperative subject is assigned nominative case (as the subjects of indicative verbs are) cannot be tested in English, as the second person pronoun does not show any case distinctions. One might posit some covert imperative feature or head in Infl, which the

subject enters into spec-head agreement with, by analogy with non-imperative clauses of English (e.g. Beukema and Coopmans 1989:425-427, 435). I favour (19b), but the evidence is slim. Imperatives with an overt subject (not a vocative) *and* a sentence adverbial could tell us about the position of the subject, on the assumption that adverbs mark the upper VP boundary. A subject preceding a sentential adverb would then indicate that the subject occupies a position higher than Spec V, such as Spec Infl. But such imperatives are very rare – I have had problems coming up with natural-sounding examples. Bonnie Schwartz (p.c. August 1998) suggests *You never do that again!* and *You only do that when an adult's here!*. These examples certainly support (19b), with a raised imperative subject raising and the imperative verb remaining in VP. However, no such examples occur in the recorded input to Katla (and there are lots of imperatives). As we will see, the imperatives in Katla's English input are virtually always subjectless. They are also mostly adverbless. From the fact that Subj-Adv-IMP is absent from the recorded input, we can infer that it is extremely rare in the overall input. Because of this, Katla and her peers do not receive any *overt* evidence in Standard English for the existence of projections above VP in imperatives, i.e. for IP or CP, although one may want to assume their existence for interpretatory and universalist reasons. Adverbless imperatives with an overt subject (*you* + IMP) in the input are ambiguous between ((19a) and (19b). Consequently, when children produce imperatives with *you* + V, these are ambiguous too. We cannot treat them as evidence for subject-raising to Spec I and thus as evidence for the existence of IP, nor as evidence against.

4. Imperatives in monolingual child English

Imperatives are not much investigated in the acquisition literature on monolingual child English (e.g. de Villiers and de Villiers 1985; Ingram 1989; Radford 1990).¹⁰ This is perhaps not surprising, because English (positive) imperatives are syntactically unexciting; they are bare verbs, typically subjectless. English-speaking children do not seem to have any difficulty in acquiring them. Nontargetlike inflections on imperative verbs, overuse of subjects or word order errors appear to be unattested. With regard to bilingual first language and early second language acquisition, I am not aware of any investigations into the area of imperatives either.

¹⁰ Gleitman (1990) and Landau and Gleitman (1985), in a study of a blind 3-year old, mention the differentiated use of certain verb types in input imperatives (*look!*, **see!*) versus questions (*see?*, **look?*).

5. Katla’s English imperatives

Katla produces her first clear imperative, *look!*, at 1;10,11 (S32; the next imperatives occur at 1;10,23 (S33), e.g. *put it down!*). All imperatives are subjectless before age 1;11,24, and throughout the observation period, the large majority of Katla’s English imperatives are subjectless, in accordance with what is known about adult English.

For a better idea of what Katla’s English input actually looks like, I selected 20 samples across the observation period (1;6-3;6) and culled from the transcripts all imperatives produced by adult English speakers (mainly myself, plus occasional English-speaking visitors and Katla’s parents interacting with me and Katla in English contexts). The 20 samples yielded 360 positive imperatives, virtually all directives to Katla. These 360 imperatives were classified into 2 types, illustrated in Table 4.1.

Table 4.1.
Katla’s input : Positive English imperatives (20 samples from S19-S76, 1;6-3;6)¹¹

Bare, i.e. subjectless IMP	347/360 = 96.4%
Stressed <i>you</i> subject + IMP	12/360 = 3.3%
Unstressed <i>you</i> subject + IMP	1/360 = 0.3%
Other, e.g. third person subject	0

96% (347/360) were subjectless imperatives, 4% (13/360) *you* + verb (12/13 stressed *you*, 1/13 unstressed *you*). No other imperatives occurred. This analysis demonstrates the massive dominance of subjectless imperatives in colloquial English input.

Negative imperatives are significantly rarer in the input; in the 20 samples there are 43 negated imperatives compared to 360 positive ones; see Table 4.2. 95% (41/43) are subjectless *don’t* + INF (e.g. *don’t do that!*), 5% (2/43) are stressed subject [*you!!*] + *don’t* + INF. No other types of negated imperatives are produced.

Table 4.2.
Katla’s input : Negative English imperatives (20 samples from S19-S76, 1;6-3;6)

Bare, i.e. subjectless <i>don’t</i> + V	41/43 = 95.3%
Stressed <i>you</i> subject + <i>don’t</i> + V	2/43 = 4.7%
Unstressed <i>you</i> subject + <i>don’t</i> + V	0
Other, e.g. third person subject	0

¹¹ This also holds for imperatives with *be*, where the verb does not raise (unlike in indicatives, recall Section 2.3.). However, there are no examples of Subject + Adv + *be* in Katla’s recorded input, only one instance of Subject + *be* (*You be a good girl!*). All other *be*-imperatives are subjectless and adverbless.

Returning to Katla's data, from 1;11,24 (S34) onwards, there is evidence that her imperatives conform to an English-specific grammar: the imperative verb remains in V°. ¹² The evidence is word order data of two types: (i) overt second person singular subjects appear and precede the imperative verb, e.g. (20), unlike in Icelandic; (ii) adverbials appear and precede the imperative verb, e.g. (21), again unlike in Icelandic.

(20) a. [**You!!**] *take that!* (Katla 1;11,24, S34)

b. S34 (1;11,24)

%com: Ute and Katla are dressing Katla's doll.

*UTE: *do [you!!] want to put it on the doll, or shall I put it +...*

*UTE: *[you!!] put on the doll, hm?*

*KAT: [ju pud Id on].

%com: *you put it on!*

%com: IMP, TL 2SG subject

%com: K tells U to put the dress on.

*UTE: *okay.*

(21) a. **First** *read that one!* (1;11,24, S34)

b. **Now** *look at this one!* (2;0,00, S35)

c. **Now** *get the clothes!* (2;0,00, S35)

d. **Now** [**sit!!**] *there!* (2;0,00, S35)

e. **Just** *push that one!* (2;4,02, S44)

f. **Just** *press that one!* (2;4,02, S44)

Throughout the observation period, English imperatives are frequent, and virtually all are targetlike. There are no nontargetlike postverbal subjects and no postverbal sentential adverbs (which Katla might have transferred from Icelandic). As Fig. 4.1. illustrates, 100% of Katla's English imperatives until 3;2 are targetlike. In 3 late samples, a handful of nontarget imperatives occur, with unstressed *postverbal* subjects. They are listed in (22) because of their rarity.

Monolingual English-speaking children do not place the imperative verb before the subject in this way. But Katla too makes these errors very rarely, never comprising more than 6% of the imperatives in any sample (Fig. 4.1.). At 3;2,11, IMP + *you* makes up 2% (1/49), whilst the remaining 98% are targetlike (45 bare IMP, 3 *you* + IMP). At 3;3,11, IMP + *you* amounts to 5% (4/77), versus 73 targetlike imperatives (54 bare, 19 *you* + IMP), and at 3;6,07, 6% (1/17), versus 16 targetlike imperatives (12 bare, 4 *you* + IMP).

¹² Contrast this with Katla's finite copulas and auxiliaries, which precede adverbials, targetlike, e.g. *fingers are just dancing*. 1;11,24, S34, and which precede the subject in questions, targetlike, e.g. *where is the teddy?* 1;6,15, S19; *can you find Fireman Sam?* 2;3,15, S42.

(22) a. <i>Owl, open you!</i>	Target: 'Owl, open!'	(3;2,11, S66)
b. <i>Eat you, dog!</i>	T: 'Dog, eat!'	(3;3,11, S69)
c. <i>Say you!</i>	T: 'Tell!' ¹³	(3;3,11, S69)
d. <i>Yes, say you goodnight!</i>	T: 'Yes, say goodnight!'	(3;3,11, S69)
e. <i>Say you goodnight, bye-bye!</i>	T: 'Say goodnight, bye-bye!'	(3;3,11, S69)
f. <i>Be you a dog!</i>	T: 'Be a dog!'	(3;6,07, S76)

The percentages of these nontargetlike imperatives are negligibly low, and (22) can be considered speech errors.

I suggest, however, that these speech errors are influenced by Katla's other language Icelandic, which has imperatives with postverbal second person subjects, as discussed in Sections 2.2. and 6. Consider the exact correspondence between *open you!* and Icelandic *opna-ðu!* (open.IMP-you 'Open!'), *say you!* vs. *seg-ðu!* (say.IMP-you 'Tell!'), *eat you!* vs. *börða-ðu!* (eat.IMP-you 'Eat!'), *say you goodnight!* vs. *seg-ðu góða nótt!* (say.IMP-you good night 'Say goodnight!'), *be you a dog!* vs. *ver-tu hundur!* (be.IMP-you dog-NOM 'Be a dog!'). These Icelandic-style English imperatives occur only in Katla's *late* samples, after age 3. One may ask why I suggest transfer from Icelandic as late as that, and not much earlier, say before age 2, when her L1 Icelandic (as in the case of progressives, Chapter 3) affects her L2 English. As will be discussed in Section 8.2., Katla produces Icelandic imperatives with verb raising and postverbal subjects (clitics) only at a very late age (from 2;11,21). It is therefore not surprising that any transfer of postverbal subjects only occurs *after* that point. Katla's Icelandic-style imperatives in English are nevertheless so few in number that they can safely be ignored; her imperatives are targetlike 94-100% of the time.¹⁴ Let's now compare this to Katla's acquisition of Icelandic, which is markedly different.

6. Imperatives in Icelandic

In contrast to English, most Icelandic imperative verbs distinguish themselves morphologically and by word order from nonfinite verbs.

¹³ Katla frequently uses the verb *say* in the place of *tell*, in a wide variety of contexts. This is most likely due to lexical interference from Icelandic, where there is just one verb, *segja*, cognate with English *say*, which comprises the meanings of both *say* and *tell*.

¹⁴ In the near-nativelike L2 English of Katla's parents there aren't any Icelandic-style imperatives with postverbal subjects. Katla's nontarget imperatives can therefore not be attributed to 'odd' input.

6.1. The syntactic representation of imperatives in adult Icelandic

Imperative verbs always precede sentence adverbs and negation (Section 2.2.; (23-25)).

- (23) a. *hlaup* *aldrei!*
run.STEM/IMP.2SG never
'Never run!'
- b. **aldrei hlaup!*
*never run.STEM/IMP.2SG
- (24) a. *láttu* *ekki svona!*
behave.STEM/IMP.2SG~you.2SG.CL not like-that
'Don't behave like that!'
- b. **ekki láttu svona!*
not behave.STEM/IMP.2SG~you.2SG.CL like-that
- (25) a. *borðið ekki kökurnar!*
eat-IMP.2PL not cake-ACC.PL.FEM-the.ACC.PL.FEM
'Don't eat the cakes!'
- b. **ekki borðið kökurnar!*
*not eat-IMP.2PL cake-ACC.PL.FEM-the.ACC.PL.FEM

This clearly points to Icelandic imperatives *not* occupying V°, but a functional head above the VP, and above NegP if a NegP is assumed. In a GB framework, this functional head might be I°, or in a split-IP model, AgrS°, the imperative verb agreeing with the overt or understood subject in the Φ-feature number. However, word order facts suggest that Icelandic imperative verbs do not occupy I°/AgrS°, but a *higher* functional head: Recall that in imperatives with an overt subject, the imperative precedes the subject, and the subject pronoun may attach to the verb as an enclitic. Nothing can intervene between the raised imperative verb and the subject (26-27).¹⁵

- (26) a. *hlaup* *[þú!!]!*
run.STEM/IMP.2SG **you.2SG**
'YOU run!'
- b. *hlaup-tu* *(aldrei)!*
run.STEM/IMP.2SG~**you.2SG.CL** (never)
'(Never) run!'

¹⁵ In this regard, Icelandic corresponds to Old English, which also had postverbal subjects/subject clitics in imperatives, e.g. *Beo ðu on ofeste!* be.2SG you.2SG in haste 'Be quick!', from Beowulf 386 (ca. 700-900 AD).

c. **hlaup* *aldrei þú!*
 run.STEM/IMP.2SG never you

d. **þú* *hlaup!*¹⁶
 you.2SG run.STEM/IMP.2SG

(27) a. *borðið* [*þið!!*] *kökurnar!*
 eat-IMP.2PL **you.2PL** cake-ACC.PL.FEM-the.ACC.PL.FEM
 'YOU eat the cakes!'

b. *borðið-i* *kökurnar!*
 eat-IMP.2PL~**you.2PL.CL** cake-ACC.PL.FEM-the.ACC.PL.FEM
 'Eat the cakes!'

c. **borðið* *núna þið* *kökurnar!*
 eat-IMP.2PL now you.2PL cake-ACC.PL.FEM-the.ACC.PL.FEM

d. **þið* *borðið* *kökurnar!*
 you.2PL eat-IMP.2PL cake-ACC.PL.FEM-the.ACC.PL.FEM

These word order facts suggest that the Icelandic imperative raises from V° via I°/AgrS° up to C° (or whatever the functional projection dominating IP), as illustrated in (28).

(28) Ice. [CP [C' [C° IMP-V_i] [IP *þú/þið* [I' [I° *t_i*] [VP (*t_i*) [V' [V *t_i*]]]]]]]

(19a) Eng. [IP (*you_i*) [I' [I] [VP (*t_i*) [V' [V V]]]]]

Comparing (28) to (19a), we see that the surface syntaxes of English and Icelandic imperatives are different: English has no overt reflex of movement or functional categories beyond VP, whilst Icelandic clearly makes use of IP and probably CP.

6.2. Morphology

I have not yet discussed the exact morphological form of imperatives. Recall from Section 2.2. that most Icelandic imperatives are distinct in form from indicatives and infinitives, the latter virtually always ending in *-a*, e.g. *hlaupa* run-INF, *segja* say-INF, *biðja* wait-INF.¹⁷

¹⁶ The word order subject + IMP is ungrammatical irrespective of whether the subject is contrastively stressed or not.

¹⁷ Icelandic infinitives, including the infinitives of modals, always end in a vowel. There is no exception to this. The infinitive of virtually all verbs ends in *-a*, pronounced [a], e.g. *kall-a* call.STEM-INF 'call', *far-a* go.STEM-INF 'go'. This includes all new verbs and productive verb classes. Stems (*kall*, *far*) and infinitives (*kalla*, *fara*) are thus clearly distinct. A small group of monosyllabic verbs have an infinitive that ends in an *a*-like diphthong, namely *-á*,

Icelandic, like the other Germanic languages, has what in traditional grammar is known as weak and strong verbs. Strong verbs undergo root-internal vowel changes known as ablaut (like English *sing-sang-sung*), whereas weak verbs don't.¹⁸ Strong and weak verbs also have different past tense marking and past participle formation mechanisms. Icelandic furthermore subdivides strong verbs and weak verbs into 10 major verb classes (and further subclasses, plus non-productive reduplicative and preterite-present verbs), with different, though partially overlapping, person and number agreement, mood and tense paradigms. This is relevant here because the imperative morphology of a verb depends on which class the verb belongs to.

For all strong and most weak verb classes, the second person singular imperative is a stem, e.g. *hlaup!* run.STEM/IMP.2SG 'Run!', *seg!* say.STEM/IMP.2SG 'Say!/Tell!', or an assimilated stem, where the stem-final consonant has become an assimilated plosive, such as *bíð!* wait.IMP.2SG 'Wait!' (and not **bíð* wait.STEM). Some WEAK CLASS 3 verbs, such as *þegja* be-silent-INF, change their stem-final *j* to *i* in the imperative, e.g. *þeg-i!* 'Be quiet!' (cf. Einarsson 1945:94).

For these verb classes, second person singular imperatives are homophonous or virtually homophonous with the verb stem. However, there is one verb class, WEAK CLASS 1, whose imperative form is not homophonous with the stem, but with the infinitive, e.g. *borð-a* eat-INF, *borð-a!* eat-IMP.2SG, *lit-a* colour-INF, *lit-a!* colour-IMP.2SG.¹⁹ Note that homophony with the infinitive does not mean that these *-a* imperatives are infinitival; they are finite, since they pattern with the stem-imperatives with regard to word order: they precede sentence adverbials, negation and subjects (23-25, 26-27, 29, 30).²⁰

pronounced [au], e.g. *slá* 'hit', *gá* 'look' (Einarsson 1945:95; Ellertsson's 1993 Icelandic dictionary; Pétursson 1992:130). For this group of verbs, the infinitive is homophonous with the stem. Only four other verbs end in a vowel other than *-a*: two modals end in *-u* (*munu* 'will, shall' and *skulu* 'shall, should'); one lexical verb ends in *-o*, i.e. *þó* 'wash', and one ends in *-e*, i.e. *ske* 'happen, occur'. There is one other non-*a* verb that is relevant for child language, the prepositional verb *ná í* (reach-INF in). Used in the sense of 'get, fetch', it is pronounced as one unit, ending in *-í*, and a child is thus likely to misanalyse it as [náí]. Nevertheless, I believe it is fair to generalise that Icelandic infinitives end in *-a*. The converse does not hold however; the verbal ending *-a* does not exclusively signal an infinitive.

¹⁸ Additionally, some weak verbs are 'mixed', exhibiting ablaut.

¹⁹ The WEAK CLASS 1 verbs are also known as *a*-verbs or *ó*-verbs or as class 4.1 (Einarsson 1945:83, 89, 99), and as second conjugation *-a* verbs (Gordon 1927/1956:305). I call them WEAK CLASS 1, the usual term in modern grammars of Icelandic (Gíslason and Þorvaldsdóttir 1991; Jóhannesson 1997).

²⁰ The *-a* inflection is also used for certain forms in the indicative paradigms, notably third person plural present (virtually all verb classes) and first person singular present (some verb classes).

(29) Katla's mother, S70 (3;4,08)

teikna *fyrst svona eyra!*
draw-INF/IMP.WEAKCLASS1.2SG first such ear
'First draw an ear like this!'

(30) a. *borða* *þú bara matinn þinn!*²¹
eat-INF/IMP.WEAKCLASS1.2SG you.2SG just food-the your
'(You) just eat your food!'

b. **bara borða matinn þinn!*
just eat-INF/IMP.WEAKCLASS1.2SG food-the your

c. **borða bara þú matinn þinn!*
eat-INF/IMP.WEAKCLASS1.2SG just you.2SG food-the your

d. **[þú!!] borða bara matinn þinn!*
you.2SG eat-INF/IMP.WEAKCLASS1.2SG just food-the your

Compare this with infinitival *borða*, which must follow sentence adverbials and negation.

(31) a. *ég vil ekki/bara borða matinn minn.*
I want not/just eat-INF food-the my
'I don't want to eat my food./ I just want to eat my food.'

b. **ég vil borða ekki/bara matinn minn.*
I want eat-INF not/just food-the my

Of all Icelandic verb classes, WEAK CLASS 1 is *the* most productive and the largest one. Having the largest number of lexical entries in an Icelandic dictionary of course does not mean that WEAK CLASS 1 is the most common verb class in the child's input. As is well known, in the spoken colloquial language serving as input to young (German-speaking and English-speaking) children, irregular verbs and verbs of the strong verb classes often outnumber verbs of the 'productive' weak class (e.g. Clahsen and Rothweiler 1993). This is definitely the case for the Icelandic input that Katla receives: strong verbs are very frequent, and WEAK CLASS 1 verbs are in the minority as imperatives are concerned (for figures, see Table 4.3. below). Nevertheless, there is a sizable number of WEAK CLASS 1 imperatives, describing common activities and events relevant to the child's situation, e.g. eating, colouring. Of 310 imperatives produced by Katla's parents in 20 samples across the observation period, 17% (52/310) are WEAK CLASS 1 *-a* imperatives (37 bare *-a* IMP, 15 *-a* + subject clitic). *-a* is however a very common inflection in the input for verbs in general, marking all infinitives.

²¹ Whether the subject pronoun is contrastively stressed or non-contrastively unstressed (and cliticised) does not affect the word order.

To sum up, most second person singular imperatives are homophonous with the verb stem, but not the infinitive. The imperatives of one productive verb class are however homophonous with the *-a* infinitive.

Second person plural imperatives are never homophonous with the stem nor with the infinitive, but take the inflection STEM + *-ið* (a form homophonous with second person plural present indicative) plus a postverbal second person plural subject *þið*. In spoken Icelandic, this subject always cliticises onto the verb, the *-ð* of the verb and the *þ*- of the subject amalgamate, and the final *-ð* of the subject is elided (Pétursson 1992:122).²² Since Katla grew up as a single child (until age 3;5), with only English-speaking child playmates, there were few contexts in the input for Icelandic second person plural imperatives. Possible situations would include one parent giving a directive to Katla and the other parent. Indeed, in the transcripts of 20 samples across the observation period I could not find a single instance of an Icelandic second person plural imperative in the adult utterances, as compared to 310 second person singular positive imperatives (Table 4.3.).

6.3. Imperative subjects

Subjectless imperatives are rare in Icelandic (Einarsson 1945:28-29), and they are extremely rare in colloquial spoken Icelandic. This fact generally goes unmentioned in the generative literature. Whilst the subject can be a free-standing postverbal pronoun for a contrastive reading, e.g. *hlaup [þú!!]!* run.IMP.2SG you.2SG 'YOU run!', for a noncontrastive reading the subject cliticises to the verb, e.g. *hlaup-tu!* run.STEM/IMP.2SG~you.2SG.CL 'Run!'. Phonetically, the initial dental fricative of *þú* [θu] 'you' assimilates in manner, place and voice to the final phoneme of the verb stem, the subject enclitic thus being realised as *-ðu* [ðY], *-du* [dY], or *-tu* [tY].²³ It should be stressed that an overt subject clitic on imperatives in spoken Icelandic is the rule; it does not convey any of the connotations an overt imperative subject has in English, such as admonition, irritation or authority over the

²² Consider: (i) *hlaup-ið þið!* → *hlaup-ið-i!* 'Run!'
run.STEM-IMP.2PL/PRES.2PL you.2PL run-IMP.2PL~you.2PL.CL
(ii) *borð-ið þið!* → *borð-ið-i!* 'Eat!'
eat.STEM-IMP.2PL/PRES.2PL you.2PL eat-IMP.2PL~you.2PL.CL

²³ Less commonly, there is only the assimilated dental of the enclitic subject (but not the vowel) on the imperative. Additionally, there is a stressed free-standing pronominal subject for emphasis (Pétursson 1992:122), see (i-ii). This is known as the clipped imperative, featuring one and a half subjects, so to speak. A breakdown of Katla's parents' imperatives shows that clipped imperatives are rare: 0.3% (1/310), see Table 4.3.

(i) *ger-ð* [þú!!]! 'YOU do (it)!'
do.STEM/IMP.2SG~you.PARTIAL2SG.CL you.2SG
(ii) *tak-t* [þú!!]! 'YOU take (it)!'
take.STEM/IMP.2SG~you.PARTIAL2SG.CL you.2SG

addressee (see Section 3.). Before quantitatively documenting the near-obligatoriness of subjects in Icelandic imperatives in Katla's input, here are a few examples in context. In each case, a subjectless equivalent (i.e. *kom!*; *snú þig þá við!*; *slepp!*; *sýn Ute úrið!*; *bíð!*; *bíð bara!*) would sound distinctly odd – not ungrammatical as such, but quite inappropriate.

(32) S31 (1;10,09)

- %com: Mum and Ute are trying to cut Katla's hair, K is unwilling.
 *MUM: *komdu!*
 %eng: come.STEM/IMP.2SG~you.2SG.CL = come on!
 [...]
 *MUM: *komdu!*
 %eng: come.STEM/IMP.2SG~you.2SG.CL = come on!
 *MUM: *já, snúðu þig þá við!*
 %eng: yes, turn.STEM/IMP.2SG~you.2SG.CL you.ACC/REFLEXIVE then at
 = yeah, turn around!
 %com: M wants K to turn her head so Ute can cut on the other side.

(33) S32 (1;10,11)

- %com: K has hidden Ute's wristwatch, Dad wants K to show the watch to U.
 *DAD: *viltu sýna Ute úrið?*
 %eng: want-2SG.PRES-you.2SG.CLshow-INF Ute watch-the.ACC.SG.NEU
 = do you want to show Ute the watch?
 *DAD: *sýndu Ute úrið!*
 %eng: show.STEM/IMP.2SG~you.2SG.CL Ute watch-the.ACC.SG.NEU
 = show Ute the watch!

(34) S60 (3;0,14)

- %com: U has given K a necklace, K is gripping it, M wants K to let go.
 *MUM: *slepptu!*
 %eng: release.STEM/IMP.2SG~you.2SG.CL = release/let it go!
 *KAT: *I won't.*

(35) S64 (3;1,20)

- %com: Dad and Katla are playing football; the ball rolls out of the room, Katla going after it.
 *KAT: *[ég!!] náí hamm.*
 %eng: I.NOM fetch-1SG.PRES.INDIC him.ACC = [I('ll)!!] get it.
 [...]
 *DAD: *bíddu, bíddu!*
 %eng: wait.ASSIM.STEM/IMP.2SG~you.2SG.CL = wait, wait!
 *DAD: *bíddu bara!*
 %eng: wait.ASSIM.STEM/IMP.2SG~you.2SG.CL just = just wait!

For an analysis of Katla's Icelandic imperative input (Table 4.3.), I culled from the transcripts of 20 samples all imperatives produced by adult Icelandic speakers (Katla's mother and father, plus the odd visiting Icelandic relative). This yielded 310 positive

imperatives, virtually all directives to Katla. I classified them according to the verbal inflection of the imperative (IMP.2SG = stem only; IMP.2SG -a; IMP.2PL -ið); according to overtness and form of the subject (enclitic; free-standing; clipped; bare imperative).

Table 4.3.

Parental input: Positive Icelandic imperatives (20 samples from S14-S76, 1;6-3;6)

Bare, i.e. subjectless IMP = STEM	21/310 = 7%
Bare, i.e. subjectless IMP = -a	37/310 = 12%
IMP = STEM, plus subject clitic	233/310 = 75%
IMP = -a, plus subject clitic	15/310 = 5%
IMP = STEM, plus þú	3/310 = 1%
IMP = -a, plus þú	0
Clipped IMP: IMP plus -ð, plus þú	1/310 = 0%
Other, e.g. plural IMP	0

The majority of imperatives are stem imperatives with a subject clitic (75%, 233/310). A further 5% (15/310) are -a imperatives with a subject clitic, and an additional 1% ((3+1)/310) have a free-standing subject. Thus 81% of all Icelandic imperatives in the input corpus have an overt subject (which is always postverbal, never preverbal, as in English). Only a small minority of 19% ((21+37)/310) are ‘bare’, subjectless imperatives. Note that here bare -a imperatives (i.e. WEAK CLASS 1 verbs) are disproportionally over-represented: Of the subjectless imperatives, 64% are bare -a (37/58, vs. 15 -a with subject clitic), but only 8% subjectless imperatives are bare stems (21/254, vs. 233 stem with subject clitic). Of the -a-imperatives, 71% (37/52) are bare, i.e. subjectless.

As was found for English, negated imperatives in the Icelandic input are significantly rarer than positive ones. In the 20 samples from which positive imperatives were taken, there are only 36 negative imperatives, compared to 310 positive ones. Interestingly, hardly any of the negative imperatives are genuine imperatives, i.e. (stem) IMP + postverbal subject + negation *ekki* + VP.²⁴ Only 14% (5/36) of the negated imperatives in the input are of this type, see (i) in fn. 24. The large majority, 86% (31/36) are subjectless *ekki* plus infinitive, i.e. negation + VP, as in (ii) in fn. 24. This vast predominance of nonfinite negated

24

(i) True negated imperative

ger-ðu

ekki eins og mamma þín segir!

do.STEM/IMP.2SG~you.2SG.CL not as mum your say-3SG.PRES.INDIC

‘Don’t do (it) as your mum says!’

(ii) Negated infinitival ‘imperative’

ekki gera svona!

not do.STEM-INF like this

‘Don’t do (it) like this!’

Note that only the finite imperative in (i) can have an overt subject, infinitival (ii) cannot.

'imperatives' in spoken colloquial Icelandic – and the input to children – has not been documented so far to my knowledge, though their existence in the adult language has been noted for other languages such as German, Dutch and Italian (e.g. Ingram and Thomson 1996; Lasser 1995a, 1995b; Krämer 1993; Platzack and Rosengren 1998).

To sum up, in the input corpus analysed, the vast majority of positive imperatives are stems with an overt second person singular subject clitic. They thus constitute clear evidence for thematic verb raising. Few imperatives are subjectless stems, and hardly any have free-standing postverbal stressed subjects. A small but noteworthy minority are *-a* imperatives of the WEAK CLASS 1, and these typically occur subjectless.

To my knowledge, these observations have not been made before, and to date no analyses exist of imperatives in the input to Icelandic children or in colloquial spoken Icelandic corpora in general. As the corpus of input data from Katla's parents is quite large, I believe that the findings with respect to imperatives are representative of Katla's general Icelandic input. Informal comparisons with the imperatives produced by Icelandic caretakers in families in Iceland suggest that the sample from Katla's parents is also comparable to the input monolingual Icelandic children receive. Let's therefore see how monolinguals acquire imperatives before investigating Katla's development.

7. Imperatives in monolingual child Icelandic

Sigurjónsdóttir (1991), in her study of subject-verb inversion in two Icelandic children, (Birna, 2;0,19-3;1,28 and Ari 2;0,16-3;7,16), also discusses imperatives. Hers are the first and only data we have to date on imperatives in Icelandic monolinguals. Unfortunately, no data exist from before 2;0,19, and we do not know anything about imperatives in the input Birna and Ari received. Since Sigurjónsdóttir (1991) is interested in the word order verb-subject, she only investigates imperatives with *overt* subjects. Despite these limitations, Sigurjónsdóttir's data are important. Both children frequently produce imperatives with subjects, in every sample from the beginning of the observation period at 2;0,19. As the imperative subjects are postverbal, Sigurjónsdóttir (1991) interprets the imperative data as support for her claim that the two children acquire thematic verb raising very early.

A closer look at Sigurjónsdóttir's data reveals the following: Both children start with stem imperatives with a cliticised second person singular subject, e.g. *ýt-tu!* 'push.STEM/IMP.2SG~you.2SG.CL 'Push!'; *sjá-ðu!* 'look.STEM/IMP.2SG~you.2SG.CL 'Look!'; *kom-du!* 'come.STEM/IMP.2SG~you.2SG.CL 'Come!'. *-a* imperatives with subject appear later and remain rarer. For a long time, for Birna from 2;0-2;6, for Ari from 2;0-3;6, imperatives with singular subject enclitic are the only type of imperative produced. Plural

imperatives occur later and remain very rare, as do imperatives with a free-standing pronoun. Nontargetlike preverbal subjects are not attested in the imperatives of the two children.²⁵ This is illustrated in Figs. 4.2a and 4.2b.²⁶

Birna produces a total of 248 imperatives with a subject, of which 98% (243/248) are stem + 2SG clitic; the remaining 2% are *-a* imperative + 2SG clitic, free-standing subject or plural imperatives. Ari produces 126 imperatives with subject, 95% (120/126) of which are stem + 2SG clitic, the remaining 5% being *-a* + 2SG clitic or plural imperative. (The figures are based on Sigurjónsdóttir (1991:95-96).) With the proviso that we do not know what the children do with regard to subjectless imperatives, Birna's and Ari's imperatives are very similar to each other and they very closely mirror what I found for the spoken adult Icelandic of Katla's parents. The large majority of imperatives are stems + subject clitic; virtually all imperatives are second person singular; preverbal subjects do not occur. It can be conjectured then that Birna's and Ari's utterances also mirror the input they themselves received. Their acquisition of imperatives appears effortless and without error. Katla's Icelandic imperatives, which we turn to now, are strikingly different.

8. Katla's Icelandic imperatives

8.1. *-a* imperatives and preverbal subjects

I first sketch Katla's development of imperatives and then compare this to parental input and monolingual child language. Katla produces her first imperative at 1;6,11 (S17), *ná í bók!* reach.STEM/INF/IMP in book.STEM/ACC/NOM.SG.FEM 'Fetch (a) book!', where the subjectless imperative is homophonous with both stem and infinitive (recall fn.17) and thus not very revealing. Furthermore phonetic simplifications typical of very early child language often make it unclear to what extent verbs are analysed into stems and endings. I have found no imperatives with overt pronouns or clitics of any sort.

Katla produces her second Icelandic imperative at 1;7,21 (S24): *finna teddy!* find-INF teddy 'Find (the) teddy!', with a nontargetlike *-a* inflection. There are no Icelandic imperatives in subsequent samples until age 1;11. At 1;11,24 (S34) and 2;0,00 (S35), Katla produces Icelandic imperatives which are syntactically informative, with overt verbal inflection and adverbials (36-37), or subjects (38). However, all of them are nontargetlike,

²⁵ Sigurjónsdóttir (1991:97) mentions that Ari occasionally uses a preverbal subject *þú* + verb inflected for second person present indicative as a command, e.g. *þú ferð út!* you.NOM go-2SG.PRES.INDIC out 'You're going out!'. Of course, this is not an imperative.

²⁶ There is an increased incidence in imperatives both for Birna at 2;5,02 (Fig. 4.2a.) and for Ari at 2;5,16 (Fig. 4.2b.), but this is presumably to do with the type of activity the children were engaged in at the time.

in morphological form and/or word order. The imperatives end in *-a* irrespective of whether the verb belongs to WEAK CLASS 1 (where *-a* is targetlike) or not (where the target would be a stem). They do not precede, but follow adverbials. When subjects are used, these are never postverbal, but preverbal English *you* [ju:] or language-ambiguous [u:]. Since [ju:]/[u:] occurs within the clausal intonation contour (no pause), I treat this element as a subject and not as a vocative.

(36) Katla 1;11,24 (S34)

%com: K wants M to read from a picture book about the clock.

*KAT: *nú les-a klukku!*

now read-a clock-NONNOM.SG.FEM

'Now read about the clock!'

cf. target: *les-tu nú um klukkuna!*

read.STEM/IMP.2SG~you.2SG.CL now about

clock-NONNOM.SG.FEM-the.ACC.SG.FEM

(37) Katla 2;0,00 (S35)

%com: K has put her doll to bed and tells her to sleep.

*KAT: *núna sofa!*

now sleep-a

'Now (go to) sleep!'

cf. target: *sof-ðu núna!*

sleep.STEM/IMP.2SG~you.2SG.CL now

(38) Katla 1;11,24 (S34)

%com: Katla keeps pointing at the TV set, wants Ute to draw a picture of it

*KAT: [ʔju: 'deiçdð] # [ðad]!

%com: [*you!!*] *teikna* # *það!*

%eng: you draw-a/INF/IMP.WEAKCLASS1 that = [*you!!*] draw that!

%com: TL *-a* IMP form, NT Eng. subject, NT word order

*KAT: [ʔu: 'dei^hda]!

%com: *u teikna!*

%eng: you draw-a/INF/IMP.WEAKCLASS1

%com: NT word order, partially realised 2SG pronoun, ambiguous 'you' or 'þú'.

cf. target: *teikn-a-ðu það!*

draw.STEM-WEAKCLASS1.IMP.2SG~you.2SG.CL that

'(You) draw that!'

Preverbal *you* subjects are clearly the result of influence from English; they occur in mixed language contexts, with me as an English-speaking dialogue partner and the Icelandic parents present.

Preverbal adverbials (e.g. *nína sofa!*) also indicate influence from English – and/or that Katla erroneously treats the *-a* imperative verb as an infinitive. The exclusive occurrence of *-a* imperatives (targetlike *teikna*, nontargetlike *finna*, *lesa*, *sofa*), homophonous with the infinitive, might also indicate that Katla treats *-a* imperatives as infinitives. In fact, although

positive imperatives with *-a* are uncommon in the input (Table 4.3.), those that do occur are typically subjectless and adverbless and thus ambiguous as regards their verb-raising status. On the other hand, negative 'imperative' infinitivals with the *-a* infinitive following negation are common in Katla's input (86%, recall Section 6.3.) and clearly point to the verb *not* having raised out of the VP, consider *ekki sofa!* (not sleep-INF 'Don't sleep!'). Furthermore, in the input, *-a* is an extremely frequent inflection of (non-imperative) verbs, where it occurs on all infinitives. Thus, *-a* infinitives are found in nonfinite clauses, in sentence fragments (e.g. *hvað er hann að gera?* → *sofa*. what is he to do-INF → sleep-INF 'What's he doing? Sleeping.'), in (Aux) + INF constructions (e.g. *hann (er) (að) sofa*. he (is) (to) sleep-INF 'He's sleeping.'), and in preterite-present V + INF constructions (e.g. *ég vil (ekki) sofa*. I want (not) sleep-INF 'I want to/don't want to sleep.'). In all these cases, *-a* signals a non-raised infinitive. It is thus plausible that Katla treats her early *-a* imperatives as infinitives.

Another interpretation would be that Katla has overgeneralised WEAK CLASS 1 (which is *the* productive verb class in Icelandic), and *-a* then would not indicate an infinitive, but imperative marking. This possibility can be rejected with the help of word order data from imperatives with adverbs. As (36-37) above show, Katla's *-a* imperatives *follow* the adverb (e.g. *núna sofa!* now sleep-*a*). This indicates that the *-a* verb has not raised out of VP, as a finite WEAK CLASS 1 verb would have done in adult Icelandic. For quantification, see Fig. 4.3. Whilst there are very few Icelandic imperatives with adverbs (a total of 16), 12/13 *-a* imperatives, and all *-a* imperatives before 4;2, show the word order Adv + V-*a*. This also holds for the 3 early imperatives with an adverb at 1;11,24 and 2;0,00.

It is revealing here to compare Katla's Icelandic imperatives at 1;11,24 and 2;0,00 with her English ones (recall (20-21)). It is exactly in these samples that Katla begins to use preverbal *you* + IMP (e.g. [*you!!!*] *take that!*) and preverbal adverbial + IMP in English. (e.g. *now get the clothes!*). Imperatives in English are homophonous with infinitives; *-a* imperatives in Icelandic are homophonous with infinitives too. Imperatives in English do not raise past adverbs nor subjects; I suggest that Katla transfers this fact of English to her Icelandic imperatives.

From age 2;0 to 2;6 (S35-S49), Katla continues to produce imperatives. These end in *-a*, targetlike when the verb is of WEAK CLASS 1, but nontargetlike for others. They are all subjectless and thus uninformative as regards verb raising past any potential subject. Nor are there sentence adverbials that would tell us about the position of the verb with regard to them. A chronological breakdown of Katla's Icelandic imperatives is given in Fig. 4.4., for imperatives both with subject (grey bars) and without (white and black bars).

At 2;7,09 (S50), imperatives with subjects reappear and from then on remain frequent until the end of the observation at 4;7. But they are nontargetlike *preverbal* subjects, and the imperative verbs end in *-a*. This is illustrated in Fig. 4.5. Unfortunately, there are no imperatives with overt subject *and* adverb to test the placement of the verb with regard to

both constituents simultaneously. In contrast to 1;11,24 (S35), where imperative subjects were English *you* pronouns and occurred in a mixed English-Icelandic context, from 2;7,09 on overt subjects are Icelandic *þú* (you.2SG) and also occur in purely Icelandic contexts, where Katla gives her parents directives. Consider the following examples.

(39) Katla 2;7,09 (S50)

%com: Mum and Katla are playing with Katla's dolls.

*MUM: *en hver á a(ð) keyra litla barnið?*

%eng: but who.NOM shall.3SG.PRES to drive-INF little-WK child-the.ACC.SG.NEU
= but who should take out the little child (in the pram)?

[...]

*KAT: *þú gera!*

%eng: you-NOM do.STEM-a/INF = you do (it)!

%com: NT preverbal subject, NT imperative.

cf. target: imperative stem with subject enclitic and or free-standing postverbal
subject: 'ger~ðu!' or 'ger [þú!!]!' or 'ger~ð [þú!!]!'.

(40) Katla 2;11,21 (S57)

%com: Katla is telling that she got a pink lolly at the hairdresser's.

*KAT: *a pink sleikipinna.*

%C/S

%eng: a pink lolly-NONNOM.SG.MASC

*MUM: *hvað heitir það á íslensku?*

%eng: what's that in Icelandic?

%com: K hesitates

*KAT: *[þú!!] segja það!*

%eng: you-NOM say.STEM-a/INF it = [you!!] say it!

%com: NT preverbal subject, NT imperative.

*MUM: *bleikur [...] bleikur sleikipinni.*

%eng: pink-NOM.SG.MASC # pink-NOM.SG.MASC lolly-NOM.SG.MASC

cf. target: imperative stem with subject enclitic and or free-standing postverbal
subject: 'seg~ðu!' or 'seg [þú!!]!' or 'seg~ð [þú!!]!'.

(41) Katla 3;0,17 (S61)

%com: Mum has made suggestions to Katla what to play, Katla is uninterested

%com: K tells M to tell her the story of Spot (Spot is a dog in a children's book)

*KAT: *þú tala Spot!*

%eng: you-NOM talk.STEM-a/INF Spot = tell (me) (about) Spot!

%com: IMP, NT preverbal subject, cf. target: 'tala~ðu um Spot!'

8.2. Two types of imperative constructions

At 2;11,21 (S57) finally, a new type of imperative appears: two instances of stems with enclitic subject (42). I believe that Katla analyses (42a, b) as imperative verb + clitic, and not as a frozen chunk, since, as shown above, she has been producing the verb *sofa* (in

various forms) and the second person subject pronoun separately for a long time. I suggest therefore that (42) are instances of imperative verb raising to C° and subject clitisation, as in (28), repeated here as (43).

(42) Katla 2;11,21 (S57)

a. *of-ðu* *rótt!*
 sleep.STEM/IMP.2SG~you.2SG.CL quiet-ADV
 'Sleep tight!'

b. *góða nótt o(g) sof-ðu vel!*
 good-FEM night.FEM and sleep.STEM/IMP.2SG~you.2SG.CL well
 'Good night and sleep well!'

(43) [CP [C' *sof*_i [IP -*ðu* [I' *t*_i [VP [V' [V *t*_i *rótt/vel*]]]]]]]]

Such targetlike imperatives with enclitic subjects occur regularly from age 3, but they remain at rather low levels, as illustrated by the raw figure grey bars in Fig. 4.5.²⁷ They are vastly outnumbered by nontargetlike *-a* imperatives with preverbal subjects (black bars). In fact, out of all of Katla's Icelandic imperatives with subject, only 31% (18/59) are targetlike with postverbal subject (e.g. *seg-ðu*), 69% (41/59) have a nontarget free-standing preverbal subject (e.g. *þú segja*). No developmental change is discernible; in samples taken 8-10 months after the end of the observation period of this thesis (3;6), nontarget imperatives with preverbal subject are still prevalent (4;2,23; 4;4,06, cf. Fig. 4.5.).

Typically, verbs occur in one and the same sample, and even in the same dialogue, both as imperative stem with raised imperative and subject clitic, and as nonraised *-a* imperative with preverbal subject, without any difference in meaning. This is illustrated by the (near-)minimal pair examples in (44-47).

(44) Katla 3;2,28 (S67)

a. *seg-ðu* *mér þetta!*
 say.STEM/IMP.2SG~you.2SG.CL me-DAT that-ACC.SG.NEU
 'Tell me that!' (targetlike)

b. *seg-ðu* *mér hva gerist í spítalann!*
 say.STEM/IMP.2SG~you.2SG.CL me-DAT what happened-MIDDLE in hospital-the
 'Tell me what happened at the hospital!' (targetlike)

²⁷ Katla may already have produced an imperative with subject enclitic at 2;10,15 (S55): (i) where ['kɔmdY] might be *komdu!* come.STEM/IMP-you 'Come!' (['kɔn:dY]). However, as the utterance contains many unclear elements, it has not been included in the counts.

(i) %com: Katla making the puppet monkey play Ute's guitar, whilst the puppet policeman is dancing, i.e. jumping about.

*KAT: *dance*.

*KAT: ['kɔmdY] # [se] xxx [du:] *dance!*

c. *seg~ðu* *spítalann!*
 say.STEM/IMP.2SG~you.2SG.CL hospital-NONNOM-SG.MASC-the.ACC.SG.MASC
 'Tell (me) (about) the hospital!' (targetlike)

d. *mamma,* *þú* *segja* *mér!*
 mum-NOM.SG.FEM you-NOM say.STEM-a/INF me-DAT
 'Mum, tell me!' (nontargetlike)

e. *þú* *segja* *mér* *þetta!*
 you-NOM say.STEM-a/INF me-DAT that-ACC.SG.NEU
 'Tell me that!' (nontargetlike)

f. *[þú!!]* *segja* *mér!*
 you-NOM say.STEM-a/INF me-DAT
 'YOU tell me!' (nontargetlike)

(45) Katla 3;4,18 (S71)

a. *lita~ðu* *núna!*
 colour.STEM-WEAKCLASS1.IMP.2SG~you.2SG.CL now
 'Now colour!' (targetlike)

b. *þú* *lita* *peningana* *líka!*
 you-NOM colour.STEM-a/INF/WEAKCLASS1.IMP coins-the.ACC.PL.MASC too
 '(You) colour the coins as well!' (nontargetlike)

cf. also subjectless imperatives, unraised:

c. *núna lita* *þær!*
 now colour.STEM-a/INF/WEAKCLASS1.IMP them.ACC.PL.FEM
 'Now colour them!' (nontargetlike)

d. *núna lita* *það!*
 now colour.STEM-a/INF/WEAKCLASS1.IMP it/this.ACC.SG.NEU
 'Now colour it/this!' (nontargetlike)

(46) Katla 4;2,23

a. *pabbi,* *leika~ðu* *vi(ð) mig!*
 daddy-NOM play.STEM-WEAKCLASS1.IMP.2SG~you.2SG.CL with me-ACC
 'Daddy, play with me!' (targetlike)

b. *pabbi,* *þú* *leika* *núna!*
 daddy-NOM you-NOM play.STEM-a/INF/WEAKCLASS1.IMP now
 'Daddy, (you) play now!'²⁸ (nontargetlike)

²⁸ It is possible to have certain adverbs clause-finally after a nonfinite verb in Icelandic, just as in English, consider: *ég vil borða þetta núna*. I want eat-INF this now 'I want to eat this now.' *núna* is such an adverb; therefore the word order INF + Adv (*leika núna*) should not be taken as raising of the verb.

(47) Katla 4;4,06

a. *gef~ðu* *mér þessar, mamma!*
 give.STEM/IMP.2SG~you.2SG.CL me-DAT those-ACC.PL.FEM mum-NOM.SG.FEM
 'Give me those, mum!' (targetlike)

b. *þú gefa mér þetta!*
 you-NOM give.STEM-a/INF me-DAT that-ACC.SG.NEU
 '(You) give me that!' (nontargetlike)

cf. also subjectless imperatives, unraised:

c. *mamma, núna gefa mér þetta!*
 mum-NOM.SG.FEM now give.STEM-a/INF me-DAT that-ACC.SG.NEU
 'Mum, now give me that!' (nontargetlike)

These minimal pairs show that Katla's Icelandic grammar allows two imperative constructions *side by side* from 2;11 to 4;7, in blatant disregard of the input: targetlike (stem) imperatives with enclitic subject, and nontargetlike *-a* imperatives with preverbal subject. Unfortunately Katla produces hardly any imperatives with a subject *and* a sentential adverb (Fig. 4.3.). However, there are instances of *-a* imperatives (without subject) with an adverb, and in all cases we find the order Adv + V-*a*, e.g. (45c,d) and (47c).

This poses the following questions: What is the syntactic representation of the different types of imperatives? Why does Katla produce imperative forms unattested in the input? And how does Katla compare to monolinguals?

As argued above, the stem imperatives with postverbal subject (e.g. 42a-b, 44a-c, 47a) are best analysed as targetlike CPs, with the verb raising from V° via I° to C°, and the subject raising as well. Such movement is productive in Katla from 2;11,21. The occasional, late, occurrence of targetlike *-a* imperative with enclitic subject (as in *lita~ðu* (45a), *leika~ðu* (46a)) indicates that in this case as well, the verb has clearly raised, despite being homophonous with the infinitive.

The *-a* imperatives that follow a free-standing subject (e.g. 39-41, 44d-f, 45b, 46b, 47b) are more difficult to formalise. Since the verb follows subject *þú* (maximally as high as in Spec Infl), the verb can maximally be as high as Infl, but even that is unclear; the verb may just as well remain in V. Indeed, I want to argue that the verb does remain in V, on the basis of word order and morphological facts.

Firstly, Katla produces this *-a* form, although she is exposed to stem + clitic in the input, and although she herself knows and produces the correct finite imperative form in the same sample (e.g. *þú segja* vs. *seg(~ðu)* above). This alternation again suggests that *-a* is *not* used because Katla has misclassified the verb and is treating it as a WEAK CLASS 1 verb, but rather suggests that the two types of imperatives have a different syntactic structure for her.

Secondly, as pointed out in Section 8.1., the nontarget *-a* imperative verb does not only follow the subject, it also follows sentential adverbs and negation, which are generally taken

as VP-boundary markers (e.g. (45c-d) *núna lita* and (47c) *núna gefa* above). I therefore think that the verb remains in V° and propose that the syntactic representation of Katla's nontarget imperatives is (48). Whether the subject is in Spec Infl or remains inside VP (48a, b) is less clear; I favour (48b), but due to the absence of subject-adverb-imperative data, there is no evidence for the (vacuous) movement of the subject to Spec I.

(48) a. [VP *pú* [V' [V [V *segja*] *mér þetta*]]]

b. [IP *pú_i* [I' [I] [VP (*t_i*) [V' [V [V *segja*] *mér þetta*]]]]]

Note that (48) corresponds exactly to the structure of English imperatives (19), as discussed in Sections 2.3. and 3., where infinitival, imperative and indicative thematic verbs all remain in V°.

I propose that Katla transfers the English imperative construction to Icelandic around 1;11 and hasn't got rid of it yet by the end of the observation period. By transfer I do *not* mean that Katla transfers the English setting of the verb raising *parameter* ("Don't raise thematic verbs.") to Icelandic, but only the transfer of one construction. Katla knows perfectly well that finite Icelandic verbs must raise out of the VP, and her unambiguously finite verbs do so 100% of the time, in declaratives with negation or with sentence adverbials (Chapter 5), as well as in V1 and V2 declaratives and questions (from 1;11,24, S34). The targetlike verb-initial imperatives with subject enclitic illustrated above are of course also evidence for verb raising (from 2;11,21, S58). But in addition to this, Katla allows the English-style constructions in her imperatives, where *-a*-verbs do not raise. There are several reasons why I believe they are due to English language influence.

Firstly, Katla's imperatives are very different from those in her Icelandic input and from the imperatives attested in monolingual Icelandic children (Sigurjónsdóttir 1991). Only Katla ever produces preverbal subjects in imperatives; adults and monolingual Icelandic children don't. Only in Katla's productions are imperatives with subject clitics so rare and late (from 2;11,21); adults produce them all the time, and monolingual Birna and Ari produce them from the beginning of the observation period (2;0,19), perhaps even earlier than that. A comparison of Figs. 4.2a-b (Birna and Ari's imperatives) and Figs. 4.5. (Katla's imperatives) clearly shows this difference between the monolinguals and Katla. Of course, it is logically possible that individual Icelandic children take completely different developmental paths with regard to imperatives, and that Birna and Ari are untypical, and that if more monolingual children were studied, some might be found to have a similar developmental path to Katla's. But it's unlikely. It is much more likely that Birna and Ari represent monolingual development and that it is in fact Katla's bilingualism that plays a role in her widely deviant development of Icelandic imperatives.

Recall that Katla's first Icelandic imperatives with overt (preverbal) subjects (38) occur *simultaneously* with the first English imperatives with preverbal subjects (20-21) at 1;11,24. Some of the subjects in these Icelandic imperatives are even homophonous with English *you*. Katla continues to produce English imperatives with preverbal *you*, Icelandic imperatives being rare for many months until imperatives with preverbal subject reappear at 2;7,09 and occur for another two years.²⁹

Recall also that in the English input there is no overt evidence for IP, since the imperative verbs remains in V^o and is homophonous with the infinitive. Imperative *-a* verbs in (48) fit this; *-a* forms too are homophonous with infinitives, and infinitives in Icelandic do not raise but remain in V^o.³⁰

Thus, the English imperative structure, once the slots are filled with Icelandic lexical elements, fits the linear surface word order of the Icelandic VP. Furthermore, the breakdown of adult Icelandic in Table 4.3. has shown that although (finite) *-a* imperatives only constitute a 17% minority of imperatives in the input, most of them (71%) occur subjectless, and typically adverbless. These bare *-a* imperatives are thus ambiguous with regard to verb raising, subject-raising and finiteness, and may have further influenced Katla's nontarget *-a* imperatives.

Whilst it is plausible that Katla has transferred imperatives with preverbal subjects from English to Icelandic, it is less clear why she goes on producing them for so long. She does not stop producing nontarget English-style imperatives once she acquires the targetlike Icelandic imperative structure (with verb raising past adverbs and the subject) at 2;11,21. The two imperative constructions can co-exist in Katla's Icelandic grammar, similarly to the co-existence of two alternative progressive constructions in her English (Chapter 3, and two alternative affirmative constructions in her English, viz. simplex verbs and 'spare' *do*-support + verb, Chapter 7). This is because the targetlike STEM + clitic subject imperatives are based on Icelandic imperative input; the nontargetlike imperatives are based on the English imperative construction, which is sufficiently close in word order to Icelandic infinitival VPs to be *compatible* with Icelandic grammar. Having once added the option of

²⁹ In this context, a late code-mixed example (not included in the Icelandic counts), with an Icelandic subject and an English VP, is of interest: *pú be quiet!* ('You be quiet!', Katla at 4;2,23, addressing her mother in a mixed Icelandic-English discourse context).

³⁰ In the input, utterances where the infinitival *-a*-verb remains in V occur in the form of subjectless negative infinitival 'imperatives' (e.g. *ekki gera svona!* not do-INF so 'Don't do it like that!') and in subjectless sentence fragments, common in question-answer pairs and elliptic VPs (*hvað er Óli að gera?* → *tala við Önnu*. what is Óli to do-INF → talk-INF with Anna-NONNOM 'What's he doing? Talking to Anna.'). Furthermore *-a*-verbs remaining in V are frequent as part of various Aux + VP constructions, such as *vera*-progressives (see Chapter 3), e.g. *hamm (er) (að) tala við Önnu*. he (is) (to) talk-INF with Anna-NONNOM 'He's talking to Anna.'

verb-raising imperatives to her grammar by 2;11, I can see no positive evidence that would force Katla to actually rule out the nontarget unraised *-a* imperatives, so she continues to produce them. As Fig. 4.5. shows, there is no decline in Katla's nontarget preverbal subjects over the observation period.³¹ Katla does not appear to have made use of indirect negative evidence, in the sense that she notices that there are no unraised positive imperatives and no imperatives with preverbal subjects in her Icelandic input. (Katla is also oblivious to corrections and direct negative evidence from her parents, who occasionally try to teach her not to say *þú* + *-a*, but stem + *ðu*.) Monolingual Icelandic children on the other hand are not exposed to unraised imperatives with preverbal subjects, they don't ever start to produce them and thus never have to delearn them.

9. Conclusion

This chapter has traced Katla's development of imperatives. I compared her imperatives qualitatively and quantitatively to those of monolingual children, an area which has received little attention in the syntax acquisition literature to date, and to imperatives produced by adults, Katla's caretakers. Katla's English imperatives (1;10-4;7) are virtually error-free and mirror the adult controls'; most are subjectless; and in those imperatives which contain a (contrastively stressed) pronominal subject *you* and/or a sentence adverb, the verb always *follows* subject and adverb. This indicates that Katla correctly assigns English imperatives an English-specific syntax: Thematic verbs do not raise out of VP. I have argued that the late occurrence of a few nontarget imperatives (e.g. *say you!*) does not constitute counter-

³¹ Katla's behaviour is to some extent reminiscent of Ivar's, a French-German bilingual child (Müller 1994b) who continues to produce nontarget clause-medial verbs in his German embedded clauses (where adults have clause-final verbs). Müller (1994b:251-255) reports that from age 2;7-4;3, Ivar has 96% nontarget clause-medial verbs, from 4;4-4;11 50% and only after that point do his nontarget embedded clauses with clause-medial verbs fall below 10%. Müller interprets this such that Ivar has set the verb-placement parameter to the wrong value, that he cannot reset the parameter and that he thus laboriously needs to learn V-final separately for each individual complementiser (Müller 1994b:255-258). Katla's imperatives however are nothing to do with (wrong) parameter settings: She *does* apply targetlike verb raising (of stem imperatives) out of VP into the IP and CP domain, as demonstrated by the imperative verb preceding the subject. (As we will see from the negation data in Chapter 5, she raises all unambiguously finite verbs out of VP past negation, and she raises finite verbs in questions and V2 constructions past the subject.) For her, Icelandic is a verb-raising language. But in addition, she makes use of an English-like non-verb-raising imperative construction for (infinitival?) *-a* verbs, and it is those that are hard to expunge.

evidence to this generalisation: Forms like *say you!* only occur after age 3 and at negligibly low speech-error levels.

Katla's Icelandic imperatives are very different from those of monolingual peers and adult controls. Indeed, the vast majority of her Icelandic imperatives resemble English. Before 2;11, Katla produces no stem-imperatives with subject clitics at all, and after 2;11, targetlike verb-subject inverted imperatives (e.g. *seg~ðu!* say.STEM/IMP.2SG~you.2SG.CL) are in the minority: 31%. Most imperatives with subject (69%) instead feature the preverbal subject *þú* and an *-a*-verb, homophonous with the infinitive (e.g. *ú segja!* you-NOM say.STEM-a/INF). Such imperatives are unattested in the adult controls and in Katla's monolingual Icelandic age-peers Birna and Ari (Sigurjónsdóttir 1991). I have argued that Katla's *-a*-form imperatives with a preverbal subject, and also those without, are transferred from English at 1;11. Nontarget subject + *-a*-verb imperatives co-exist with targetlike verb + subject imperatives for a long time, from 2;11 to at least 4;4. It is tempting to interpret this optionality as a reflex of an 'Optional Infinitive' stage in Katla's Icelandic grammar, on the widespread assumption that verb raising, finiteness and IP/CP specification is somehow deficient (Déprez and Pierce 1994; Haegeman 1996; Harris and Wexler 1996; Hoekstra and Hyams 1996; Hyams 1996; Meisel and Müller 1992; Poeppel and Wexler 1993; Radford 1990a, 1994; Rizzi 1993/94; Sano and Hyams 1994; Schönenberger, Pierce, Wexler and Wijnen 1995; Schütze and Wexler 1996). But this interpretation would be misguided. Katla does not produce unraised imperatives in Icelandic because of Optional Infinitives. If this were the case, we should find imperatives with preverbal subjects and unraised verbs in the productions of other Icelandic children. But there aren't any, ever (cf. Figs. 4.2a/b. on Birna and Ari; Sigurjónsdóttir 1991). Katla's nontarget imperatives are due to transfer of the English imperative construction, where the verb, homophonous with the infinitive, remains in VP. The linear order of this construction corresponds to that of the Icelandic nonfinite VP, which Katla also frequently encounters in the input in other contexts, and in negative imperative infinitivals. Having added (targetlike) Icelandic imperatives with finite verb-subject inversion to her grammar at 2;11, nothing forces Katla to expunge the alternative (nontargetlike) English-style imperative construction with nonfinite unraised *-a* verbs. Delearning will be next to impossible.

Chapter 5. Negation

1. Introduction

In contrast to imperatives (Chapter 4), negation is a topic that has been extensively treated both in syntactic theory and in first and second child language acquisition studies of English and a number of other languages, though at the time of writing not for Icelandic yet.¹ The popularity of negation is at least partly to do with the fact that negations occur frequently and early in children's productions, and that the placement of negation can inform us about the functional architecture of syntactic representations in child grammars. The interaction of negation, finite verb and subject tells us whether verb movement and XP-movement occur out of VP into the IP domain.

Katla's case is of interest here, since her two target languages, Icelandic and English, have different word order with regard to negation. In terms of parameter setting, Icelandic is [+] verb movement, English is [-]. English employs *do*-support to negate clauses with simplex thematic verbs, whilst Icelandic lacks such a dummy. *do*-support is also used in English for negative imperatives (prohibitions), whereas Icelandic either fronts the finite imperative verb or uses a negation-initial nonfinite imperative construction.

¹ Examples of studies dealing with negation in English L1A are: Bellugi (1967), Bloom (1970, 1991), Bloom and Lahey (1978), Bloom, Miller and Hood (1975), Brown, Cazden and Bellugi (1971), Déprez and Pierce (1993), Drozd (1993, 1995, 1997), Harris and Wexler (1996), Klima and Bellugi (1966), Maratsos and Kuczaj (1976), McNeill (1968, 1970), Pea (1978, 1980), Pierce (1992), Radford (1990a), de Villiers and de Villiers (1979, 1985), Wexler (1994).

Studies of the acquisition of negation in other L1s are for instance Hoekstra and Jordens (1994) for Dutch; Pierce (1989, 1992), Déprez and Pierce (1993, 1994) for French; Jonas (1995) for Faroese; Schaner-Wolles (1995-96), Weissenborn (1990), Wode (1977) for German; Plunkett and Strömquist (1990) for Danish, Norwegian and Swedish.

The negation of English in child L2A has been investigated for instance by Cancino, Rosansky and Schumann (1978) for Spanish-English, Gillis and Weber (1976), Milon (1974) for Japanese-English, Haznedar (1995, 1997a, 1997b) for Turkish-English, Ravem (1968/1974) for Norwegian-English, Eubank (1993/94, 1996), Tiphine (no date); White (1990/91, 1992) for French-English, Wode (1981/1983: Chs. 8-11) for German-English; for simultaneous bilingualism, e.g. by de Houwer (1990) for Dutch-English, Döpke (1997) for German-English, Meisel (1994a), Meisel and Müller (1992) for French-German.

Bilingual Katla has to acquire both of these rather different syntactic systems. When does she move constituents to the left of negation and utilise the functional IP domain? Does she apply verb movement across the board or only to certain verb types (e.g. auxiliaries)? Does she overapply verb movement? Is *do*-support for negation a problem for her? How does her acquisition of negation and verb placement compare to that of monolingual peers? Does she keep the two language systems separate or do interferences occur? These are the questions I will broach in the present chapter.

2. Negation in English and Icelandic

2.1. The forms of negation

Negation can be discourse-oriented or syntactic. Discourse negation, also called anaphoric negation, refers backwards to negate some aspect of a previous utterance (e.g. *Do you want any sugar? – No, thanks.*). Syntactic (non-anaphoric) negation negates some aspect of the same utterance that the negation device occurs in (e.g. *She doesn't want the light on; The light is not on now, is it?; This can't be a real O'Keeffe.; No way is this an O'Keeffe!; Not again!; There's no milk in the fridge*). Syntactic negation has two subcategories: (i) sentential – or clausal – negation, which negates a clause, and (ii) phrasal negation, which negates the adjacent constituent. Here, I am interested only in syntactic clausal negation, and not constituent negation; I am not interested in the use of negation as a determiner or quantifier. Nor will I deal with the semantic or functional classification of negation.²

Across languages, clausal negation is expressed via free-standing negation particles, clitics (e.g. Latin, Old English, Old Icelandic, Old and Middle High German), and negative

² Syntactic negation is often classified according to the following types: (i) epistemic negation (concerning belief, evidence, certainty, e.g. *I don't know*), (ii) deontic negation (concerning permission, right, obligation, e.g. *Don't touch!*), (iii) boulemaic negation (concerning wish, want, desire, e.g. *No experiments!* i.e. *I/we don't want any experiments*), and (iv) alethic negation (truth-functional: true or false of the situation described). A different, influential tripartite typology of negation has been proposed by Bloom (1970:173) specifically for child language: (a) nonexistence (a referent expected to exist in the context is not manifest), (b) rejection (a referent is rejected or opposed by the speaker), (c) denial (asserting that an actual or supposed predication is not the case). Bloom's typology however ignores important other uses of negation in child language such as disappearance, prohibition, and self-prohibition (children telling themselves off, e.g. immediately before or when touching a forbidden object (Pea 1980:158-166)). Many more functions have been proposed which I cannot go into here. For discussion of how children's negative utterances in English should be functionally categorised, see Bloom (1970, 1991), Bloom and Lahey (1978), Bowerman (1973), Choi (1988), Drozd (1995), Pea (1978, 1980), Plunkett and Strömquist (1990), de Villiers and de Villiers (1979, 1985).

auxiliaries or verbs (e.g. Arabic, Finnish). English employs the particle *not* as well as negative auxiliaries, which are usually regarded as contractions of the negation onto finite auxiliaries (e.g. *don't*, *doesn't*, *didn't*, *isn't*, *aren't*, *wasn't*, *weren't*, *haven't*, *hasn't*, *hadn't*, *can't*, *won't*, *wouldn't*, *couldn't*), negated copulas and, at least in British English, negated thematic *have*.³ Icelandic lacks such auxiliary-negation contractions. The negation particle *ekki* 'no/not' is used for all types of negations and never assimilates with the verb (for examples see below).

2.2. The positioning of verb and negation

Not only the form, but also the position of negation is different in English and Icelandic. Both languages are SVO and are unanimously taken in the generative literature to have head-initial VP, IP (or equivalents) and CP. The two languages vary, however, with regard to verb movement and Verb Second, which affects the position of verb and negation in the clause: Both in English and in Icelandic, negation precedes nonfinite verbs, as illustrated in (1-2). Negation follows finite auxiliaries and copulas in both languages, shown in (1-4) for auxiliaries and for the copula in (5-6).

- (1) a. (*I know (that)*) *she's not painting.*
 b. ... **she's painting not.*
 c. ... **she not is painting.*
- (2) a. (*ég veit að*) *hún er ekki (að) mála.*
 I.NOM know that she.NOM is.3/1SG.PRES.INDIC not (to) paint-INF
 'I know that she's not painting.'
 b. ... **hún er (að) mála ekki.*
 c. ... **hún ekki er (að) mála.*
- (3) a. (*I know (that)*) *you won't go/will not go.*
 b. ... **you will go not.*
 c. ... **you not will go.*
- (4) a. (*ég veit að*) *þú skalt ekki fara.*
 I.NOM know that you.NOM shall-2SG.PRES.INDIC not go-INF
 '(I know that) you won't go.'
 b. ... **þú skalt fara ekki.*
 c. ... **þú ekki skalt fara.*

³ The view that negation contracts or cliticises onto the auxiliary is widespread in the literature, but there are also dissenting views, e.g. Williams (1994:194-200), who treats English negative auxiliaries/modals such as *won't* and *can't* as listed in the lexicon as unanalysed wholes and base-generated in the same position as non-negated auxiliaries; consider also the auxiliary-like negation (*b*)ain't in certain non-standard dialects of English, e.g. *I (b)ain't going*. 'I'm not going.', *I ain't got it*. 'I haven't got it.'

- (5) a. (*she knows (that)*) *I'm not ill.*
 b. ... **I not am ill.*
- (6) a. (*hún veit að*) *ég er ekki veik.*
 she.NOM knows that I.NOM am.1/3SG.PRES.INDIC not ill.NOM.SG.FEM
 '(She knows that) I'm not ill.'
 b. ... *(*)ég ekki er veik.* (cf. footnote 4)

Verb-negation placement is the same in main clauses and subordinate clauses; thus the presence or absence of the bracketed introductory main clause and complementiser in the examples above is immaterial.⁴

With regard to thematic verbs, the languages are different: Icelandic finite thematic verbs behave exactly like finite auxiliaries; i.e. they precede negation (7-9).

- (7) a. (*hún veit að*) *ég vil ekki t_i lýsi.*
 she.NOM knows that I.NOM want.1/3SG.PRES not fish-liver-oil.ACC
 '(She knows that) I don't want cod liver oil.'
 b. ... **ég ekki vil lýsi.*
- (8) a. *það gengur ekki t_i.*
 it go-3SG.PRES.INDIC not
 'It doesn't work.'
 b. **það ekki gengur.*
- (9) a. *ýt-tu ekki á tækid!*
 push.IMP.2SG/STEM~you.2SG.CL not on recorder-the.ACC.SG.NEU
 'Don't touch the tape recorder!
 b. **ekki ýt-tu á tækid!*

Icelandic finite thematic verbs precede negation, irrespective of whether the clause is a main or subordinate clause, and irrespective of modality (indicative, subjunctive or imperative). Indicative, the most frequent modality, is illustrated in examples throughout this chapter. (10) and (11) show that the verb must precede negation also in clauses with a subjunctive thematic verb. These word order facts suggest that Icelandic subjunctives are finite, in

⁴ Note that in Icelandic (as in Old Norse) the finite verb precedes the negation *irrespective* of clause type. Most other V2 languages have asymmetric verb and negation placement in main and subordinate clauses: The Scandinavian languages have postverbal negation in main clauses (like Icelandic), but preverbal negation in subordinate clauses (unlike Icelandic). However, as pointed out by e.g. Maling (1980), in certain adverbial temporal and relative clauses, Icelandic also permits the order Comp-Subject-Neg/sentential Adv-finite V, especially when the Adv is stressed (cf. also Bobaljik and Thráinsson 1998:64-65; Sigurðsson 1986, 1989:44; Thráinsson 1986b). Jóhanna Barðdal (p.c. 22 September 1998) informs me that this order is already attested in 18th and 19th century texts.

accordance with traditional grammar. Unlike in English, where subjunctives are rare in colloquial speech, they are frequent in Icelandic, especially in subordinate clauses.

- (10) a. *Mér sýnist að Önnu líki ekki t_i lýsi.*
 me.DAT seems that Anna-DAT like-3SG.PRES.SUBJ not fish-liver-oil.ACC
 'I think that Anna doesn't like cod liver oil.'
- b. ... **Önnu ekki líki lýsi.*
 Anna-DAT not like-3SG.PRES.SUBJ fish-liver-oil.ACC
- (11) a. *Ég held að það gangi ekki t_i.*
 I.NOM think that it go-3SG.PRES.SUBJ not
 'I think that it doesn't/won't work.'
- b. ... **það ekki gangi.*
 it not go-3SG.PRES.SUBJ

A negated finite imperative is illustrated in (9), note the IMP V-Subject-*ekki* word order. In the colloquial spoken Icelandic serving as input to children, negated finite imperatives are rare; prohibitions and warnings are instead often expressed with a subjectless negation-initial *infinitive*, e.g. *ekki ýta!* not push-INF 'Don't push!' (recall Chapter 4).

English finite thematic verbs on the other hand never precede negation, but neither can they follow negation. Instead, a finite periphrastic *do* precedes negation, and the thematic verb following it remains nonfinite, as illustrated in (12-13). Why *do*-periphrasis is necessary for English negation has been the topic of vivid debate in the literature, discussed in detail in Chapter 7.

- (12) a. **I want_i not t_i cod liver oil.*
 b. **I not want cod liver oil.*
 c. *I do not want/I don't want cod liver oil.*
- (13) a. **It works_i not t_i.*
 b. **It not works.*
 c. *It does not work/doesn't work.*

In summary, all finite Icelandic verbs precede negation, whereas only finite auxiliaries, the copula and *have* do so in English. This difference is typically described as the two languages having the verb movement parameter set to different values, Icelandic to [+] movement, English to [-] movement (e.g. Chomsky 1981, 1986a, 1986b; Emonds 1970, 1976, 1978; Grewendorf 1990; Haegeman 1994, 1995a; Ouhalla 1994; Pollock 1989). The assumption behind this analysis is that negation and other modifiers such as adverbs occupy fixed positions and that the positioning of negation and finite verb must be due to verb movement (for a dissenting view, see Williams 1994).

(14) $[_{CP} [_{IP} [_r \text{ } [_r \text{ I-V}_i]] \text{ NEGATION } [_{VP} [_v \text{ } t_i \dots]]]]]$

(15) *ekki batnar veðrið, þó að loftvogin sé að stiga.*
not improve-3SG.PRES.INDIC weather-the though barometer-the is.3SG.SUBJ
to rise-INF

(16) *ekki vil ég lýsi, þó að það sé hollt.*
not want.1/3SG.PRES.INDIC I.NOM fish-liver-oil.ACC though it is.3SG.SUBJ healthy

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then, before *ekki* is fronted, the verb does precede the negation, as illustrated in (17), irrelevant details being omitted.

$$(17) \quad [_{CP} \textit{ekki}_j [_{C'} [_{C^0} \textit{vil}_i] [_{IP} \textit{ég} [_{I'} [_{I^0} t_i] \text{NEGATION} t_j [_{VP} [_{V'} t_i \textit{lýsi}]]]]]]]$$

I think it is therefore fair to generalise that Icelandic all finite verbs precede negation. Let's now consider the status of this 'NEGATION'.

3. Acquisition theory and the syntactic status of negation

Generative models today place the clausal negation marker either in a non-functional adjunct position to the VP, having scope over the VP, or in a functional projection, NegP above VP, to be discussed below. In either analysis, negation marks the border between VP and the functional domains above. Predating GB theory, there are a great many generative syntactic analyses of negation, all of which I cannot go into in detail, dating back to Chomsky (1957) and Klima (1964). I want to highlight three of these early approaches because they have influenced child language studies to this date.

3.1. Sentence-external Neg

Klima (1964) postulated a single underlying deep structure position for negation across sentence-types. This position for negation is pre-sentential, a Neg morpheme being left-adjoined to the sentence (Neg-SVO). All non-sentence-initial negations are derived from this deep structure by transformational rules. Klima's proposal generated vivid debate and counter-proposals during the 1960s and 1970s (e.g. Culicover 1976; Emonds 1976; Jackendoff 1968, 1972; Stockwell, Schachter and Partee 1973: Chapter 5). In Klima (1964:300-302), 'pre-sentential' means sentence-initial or sentence-peripheral negation, as illustrated in (18). However, Klima's proposal was taken by many to mean negation external to the clause, as illustrated in (19).

$$(18) \quad [_{S} \text{Neg Nominal Predicate}]$$

$$(19) \quad \text{Neg} \quad [_{S} \text{Nominal Predicate}]$$

Moreover, although Klima (1964) only discussed English, his proposal of an underlyingly pre-sentential Neg was soon applied to other languages, and many have attributed to Klima (1964), probably wrongly, the idea that there is a *universal sentence-external* negation

across all languages. The idea has long been rejected in syntactic theory, but has enjoyed much popularity amongst acquisitionists and still does.

Klima, together with Bellugi (Klima and Bellugi 1966, 1969, 1973), proposed a series of stages in the acquisition of clausal negation, on the basis of American English child language data from Adam, Eve and Sarah (Brown 1973). The first of these stages that children are supposed to undergo is exclusively sentence-external negation, [{*no/not*} + Nucleus] or [Nucleus + *no*].

[T]here are no negatives within the utterances, nor are there auxiliary verbs [...]
there is no clear evidence that the child even understands the negative embedded in the
auxiliary of adult speech... (Klima and Bellugi 1973: 341-342)

Numerous acquisitionists in Klima's and Bellugi's wake (e.g. Clahsen 1988a, b; Déprez and Pierce 1993, 1994; Felix 1992; Pierce 1992; Radford 1996; Wode 1977) have claimed that all children start off with sentence-external negation (Neg-SVO). This has also been argued to universally hold for (adult) second language learners (e.g. Clahsen 1988b; Hyltenstam 1977; Schuhman 1978). Introductory textbooks on child language acquisition have iterated the claim of an initial Neg-SVP stage, often mantra-like (e.g. Fromkin and Rodman 1993:404-405; O'Grady, Dobrovolsky and Aronoff 1989:286). Representative of this claim is the following quote from Radford (1996):

[T]he earliest type of (non-anaphoric) negative structures produced by young children
are typically presubject negatives. (Radford 1996:54)

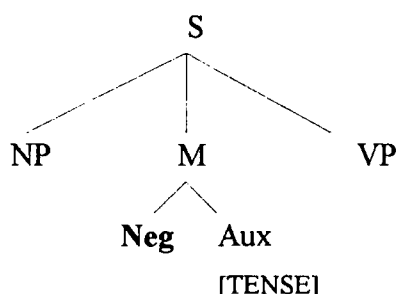
Radford tries to back up his claim of a stage of presubject negation by referring to data from Pierce (1992) and Déprez and Pierce (1994:61). He notes that 96% (71/74) of negations are sentence-initial for the three English-speaking children Eve (18-21 months), Peter (23-25 months) and Nina (23-25 months) combined. Radford ignores the fact that sentence-initial negation is *not* necessarily the same as presubject negation; in fact, an examination of the data reveals that the majority of Eve's, Peter's and Nina's sentence-initial negations *lack* a subject. Furthermore, Radford fails to mention that other English-speaking children, including 2 children (Naomi, 1;6-2;1, and Peter, 2;0-2;3) from the 4 children in Pierce's (1992) original study, *never* produce presubject negations, another child (Nina, 1;11-2;2) does so very rarely, and only the fourth child, Eve (1;8-2;0), produces a few presubject negations. Pierce (1992) is vague about this fact too, but the quantified data are clear; half of her children never produce presubject negation, and the other children rarely do (1992:56). What they produce are instances of *subjectless* Neg-V utterances. This finding casts doubt on universal Neg-SVO. Perhaps then, there just is no universal sentence-external or presubject negation stage for English-speaking children, let alone cross-

linguistically.⁷ Bloom (1970, 1991), Boster (1996), Drozd (1992, 1995), Ervin-Tripp (1973), Fletcher (1985), Miller (1973), Miller and Ervin-Tripp (1973) and de Villiers and de Villiers (1979, 1985) have shown that sentence-external negation (Neg-SVO) is much rarer in English child language than is commonly believed, and, if found at all, only for some children.⁸ Bloom (1991:144) puts it most forcefully: “a stage of sentence external negation in early acquisition is a myth”. A specific analysis of negation that has been rejected for the description of adult grammars seems to have been unduly ‘successful’ in language acquisition theory.

3.2. Neg in Aux

The second early generative approach to negation I want to mention is base-generation of negation in M(odal) or Aux (e.g. Culicover 1976; Stockwell, Schachter and Partee 1973:278-281), illustrated in Figure 5.1.

Figure 5.1.



(based on Stockwell *et al* 1973:278)

The idea that negation is in M or Aux, a precursor to Infl, reflects the fact that English *n't* contracts onto modals (e.g. *can't*) and finite auxiliaries. An issue that is not addressed in these early analyses is why the order is Neg + Aux, whilst English *n't* follows the auxiliary. More recently, the Neg in M approach of the 1970s has translated into *not/n't* being generated in Infl (e.g. Beukema and Coopmans 1989:431; Hyams 1992:379; Radford 1988:66-68; Williams 1994). Note however that such a treatment of negation is

⁷ Universal Neg-SVO word order is also predicted for early child language by Platzack's (1996, 1998:235-247) 'Initial Hypothesis of Syntax'. Platzack adopts Kayne's (1994) proposal of universal SVO word order underlyingly and also Chomsky's (1995) Minimalist model of strong and weak features as a driving force behind overt vs. covert movement, respectively. Platzack hypothesises that children start out with SVO and all features set to weak. Consequently, initially no overt movement should occur and children universally should produce SVO and Neg-SVO. Empirically however, these predictions are not borne out (see Haznedar 1997a; Sprouse 1997).

⁸ For instance, when searching Adam's 10 CHILDES transcripts from 2;3 to 3;1 (MacWhinney 1991, from Brown 1973) we find only one instance of nonanaphoric Neg-SVO, the often-cited *no I see truck* (Adam 2;3).

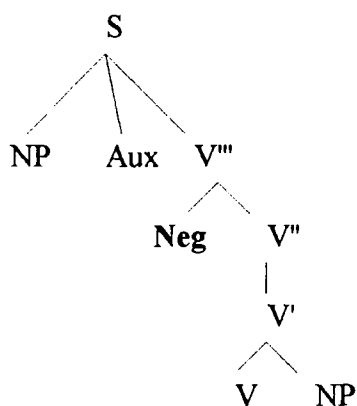
unsatisfactory for cases where negation occurs without a tensed element in Aux (e.g. nonfinite clauses, e.g. *I told you not to do that.*) and in general for languages where the negation has phrasal – and not head – properties, e.g. Icelandic, where *ekki* is topicalisable (see Section 2.2.). The head vs. phrase status of Neg is further discussed below.

Neg in M has also had an effect on acquisition theory: It has been argued, particularly for English, Swedish and Dutch, that clause-internal negation in early child language is ‘modal’. The negation particle is attributed a modal reading such as ‘I do not want’ (e.g. Hoekstra and Jordens 1994:126), and modals and auxiliaries with adjacent negation are treated as *unanalysed* negative modals, e.g. English *can't*, *don't*, *won't*, Dutch *kan nie* (can not), *mag nie* (want not), Swedish *vill inte* (want not) (Bellugi 1967; Hoekstra and Jordens 1994:129-133; Klima and Bellugi 1966, 1973; Lange and Larsson 1977; Leopold 1949 for bilingual German/English at 2;0-2;1; for a dissenting view, see Fletcher 1979). Only later, these researchers claim, do children produce the equivalent non-negated auxiliaries, and only then do the formerly unanalysed wholes get analysed into auxiliary plus negation. I discuss the evidence for such a universal unanalysed-negative-auxiliary stage below.

3.3. Neg adjoined to VP

The third early generative approach I want to mention is negation (universally) base-generated as an adjunct to VP – or generated in a high VP-layer (e.g. Akmajian, Steele and Wasow 1979:45-49; Culicover 1976; Emonds 1976; Jackendoff 1972), as illustrated here.

Figure 5.2.



(based on Akmajian *et al* 1973:45)

The view that *not* left-adjoins to VP in English reflects the above-mentioned word order facts: Negation precedes English nonfinite verbs and thematic verbs in general and follows finite modals and auxiliaries (in Aux). Translated into a GB framework, Neg is generated as an AdvP-adjunct to VP (e.g. Grewendorf 1990; Guilfoyle and Noonan 1988, 1992:266-267; Haegeman 1994:594; Lebeaux 1988:39; Radford 1988:66-68, 1990:151-155, 1996:54; Williams 1994; Zanuttini 1990), illustrated in (20).

- (20) [CP [IP [I' I° [vP Neg [vP [V V° ...]]]]]]

In current syntactic theory, the Negation as Adjunct analysis is still widespread. Yet as the status of English *not* as a maximal phrase is arguable, a number of recent analyses prefer a NegP account (see below) over an adjunct one.

For Icelandic and the other Scandinavian languages, however, there is convincing evidence that negation *is* a maximal phrase: Firstly, these languages feature topicalisation of negation (recall (15-16)), a typical XP-property, unexplainable if negation were a head. Secondly, they lack cliticisation of negation to a verbal head (a typical head property). *Ekki* does not cliticise to the verb, neither phonetically nor syntactically, as indicated by the fact that verb and negation in yes/no-questions for instance are not adjacent, see (21).

- (21) a. *vilt_i þú ekki t_i lýsi?*
 want-2SG.PRES you-2SG.NOM not fish-liver-oil.ACC
 'Don't you want cod liver oil?'
 b. * *vilt ekki þú lýsi?*

All generative analyses of Scandinavian that I know of treat the negation marker as a maximal phrase, and most analyse it as a VP-adjoined AdvP, in unsplit IP and split IP models alike. For Icelandic *ekki*, this has been suggested for instance by Holmberg (1986), Holmberg and Platzack (1991), Johnson and Vikner (1994), Kosmeijer (1986, 1987), Ottósson (1989:90-93), Platzack (1988), Rohrbacher (1994: 174-176, 195), Sigurðsson (1989:41-47), Þráinsson (1994: 264-265) and Vikner (1991, 1994:146).

The Negation as VP-adjunct analysis has greatly influenced acquisition theory. Hoekstra and Jordens (1994:132-133) hypothesise that Dutch children until age 1;10 treat negation as an adjunct to VP instead of as a head that selects the verbal projection as its complement like in the adult grammar. Similar proposals have been made for early child English by Roeper (1992, 1996:436-437), Roeper and Rohrbacher (1994), and for child L2 English by Eubank (1996:91-96). The tacit assumption behind this is that adjunction is somehow easier for the child; unfortunately Hoekstra and Jordens (1994) do not provide an explanation as to what would trigger restructuring of the child's grammar from adjunction to complementation.

Proponents of No Functional Categories typically adopt the Negation as VP-adjunct analysis (for English, e.g. Déprez and Pierce 1993:34, 1994:61; Guilfoyle and Noonan 1988, 1992:242, 266-267; Lebeaux 1988:39; Pierce 1989:93-94; Radford 1990a:154-155, 1996; Roeper and Rohrbacher 1994; for German and French, e.g. Meisel 1997:229-239; for Swedish, Platzack 1990, 1992). As mentioned above, there is a wide-spread belief that children undergo a stage of nontargetlike sentence-initial negation. Under No Functional Categories, such a stage readily receives an explanation: Functional projections such as CP

and IP are absent, negation, however, not being a functional projection, can adjoin to VP and the child produces negation-initial utterances. Once IP and CP emerge, elements may move out of the VP past negation into these functional projections, and the child begins to produce clause-internal negation. Yet this elegant explanation runs into problems with data from children that do not start off with sentence-initial negation only: Clause-internal negation, where the subject (or any constituent for that matter) precedes negation, cannot be explained by Neg-adjunction to VP. Radford (1990a:153) tries to save his account by postulating that in such cases, the negation does not adjoin to VP, but to V', as in (22).

$$(22) \quad [_{VP} [_{NP} \textit{man}] [_{V'} \textit{no(t)} [_{V'} [_{V'} \textit{go}] \textit{in there}]]]]$$

However, as Radford rules out adjunction to V' for adults, children would have to delearn adjunction of negation to V', but he does not tell us what would trigger this restructuring.

Alternatively, to derive early clause-internal negations the subject might adjoin to VP above Neg (e.g. Powers 1996:29; Tsimpli 1991). However, as there is no such subject adjunction in the adult grammar, children would have to delearn such a process. I therefore suggest that it is more plausible to assume that the negation marker in children's clause-internal negation in fact occupies the position it does in the adult grammar. Consequently, clause-internal negation is evidence for subject movement out of the VP and past negation.

3.4. Neg as a functional projection

The NegP analysis was first proposed by Pollock (1989) on the basis of French. He assumes that negation is not an adjunct, but a functional head, which in turn takes a phrasal complement (VP or AgrP). The negation marker is the overt realisation of this functional NegP, but it is disputed whether it occupies the head Neg^o, or Spec Neg, or both. The debate about the exact make-up of NegP is to do with the placement of negation with regard to the verb in the clause, and with the question whether verb (head) raising is more compatible with head or XP-status of negation.⁹ Since Neg^o, between Infl and V, is an intervening potential governor and barrier (in the sense of Chomsky 1986a), it must be assumed that verb movement goes through Neg^o; that is, finite copulas and auxiliaries in English and all finite verbs in Icelandic move through Neg^o up to I^o.

$$(23) \quad [_{CP} [_{IP} [_{I'} [_{I'} V_i \text{-Neg-I}] [_{NegP} [_{Neg'} [_{Neg^o} t_i] [_{VP} [_{V'} t_i \dots]]]]]]]]$$

⁹ There is also Laka's (1990) proposal that NegP is only a special case of a functional 'modality' projection (ΣP), which is present in every clause, negated or not. Similarly, Belletti (1994) proposes a PosP by analogy with NegP, to be found in non-negated ('positive') clauses. As the existence of such projections is controversial and as there rarely is an overt reflex for Σ^o or Pos^o, I disregard these proposals for child language.

For instance, it has been suggested that English *not* is a head, with NegP positioned in between TP and AgrP (TP-NegP-AgrP-VP, Pollock 1989:397), but also a head with NegP positioned below all functional projections (Beukema and Coopmans 1989:428; AgrP-TP-NegP-VP, Chomsky 1989, 1991, Belletti 1990; Radford 1994:144; TP-AgrP-NegP-VP, Ouhalla 1994:306-307). The head *not* then cliticises to Aux and the Aux-Neg complex rises to Infl. But English *not* has also been argued to be an XP, occupying Spec Neg; i.e. a scope position and an A-bar position (e.g. Haegeman 1994:600, 639, AgrP-NegP-TP-VP). This may suffice as an illustration of the diversified NegP proposals for English; similar conflicting generative analyses exist for other languages.¹⁰ I feel it is difficult to adopt any particular NegP analysis when investigating child language, since there is no consensus in the literature as to where NegP is positioned in the clause in the adult languages.¹¹ More worryingly even, there is no consensus about whether the existence of NegP is universal or whether NegP only occurs in certain languages and/or clause types.¹² For instance, Belletti (1994), Laka (1989) and in particular Zanuttini (1990, 1991, 1994, 1996) have claimed that sentential negation depends on the presence of a Tense head, and thus that NegP can only be generated in the presence of Tense (for a dissenting view, see e.g. Haegeman (1996b:248)). As the existence of untensed negated clauses cannot be denied, such claims therefore imply that UG may allow several options: Negation may be expressed by an element heading a functional projection NegP, or by an adverb which is adjoined to some other projection, as well as by a combination of these.

As discussed above, for Icelandic, the existence of *ekki* topicalisations suggests that the negation is *not* a head, but a maximal phrase, with no functional projections below negation.

¹⁰ For French for instance, it has been suggested that NegP intervenes between two functional projections, as for English (TP-NegP-AgrP-VP, Pollock 1989:414), only that French *ne* occupies the head Neg⁰, and *pas* Spec Neg (e.g. Haegeman 1994:598; Pollock 1989). The *ne ... pas* order comes about by head-raising of the verb into Neg⁰, cliticisation of *ne* to the verb and subsequent movement past *pas* out of the NegP. Other researchers have however argued that on the contrary, *pas* is the Neg⁰ head, and *ne* is in Spec Neg (e.g. Ouhalla 1994:308-309), because *ne pas*, but not *pas ne* word order shows up in nonfinite French clauses (e.g. *ne pas paraître triste* Neg Neg appear-INF sad).

¹¹ Some analyses with multiple VP-projections to derive argument structure allow a VP above NegP; other analyses with multiple AgrPs allow an AgrP below NegP (e.g. Haegeman 1995b; Ouhalla 1994; Pollock 1989; White 1992). This leads to a blurring of the border between verbal-lexical versus clausal-functional domains.

¹² My impression of the literature is that analyses without a universal NegP tend to propose negation adjunction to VP for the Germanic V2 languages, but NegP for Romance languages (in the tradition of Pollock (1989) and Belletti (1990)). Analyses with universal NegP often assume variability in the position of NegP. There is a tendency to propose a high-up NegP (below CP, directly above the highest Infl-projection, such as AgrSP), for Romance and certain finite V2 constructions in Germanic (Platzack 1998:164), and a lower down NegP for Germanic in general, below the lowest Infl-projection, directly above VP (see Platzack (1998:162-167); Zanuttini (1990, 1996)).

I shall treat *ekki* as an adverbial which adjoins to VP, as illustrated in (20). Alternatively, I could envisage a NegP immediately dominating VP, with *ekki* in Spec Neg. For English, I remain agnostic about the status of *not* (head or phrase, NegP or adjunct). What matters is the position of *not* in the clause, and in a CP-IP-VP framework, this position is below finite IP and above VP.¹³ We only have a provisional understanding today of the exact mechanisms of negation in Universal Grammar. Consequently, the conclusions we draw about child grammars that depend on those mechanisms will be preliminary. Therefore, I am wary of specific NegP analyses, and I do not want to take the pure existence of just *any* negation in child utterances as evidence of NegP and consequently as evidence for functional projections. Negation markers may simply be adjoined to VP (as many analyses assume also for the adult languages). What I do want to do, however, is to look for distributional data in English and Icelandic child language which show that constituents (verbs, subjects, etc.) can occur to the left of negation. Such data I take as evidence that movement past negation has occurred. And I take them as evidence for movement to functional projections, and thus as evidence for the existence of functional projections in the child's grammar.

4. Katla's Icelandic negations

4.1. The first clausal negation

In Katla's Icelandic data from 1;0,29 to 3;6,07 (Samples 1-76), there are 83 instances of clausal negation, all with *ekki*. This is a relatively low number, compared to the far more frequent constituent negations with *ekki* + XP (mostly a nominal), *enginn* 'no' + nominal, or the frequent, but irrelevant anaphoric discourse negations.¹⁴ Nevertheless, these 83 clausal

¹³ In English nonfinite clauses, *not* can precede or follow the infinitival marker *to* (e.g. *To be or not to be* vs. *to not be*), with differences in scopal interpretation. However, such negated control PRO-infinitives are rare in early child language, and not attested in Katla's corpus. In the entire English adult input transcripts I found only one example, *It's impolite not to do that*. I will therefore disregard these cases.

¹⁴ Discourse negations in Icelandic are the one-word utterance *nei*. ('No.') and less commonly *ekki*. ('No.', 'No?'). *nei* never occurs clause-internally, whilst *ekki* readily does. *ekki* on its own is also used as a prohibition, an equivalent to 'Don't.' *ekki* on its own also occurs as a surprised discourse negation (e.g. Is mummy a boy? → *nei*. 'No.' → *ekki*? 'No?/Isn't she?/Oh, she isn't?').

Constituent negations are expressed by *ekki* + XP (e.g. Who likes cod liver oil? → *ekki ég*. not INOM 'Not me.'), *enginn* (+ nominal) 'no, none, no-one', *neinn* (+ nominal) 'no', and combinations of *ekki* and *neinn*, e.g. *ekki neitt* (not anything-SG.NEU 'nothing').

negations clearly inform us about Katla's Icelandic grammar and how it is different from her English one (Section 5.).

Katla produces her first clausal negation at 1;6,15 (S19), shown in (24a). This is not only the first clausal negation in the recorded data, but also the first ever that Katla's mother, her main caretaker at the time, has heard from Katla (and is much surprised about). The context which this negation occurs in is illustrated in (24b).

- (24a) *nei, það er ekki djús.*
 no this.NOM/ACC.SG.NEU is.3SG.PRES not juice.NOM/ACC.SG.NEU
 'No, this isn't juice.'

- (24b) Katla 1;6,15 (S19)
 %com: Katla is holding a mug, filled with milk, with a picture of a lion.
 M wants to know from K what is in the mug.
 *MUM: *o(g) hvað (h)efur ljónið í # glasinu?*
 %eng: and what has-3SG.PRES lion-the in glass-DAT.SG.NEU-the.DAT.SG.NEU
 = And what's the lion got in the mug?
 *MUM: *það # er þa(ð) djús?*
 %eng: this, is this juice?
 *KAT: [nei] # [dæd ð "æg ju:].
 %com: *nei, það er [ekk(i)!!] djú(s).*
 %eng: no, this is [not!!] juice.

(24) is a case of clause-internal negation, with a finite third person singular copula followed by *ekki*. (For comparison, English negated clauses with a copula are not produced until 2;3,15 (S42)). Although (24) is the only instance of a negated clause with a finite verb in Katla's data at 1;6, it is important for a number of reasons: Firstly, the word order of finite copula plus *ekki* is targetlike. As discussed in Chapter 2, Katla also produces non-negated clauses with targetlike 3SG copulas at 1;6, repeated here in (25).

- (25) a. *er þetta býi(ð)?* (Katla 1;6,15, S19)
 is.3SG this bee-the.NEU.SG
 'Is this the bee?'
 b. *uppi er ljós.* (Katla 1;6,24, S22)
 up-there is.3SG light
 'Up there (is) (a) light.'
 c. *nammi er gott.* (Katla 1;6,24, S22)
 food/sweet-NEU.INDECLIN is.3SG good-NEU.SG
 'Food/Candy is good.'

Katla also produces *ekki* on its own in one-word utterances. I conclude from these facts that copular *er* and negation *ekki* are separate words for her at 1;6. Secondly, Katla's negated utterance (*það er ekki djús*) is clearly not a repetition of the mother's preceding question (*er það djús?*). In Katla's utterance, the subject *það* precedes both the verb and negation. I suggest that we here have targetlike XP-movement of the subject to Spec I and head-movement of the verb past negation to I°, illustrated in (26).

$$(26) \quad ([_{CP} \text{ } [_{IP} \text{ } \textit{það}_j \text{ } [_{I'} \text{ } \textit{er}_i] \text{ } [_{VP} \text{ } \textit{ekki} \text{ } [_{VP} \text{ } t_j \text{ } [_{V'} \text{ } t_i \text{ } \dots]]]]]])()$$

Katla's early clause-internal negation with analysed copula and negation goes against the two widespread generalisations about early negation mentioned in Sections 3.1.-3., namely (i) at first sentence-external negation only; (ii) later, clause-internal unanalysed negative auxiliaries. I investigate these claims with regard to Katla's English below; here I just want to point out that Katla's very first clausal negation at 1;6,15 is neither sentence-external nor an unanalysed chunk. As I have shown in Chapter 2, Katla produces her first few multi-word utterances at 1;6,00, and regularly from 1;6,15; consequently it cannot be argued that she is precocious and simply has gone through negation stages (i) and (ii) earlier, say at 1;5.

4.2. Overview: Negation and finiteness interaction

I now look at the positioning of verb and negation with respect to each other. Of the 83 Icelandic clausal negations, 80 contain a verb, and can thus be used for this purpose.¹⁵ I have classified a verb as finite if it is inflected for subject-agreement and tense as in the adult language. This accounts for 54/59 finite verbs, of which all are distinct from nonfinite participles and all but 3 are distinct from the infinitive (which ends in *-a*).¹⁶

I have classified a further 5 thematic verbs as finite although they do not meet the targetlikeness criterion, for the following reason. None of them end in (infinitival) *-a*; rather, they all have finite forms, just not the correct one for the context they occur in: 3 are forms that would be targetlike in tense and agreement if the verb belonged to another verb class; 2 are tensed, but singular instead of plural. The fact that other verbs do occur with correct plural marking at this point (2;11,15) suggests that agreement in number is productive for

¹⁵ The remaining 3 clausal negations are verbless utterances of the type Subject + *ekki* + Predicate, where a finite copula has been omitted. This renders them uninformative with regard to verb placement, e.g. *þett(a) ekki vatn nú* 'this not water now' 'This isn't water now.' 2;0,00 (S35)). Still, these utterances can serve as evidence for subject movement past negation.

¹⁶ Three 'finite' thematic verbs in a late sample – at 3;4,20 (S72) – do end in *-a*, but are finite: *-a* is the targetlike first singular present inflection in this context, as the verb belongs to WEAKCLASS1 (*ég ætla ekki ...* I.NOM intend-a/1SG.PRES.INDIC not ... 'I don't intend to.').

Katla. I therefore believe it is fair to classify these 5 verbs as finite.¹⁷ I have classified a verb as nonfinite if it has a form that is nonfinite in the adult language. This nonfinite form is virtually always the infinitive (ending in *-a*), otherwise a past participle. Only nonfinite verbs that occur ‘on their own’ count, i.e. if a finite auxiliary or thematic verb occurs together with a nonfinite verbal complement, this nonfinite verb is not included in the counts. The contingency table, Table 5.1, shows that there is a strong correlation between finiteness and placement of negation/verb.

Table 5.1.
Finiteness and verb placement in Katla’s Icelandic clausal negations
 (1;6,15 - 3;6,07 (S19-76))

	+ finite	- finite	
Neg-V	1	20	
V-Neg	58	1	
Total	59	21	80

4.3. Negation and finite verbs

98% finite verbs precede negation (58/59, Table 5.1. above). I suggest that these 58 are all instances of targetlike verb raising past negation, i.e. to Infl, and thus evidence for IP. A more detailed breakdown is given in Tables 5.2. and 5.3., TL indicating targetlike, NT nontargetlike constructions. For examples, see (27-31).

¹⁷ The 5 verbs are:
 (i) 2;11,15 (S56), 2 instances:
 við *á* *ekki þennan*.
 we.NOM own.1/3SG.PRES not this-ACC.SG.MASC
 ‘We don’t have this one.’ (T: (*við*) *eigum* own-1PL.PRES)
 (ii) 3;0,14 (S60)
 fá *ekki ég* *rice*.
 get.STEM not I.NOM rice
 ‘Don’t I get rice-crispies.’ (T: *fæ* (*ég*) get.1SG.PRES (ablaut))
 (iii) 3;2,10 (S65)
 Rachel lát *ekki aftur*.
 Rachel let.STEMnot back
 ‘Rachel doesn’t give (it) back.’ (T: (*Rachel*) *lætur* let-3SG.PRES (ablaut))
 (iv) 3;2,11 (S66)
 hún *heyr* *ekki*.
 she.NOM hear.STEM not
 ‘She doesn’t hear.’ (T: (*hún*) *heyrir* hear.STEM-3SG.PRES)

Table 5.2.

Katla's Icelandic verb and negation placement as a function of age.

Raw figures of utterances with clausal negation. Verbs are grouped by type and placement with regard to negation; samples are grouped into 3-month age ranges.

Age range	Raised copula TL	Omitted copula NT	Raised Aux TL	Omitted Aux NT	Raised thematic Verb TL	Unraised thematic Verb TL	Unraised thematic Verb NT	Total
1;6-1;8	1	-	-	-	-	2	-	3
1;9-1;11	-	-	-	-	-	-	-	0
2;0-2;2	-	1	-	-	-	1	1	3
2;3-2;5	-	-	-	-	-	1	-	1
2;6-2;8	-	-	1	-	-	-	-	1
2;9-2;11	1	-	-	2	10	-	2	15 (+1) ¹⁸
3;0-3;2	2	2	8	4	11	4	-	31
3;3-3;6	6	-	4	2	15	-	1	28
<i>Total</i>	<i>10</i>	<i>3</i>	<i>13</i>	<i>8</i>	<i>36</i>	<i>8</i>	<i>4</i>	<i>83</i>

(27) Katla 2;6,17 (S49)

%com: Katla is playing with her food and telling herself off for doing so.

*KAT: *má ekki leika me(ð) matinn!*

%eng: may.3/1SG.PRES not play-INF with food.STEM/ACC-the.ACC.SG.MASC
= (one) mustn't play with the food!

%com: TL impersonal negated auxiliary construction.

(28) Katla 2;11,15 (S56)

%com: K is pointing at toys in a catalogue, announcing which toys she does and which ones she doesn't have herself.

*KAT: *ég, ég á [ekki!!] þennan.*

%eng: I.NOM, I.NOM own.1/3SG.PRES [not!!] this-ACC.SG.MASC
= I [don't!!] have this one.

*MUM: *nei # áttu [þetta!!] þús!*

%eng: no # own-2SG.PRES~you.2SG.CL [this-SG.NEU!!] jigsaw.SG.NEU
= No, do you have [this!!] jigsaw?

(29) Katla 2;11,21 (S57)

%com: Katla is pretending to be Einar, a stroppy boy from a children's book.

*KAT: *ég vil ekki bursta tennurnar.*

%eng: I.NOM want.1/3SG.PRES not brush-INF teeth-ACC.PL.FEM-the.ACC.PL.FEM
= I don't want to brush my teeth.

(30) Katla 3;0,17 (S61)

%com: Katla is trying to find matching lotto picture pairs, but gets odd ones.

*KAT: *hill og hestur, það gengur ekki.*

%eng: car-NOM.SG.MASC and horse-NOM.SG.MASC, that goes-3SG.PRES not
= A car and a horse, that doesn't fit/work.

¹⁸ (+1) represents the one instance of nontarget nonfinite past participle + Neg (fn. 23).

(31) Katla 3;2,11 (S66)

%com: Katla has played a quiz game with her dolls and explains it to her mother.

*KAT: *en hann veit ekki hvað spurningin er.*

%eng: but he.NOM know.3/1SG.PRES not what question.NOM.SG.FEM-
the.NOM.SG.FEM is.3/1SG.PRES

= But he doesn't know what the question is.

The one instance (1/59, Table 5.1.) where negation precedes a finite Icelandic verb in Katla's data occurs at 2;11,27 (S58) and is a non-subject-initial V2, illustrated in (32).

(32) *DAD: *ertu með, með tvo bunka?*

%eng: are-2SG.PRES~you.2SG.CL with, with two.ACC.PL.MASC
= have you got two piles? pile-ACC.PL.MASC

%com: K misunderstands D, hears 'kúka' (poo) instead of 'bunka' (piles).

*KAT: *nei, ég er ekki með kúka.*

%eng: no, I.NOM am.1/3SG.PRES not with poo-ACC.PL.MASC
= no, I haven't got poo.

[...]

*KAT: *ekki finns(t) kúka.*
not exist-3SG.PRES.MIDDLE poo-PL.MASC
= There isn't any poo.

Ekki, which precedes the verb, is most likely topicalised to Spec C, and the verb, fronted to C, precedes the subject (recall the *ekki*-topicalisation examples from Section 2.2.). We can therefore say that *all* finite verbs in Katla's Icelandic raise past negation (improving on the 98% in Table 5.1.). This is exactly as in adult Icelandic.

Furthermore, most of Katla's clausal negations with a finite verb have an overt subject, consider for instance those in (28-31). The subject precedes the verb and negation, which suggests that it too has moved out of the VP to (at least) Spec I.

Table 5.3. illustrates the types of finite verbs that occur in Katla's clausal negations and when they occur for the first time. Copulas occur first (1;6,24, (24)), auxiliaries and modals later (from 2;6,17, (27)), and thematic verbs (from 2;11,15) last, but then very frequently. However, I do not think that this lateness in the appearance of negated finite thematic verbs shows that Katla's thematic verb raising is delayed (delayed perhaps as a result of English input, where thematic verbs except *have* never raise). For verb-raising languages other than Icelandic it has also been noted that in very early child language the first verbs to occur in raised position are finite *nonthematic* verbs (e.g. de Haan 1986, Schlichting 1996 for Dutch; Santelmann 1995 for Swedish).

Note that there are few Icelandic clausal negations in Katla's early samples, and none with a subject and thematic verb, only negations with a copula, and subjectless imperative infinitivals (Table 5.2.). There are unfortunately simply no contexts for which to investigate early thematic verb raising or nonraising.

Table 5.3. Katla's Icelandic clausal negations (1;6,15-3;6,07)

Negation placement		Total	First occurrence
A. Finite V + <i>ekki</i>	• TL Copula + <i>ekki</i>	10	1;6,15 (S19)
	• TL Auxiliary/modal + <i>ekki</i> (+ [-fin] V)	13	2;6,17 (S49)
	• TL Thematic V + <i>ekki</i>	35	2;11,15 (S56)
B. <i>ekki</i> + finite V	• TL V2 <i>ekki</i> -topicalisation	1	2;11,27 (S58)
	• NT Other	0	
C. verbless <i>ekki</i>	NT	3	2;0,00 (S35)
D. <i>ekki</i> + nonfinite V	• Subjectless <i>ekki</i> + [-fin] V		
	(i) TL negative 'imperatives'	8	1;7,21 (S24)
	(ii) NT (unclear) non-imperatives	4	2;0,16 (S36)
	• NT Subject + <i>ekki</i> + [-fin] V,	8	2;11,15 (S56)
	Aux omission		
E. Nonfinite V + <i>ekki</i>	NT	1	2;11,21 (S57)
Total		83	

Data from areas other than negation indicate that Katla does raise finite Icelandic thematic verbs past adverbs from 1;11,24 (S34)¹⁹ and past the subject from 1;11,24 (S34) in yes/no-questions and from 2;0,16 (S36) in V1 declaratives).²⁰ I therefore see no reason to qualify

¹⁹ Katla produces the following 2 Icelandic utterances with sentential adverbs (Subj-finite V-Adv-Obj) that indicate subject and thematic verb raising to the IP domain.

(i) Katla 1;11,24 (S34), code-switched utterance (mixed language context)

vi(ð) lesum now another book.

we.NOM read-1PL.PRES.INDIC now another book

'We now read/let's now read another book.'

(ii) Katla 3;0,17 (S61)

nei, hann burst(að)i aldrei tennurni sína(r).

no he.NOM brush(-PAST)-3SG never teeth-PL.FEM-the his-ACC.PL.(FEM)

'No, he never brushed his teeth.'

(Target: *hann burstaði aldrei tennurnar sínar.*)

In Katla's English on the other hand, she never raises the verb to the left of the sentential adverb, resulting in targetlike S-Adv-V(-O) word order. Some early examples are: *and now we read this one.* (1;11,24, S34), *I just had my shoes on* (2;4,27, S47), *I now want to take it.* 2;4,27, S47).

²⁰ Some such early examples of verb raising past the subject in Icelandic are the following:

(i) Katla 1;11,24 (S34)

Ute, sérðu þessa?

Ute, see.2SG.PRES.INDIC~you.2SG.CL them-ACC

'Ute, do you see them?'

the above statement that in Katla's clausal negations all finite verbs raise, auxiliary and thematic ones, without exception.²¹ As we will see in Section 5., verb and negation placement in Katla's English is different: finite thematic verbs never precede negation, just as they never do in adult English.

4.4. Negation and nonfinite verbs

In Katla's clausal negations with only a nonfinite verb, *ekki* precedes the verb 95% (20/21). See Table 5.1. above and, for a further breakdown, Table 5.3. Let's now investigate these negations more closely. The nonfinite verbs are all thematic verbs, mostly infinitives ending

(ii) Katla 2;0,16 (S36)

%com: There is some sound at the door, K thinks it is her mother coming home.

*KAT: *kom mamma.*

%eng: come.STEM mum-NOM.SG.FEM = Mummy's coming.

%com: V1 declarative, postverbal subject, perhaps null topic; V probably inflected according to wrong verb class (INF: *koma*, 3SG.PRES: *kemur*)
T: '(nú) kemur mamma.' now come-3SG.PRES.INDIC mum-NOM.SG.FEM

*UTE: *no, I don't think it's mummy.*

(iii) Katla 2;0,25 (S39)

%com: U and K are pretending that K's toy cow and horse are eating.

*KAT: *éti horse # éti gólo.*

%eng: eat-i(r) horse # eat-i(r) carrot(s) = (the) horse is eating, eating carrots.

%com: V1 declarative, postverbal subject, V probably inflected according to wrong verb class (INF: *éta*, T: 3SG.PRES: *étur*).

²¹ As discussed in Section 2.2., finite copulas, auxiliaries and modals behave alike in English and Icelandic with regard to word order: They raise past negation. However there are two pieces of evidence from negation which show that Katla nevertheless treats Icelandic copula and auxiliaries in a language-specific way. She produces Object Shift (Subj-Aux-Obj-Neg) as in (i), and non-subject-initial V2 with adverb topicalisation (Adv-Copula-Neg-Subj) as in (ii), but only in her Icelandic, not in her English, which is targetlike. Such utterances are however rare and occur only relatively late, after 3;0.

(i) Katla 3;0,17 (S61)

*MUM: *en af hverju, af hverju ert þú a(ð) gráta, Katla?*

%eng: but why, why are-2SG.PRES you 2SG to cry-INF, Katla
= but why, why're you crying, Katla?

*KAT: *af því ég get það ekki.*

%eng: because I.NOM can.1SG.PRES it not = because I can't (do) it.

(ii) Katla 3;2,10 (S65)

%com: K is taking parts off a wooden toy turtle and it stops looking like a turtle:

*KAT: *nú er ekki skjal(d)baka!*

%eng: now is not turtle-NOM.SG.FEM = Now it isn't a turtle (any more)!

%com: K shows M how to change the wooden turtle into a car, a turtle, a car etc.

*KAT: *nín(a) er ekki skjaldbakan.*

%eng: now is not turtle-NOM.SG.FEM-the.NOM.SG.FEM = Now it isn't the turtle.

in *-a*, plus a few past participles. The first two instances of *ekki* preceding an infinitive are produced by Katla at 1;7,21 (S24), as illustrated in (33).

(33) Katla 1;7,21 (S24)

Context: Katla knows that she mustn't touch Ute's recording equipment.

She warns herself/tells herself off for touching it. (not a repetition)

a. *ekki ta!*

not push-INF

b. *ekki ýta da!*

not push-INF that

'Don't push (that)!' (Target: *ekki ýta (á það!)* not push-INF (on that))

These are subjectless utterances with an infinitival verb and sentence-initial negation. At a first glance, they could be taken as evidence for No Functional Categories, with negation simply adjoined to a nonfinite VP, and for a sentence-initial negation stage. All of Katla's subsequent clausal negations with nonfinite verbs until 2;11 (33-35) are likewise negation-initial and subjectless. However, all of these sentence-initial negations are *targetlike*, since they are used with the same illocutionary force as negative imperatives: directives, warnings, prohibitions and self-prohibitions. Katla tells herself off, using the same construction she would hear from her parents in this situation (*Ekki ýta!* not touch-INF 'Don't touch!', 'Mustn't touch!'). Indeed, such negated 'imperative' infinitives are frequently found in adult Icelandic (Chapter 4). In the input Katla receives from her parents, negative infinitives (e.g. *ekki ýta!* not push-INF) heavily outnumber negative finite 'true' imperatives, where the verb, inflected for imperative, and the subject precede negation (e.g. *ýttu ekki!* push.IMP.2SG/STEM~you.2SG.CL not). In the transcripts of 20 selected samples, the negated 'imperatives' produced by Katla's parents are made up of 86% (31/36) negated infinitives, but only 14% (5/36) true imperatives (Chapter 4). (Scandinavian adults in general often give children warnings and prohibitions which take the form Neg + INF (Plunkett and Strömquist 1990:49). Personally, I have noticed this with Swedish, Norwegian and Icelandic parents and siblings of young children.) It is therefore hardly surprising that we find sentence-initial negation with nonfinite verb and a deontic reading early on in Katla's productions.

(34) Katla 2;0,16 (S36)

%com: Dad brushes Katla's teeth against her will.

*KAT: *ekki skola munninn!*

%eng: not rinse-a/INF mouth-the.ACC.SG.MASC

*DAD: *ekki skola munninn?*

%com: D is surprised that K doesn't want to rinse her mouth.

(35) Katla 2;4,02 (S44)

%com: Mum and Katla are looking at a picture of 3 children crying.

*KAT: *ekki gráta!*

%eng: not cry-a/INF

%com: Katla 'comforts' the crying children.

*MUM: *hva(ð) er(u) margir krakkar, kanntu (að) telja þá?*

%eng: How many kids are there, can you count them?

(36) Katla 3;0,14 (S60)

%com: Katla's parents are about to leave for a visit to Dad's supervisor.

K doesn't want them to leave:

*KAT: *ekki fara til kennarans pabba's.*
not go-INF to teacher-NONNOM.SG.MASC-the-GEN.SG.MASC daddy-
NONNOM.SG.MASC-ENGL.POSSESSIVE-'S²² = Don't go to daddy's teacher!

(37) Katla 3;4,18 (S71)

*DAD: *á pabbi að segja þér sögu í kvöld, sögu þegar pabbi var litill?*

%eng: shall daddy tell you a story tonight, a story about when daddy was small?

*KAT: *nei.*

%eng: no.

*MUM: *ég skal lesa eina bók og svo segir pabbi þér sögu.*

%eng: I.NOM shall.1SG.PRES read-INF one-ACC.SG.FEM book.ACC.SG.FEM/STEM
and then say-3SG.PRES daddy-NOM.SG.MASC you-DAT

story-NONNOM.SG.FEM

= I'll read one book, and then daddy'll tell you a story.

*KAT: *nei, nei, bara segja sögu.*

%eng: no, no, only say-INF story-NONNOM.SG.FEM = only tell a story.

*KAT: *bara lesa bók og ekki segja sögu.*

%eng: only read-INF book.ACC/STEM and not say-INF story-NONNOM.SG.FEM

%com: NT Adv + INF; Neg + INF negative imperative infinitive

Such negated subjectless infinitives have not been discussed in the generative Icelandic syntax literature. I suggest they be analysed as a VP only with a negation adjunct (or as a NegP), whilst higher functional projections are not utilised, see (38).

(38) [_{VP} *ekki* [_{VP} [_V *skola munninn*]]]

²² Relevant here is the targetlike negation + INF. Readers may have noticed the curious nominal, where Katla employs both the Icelandic genitive and English possessive 's marking. The target is *ekki fara til kennarans hans pabba*. (not go to teacher-GEN his.GEN daddy-GEN). *kennar-a-n-s* 'teacher-GEN-the-GEN' is correctly inflected for case on the noun and the article, being the complement of the genitive-assigning preposition *til*. *kennarans* may however also be an assimilation of *kennarans (h)ans*. *pabb-a* (daddy-GEN) is correctly inflected for genitive, as it is the possessive modifier of 'the teacher'. Incorrect however is the additional English possessive marking 's on *pabb-a's*.

Here we have a type of targetlike root infinitive (RI), which mirrors negation-initial RIs with an imperative interpretation in child and adult German and Dutch (Krämer 1993, Lasser 1995a:66-68; Wijnen 1995a; see Chapter 6). Despite their nonfinite form, such negated infinitives nevertheless receive a 'finite' imperative-like interpretation. I remain agnostic as to whether this interpretation comes from the discourse (perhaps as default, this is proposed in Lasser 1995a, b), or via some covert feature in a higher functional projection, such as in CP (Rizzi 1995; Inger Rosengren, p.c. September 1997). In any event, there is no overt reflex of any such projection in negated infinitives with an imperative interpretation. I shall therefore treat them as VPs only.

It is worth pointing out that a substantial number of Katla's negated Icelandic RIs (8/21, 38%) are *not* instances of missing finite verb inflection and verb raising. Rather, they are forms attested in the input. In Chapter 3, I put forward a similar argumentation with regard to progressive RIs (usually non-negated).

Apart from imperative infinitivals, Katla produces a number of other negated RIs (Table 5.2., Row D). 5 are subjectless; in 4 cases *ekki* precedes the infinitive, in one it follows it (Row E).²³ However even in context it is hard to tell what they correspond to in the adult language. Consider for instance *lima* and *og lita* in (39), which may correspond to a finite clause where the subject and a modal have been omitted, or to an elliptic VP and thus be acceptable. VP fragments are frequent in the spoken language, often in answers to questions (compare to English: *What are you doing?* → *Painting.*; *What do/did you do?* → *Paint.*).

I do not have any more to say about these few unclear cases, except to point out that similar ambiguous data are found in studies of children's negation irrespective of the

²³ There is one nonfinite verb, a past participle, preceding *ekki*, illustrated in bold in (i). The subjectlessness and repetition of *ekki* in Katla's utterance makes it hard to interpret.

(i) Katla 2;11,21 (S57)

%com: Katla and Mum are looking at a picture book about the little boy Einar

*MUM: *hvað er hann búinn að gera hér?*

%eng: what is.3SG.PRES he.NOM done-PPP.NOM.SG.MASC to do-INF here
= What's he been doing here?

*KAT: *búinn sulla.*

%com: done-PPP.NOM.SG.MASC splash-INF = (He's) been splashing.

%com: TL elliptic present perfect progressive: '(hann er) búinn (að) sulla'.

*KAT: ***búinn*** *ekki, ekki hneppa á náttföti.*

%eng: done-PPP.NOM.SG.MASC not, not button-INF on pyjama-i

%com: K seems to want to say that he has not buttoned up his pyjamas.

NT word order (postverbal Neg), Subject and Aux omission, M corrects K:

*MUM: *hann er ekki búinn að hneppa náttfötunum og heldur ekki úr buxunum sínum og peysunni sinni.*

%eng: = He hasn't buttoned up his pyjamas and neither (has he taken) off his trousers and his jumper.

language. They are relevant here because of the word order: *ekki* precedes the nonfinite verb, as is expected in the target language.

- (39) %com: Katla shows her new scrap book where she draws and glues in cut-outs.
 *UTE: *wow, can I have a look at that?*
 MUM: [> hvað*] *gerir þú í bókina?*
 %eng: what do-2SG.PRES you in book. ACC.SG.FEM/STEM-the-ACC.SG.FEM
 = what do you do in/with the book?
 *KAT: *líma.*
 %eng: glue-INF
 *MUM: *og?*
 %eng: and?
 *KAT: *og líta.*
 %eng: and paint-INF
 %com: K points at a blank page which looks as if something had been glued in but come off or been taken off again.
 *KAT: *but ekki líma þarna.*
 %C/S
 %eng: but not glue-INF there
 %com: K perhaps wants to say that she hasn't glued anything there yet, that there's nothing glued in there, or that something didn't/wouldn't stick.

Finally, there are 8 clausal negations with an overt subject and an infinitive (Table 5.2. Column 'Omitted Aux'; Table 5.3., Row D), the first one occurring at 2;11,15 (40). For each of these negated RIs, the context clearly indicates that an auxiliary is missing, either the progressive auxiliary *vera* (*að*) 'be' as illustrated in (40) and (42), or a modal such as *kunna* (*að*) 'can' (41) or *vilja* 'want' (43). The subject, which precedes *ekki* is in the right place; subject raising is not dependent on an overt finite verb or on verb raising. The infinitival verb, which follows *ekki*, is in the right place; what's missing is a finite auxiliary. Katla produces, within the same discourse, a negated RI and a targetlike minimal pair, namely a clause with overt auxiliary plus thematic infinitive, indicated by the bolded utterances in (40-43). RIs are discussed in detail in Chapter 6; I suggest here that a substantial number of Katla's negated RIs, (8/21, 38%) should be analysed as having a null auxiliary in Infl (cf. Boser, Lust, Santelmann and Whitman 1992 for German; Lange and Larsson 1977 for Swedish). Compare Chapter 3, where I argued for a null auxiliary on the basis of the Icelandic progressive data.

(40) Katla 2;11,15 (S56)

- %com: Katla and Ute show Mum a picture they have drawn together of one girl sitting on a cow and one girl standing on a horse.
 %com: M points to one girl which she thinks depicts K, but K disagrees.
 *MUM: *þú ert það*.
 %com: you.NOM are-2SG.PRES it = This is you.
 *UTE: *you did that cow*.
 *KAT: *nei, ég ekki sitja*.
 %eng: no, I not sit-INF = No, I'm not sitting.
 %com: progressive Aux omission, T: *ég er ekki (að) sitja*. I am not to sit-INF
 *MUM: *er það ekki?*
 %eng: is it not = Aren't you?
 *KAT: *nei # ég on horse*.
 %eng: no # I.NOM on horse = No, I'm on the horse.
 %com: NT copula omission

(41) Katla 3;0,17 (S61)

- %com: Mum wants Katla to tell her the story of a book, but Katla doesn't want to. She wants M to read it, explaining that she herself cannot read.
 *KAT: *mamma, ég ekki lesa þessa bók*.
 %eng: mum.NOM.SG, I.NOM not read-INF this-ACC.SG.FEM book.ACC.SG.FEM = Mum, I can't read this book.
 %com: NT INF, modal omission T: *ég kann ekki (að) lesa þessa bók*.
 *MUM: *ha?*
 %eng: what?
 *KAT: *ég kann ekki lesa þessa bók*.
 %eng: I.NOM can.1SG.PRES not read-INF this-ACC.SG.FEM book.ACC.SG.FEM = I can't read this book.
 %com: TL modal + Neg + INF, 'að' omitted, but TL cf. M's utterance:
 *MUM: *nei, þú kannt ekki [lesa!!], ég veit það*.
 %eng: no, you.NOM can-2SG.PRES not read-INF, I.NOM know.1SG.PRES that = No, you can't [read!!], I know that.
 %com: M tells K that even though she can't read, she can tell her the story.

(42) Katla 3;2,11 (S66)

- *MUM: *eig(um) við [ekki!!] að fara á kaffihús?# já*.
 %eng: shall(-1PL.PRES) we not to go-INF on cafe = shan't we go to a cafe? yeah.
 *KAT: *á [eftir!!] þegar ég er búin að leika soldið*.
 %eng: on after when I.NOM am.1SG.PRES done-PPP to play-INF a-little-(NEU) = [After!!] I've finished playing a little.
 %eng: TL completed action/present perfect progressive, temporal Adv clause
 *MUM: *já*.
 *KAT: *ég ekki búin að leika*.
 %eng: I.NOM not done-PPP to play-INF = I haven't finished playing.
 %com: NT Aux omission, perhaps connected speech elision, T: *ég er ekki búin...*
 *MUM: *já, þe(ga)r þú ert búin að leika*.
 %eng: = Yes, when you've finished playing.

(43) Katla 3,4,18 (S71)

- %com: Mum has repeatedly been telling Katla to pick up her tissues from the floor, Katla doesn't want to do this, but wants M to play with her.
- *KAT: *nei, ég vil ekki gera.*
- %eng: no, I want.1SG.PRES not do-INF = No, I don't want to do it.
- *KAT: *nei, ég vil ekki.*
- %eng: no, I want.1SG.PRES not = I don't want to.
- *MUM: *já, þú verður fyrst að tína allt saman og henda í ruslið.*
- %com: yes, you.SG.NOM must first to gather-INF all-NEU together and throw-INF in rubbish-the.ACC.SG.NEU
= Well, first you've got to pick everything up and throw it in the bin.
- *KAT: *nei.*
- %eng: no.
[...]
- *MUM: *ég vil ekki leika við þig fyrr.*
- %eng: I want.1SG.PRES not play-INF with you-ACC until
= I don't want to play with you until (you've cleaned up).
- %com: K is defiant:
- *KAT: *ég [ekki!!] gera það.*
- %eng: I.NOM [not!!] do-INF it = I don't want to do it/ I won't do it.
- %com: NT modal omission, T: *ég vil ekki/mun ekki/ætla ekki að gera það.*
(I want/will/intend not ...)

In Katla's Icelandic negation data there are no cases of 'missing' verb movement, i.e. unraised thematic verbs that would have a finite form in the adult language and would have raised past negation obligatorily. Rather, the majority of Katla's negations with a nonfinite thematic verb are (targetlike) imperative infinitivals, and (nontarget) Subject + Neg + [-fin]V, where the finite auxiliary has been omitted.

4.5. Summary

Katla's Icelandic clausal negations show a virtually perfect placement correlation with verb finiteness: All verbs marked for finiteness precede the negation marker *ekki* – except one instance of negation-topicalisation. And nearly all nonfinite verbs (95%) follow negation. The majority of clausal negations contain a raised finite verb (thematic, auxiliary or copula). Negations with a nonfinite verb only can be broken down into subgroups, most prominently targetlike subjectless negation-initial imperative infinitivals and nontargetlike auxiliary omissions. In addition, there is a small group of ambiguous subjectless Neg + [-fin] V. Negation-initial utterances with an overt subject (Neg-SVO) are not found at all.

There aren't any detailed studies of negation in monolingual Icelandic children to date which we could compare Katla with. I have only found a few sporadic examples produced by monolingual Icelandic Birna and Ari, cited in Sigurjónsdóttir (1991). They fit the pattern

established for Katla: Finite verbs precede negation *ekki*, whilst nonfinite ones follow negation. My impression is also that the children's first verbs preceding negation are (finite) copulas, auxiliaries and modals, as was found for Katla.²⁴ Katla's negation data also mirror cross-linguistic child language Scandinavian verb placement data. Monolinguals acquiring other Scandinavian languages have been found to consistently adhere to constraints on the placement of syntactic negation from the earliest productions: finite verbs precede negation/sentential adverbs, and nonfinite verbs follow negation/sentential adverbs (Plunkett and Strömquist 1990:45-55 for Danish, Swedish and Norwegian (6 children, age 1;10-2;4); Santelmann 1995:137-182 for Swedish (longitudinal data from 5 children, age 1;8-3;4, plus cross-sectional data from children age 1;9-3;0; Jonas 1995:270-271 for Faroese, 2 children at age 1;10-2;0/2;2). This verb placement pattern has also been found for children acquiring other verb-raising languages such as German, Dutch and French (e.g. Boser, Lust, Santelmann and Whitman 1992; Clahsen, Penke and Parodi 1993/94; Déprez and Pierce 1993; Haegeman 1995b; de Haan 1986; Hyams 1992; Jordens 1990; Meisel and Müller 1992; Poeppel and Wexler 1993; Rohrbacher and Vainikka 1995; Weissenborn 1990).

Unfortunately, the number of Katla's Icelandic clausal negations is relatively small over the whole observation period (1;6-3;6, 83 instances), especially in her early samples (8 instances, 1;6-2;8). Whilst there are unraised thematic verbs in Katla's early negation data, these are targetlike negative 'imperative' infinitivals. No finite thematic verbs occur to the left of negation before 2;11, but nor are there any obligatory contexts for such movement. However, other (non-negation) contexts exist in these early samples where thematic verb raising (past the *subject*) is obligatory, such as in questions. Katla raises the verb here, recall fn. 20, which indicates that verb movement is operative. Despite the lack of data on overt *thematic* verb raising past *negation*, I suggest that Katla knows about head movement of finite verbs (into I) and XP-movement of the subject (into Spec I) right from when she starts to produce clausal negation at 1;6. It is not the case that Katla lacks verb movement in the early samples or only applies it optionally, and with increasing age obligatorily. Thus I maintain that it is not a question of Katla's verb movement and XP movement developing or maturing over a (certain) period.

Let's now compare Katla's Icelandic negations to those in her English.

²⁴ In a manuscript I received after the completion of this thesis, Sigríður Sigurjónsdóttir investigates Birna's verb placement with respect to negation. She doesn't look at verb placement by verb type (thematic vs. copula/auxiliary). Overall though, she finds the same correlation for Birna (2;0,19-2;6,13) as I did for Katla: All infinitives occur to the right of the negation *ekki* and nearly all finite verbs occur to the left of negation. The following contingency table is based on Sigurjónsdóttir's counts (1998b, Table (13)).

<i>Birna</i>	+ finite	- finite
Neg-V	4	25
V-Neg	373	0

5. Katla's English negations

5.1. The first negations

Katla's very first English negations consist exclusively of anaphoric '*no*.' and are thus uninteresting for our purposes. The first two-word combination in English occurs at 1;6,00 (S16). Several samples later, at 1;6,24 (S21, diary, and S22, tape recording), Katla produces her first non-anaphoric negations. Thus at 1;6 Katla begins to use negation in both her Icelandic and her English. With three exceptions, the English negations are all of the type *no* + nominal and *not* + nominal. Some examples are given in (44) and (45). There are many of these Neg + nominal utterances at 1;6,24, listed in Table 5.4.

Table 5.4. Katla's first English negations at 1;6,24

Form of negation	Likely interpretations	Utterance
<i>no</i> + N	'This is not X.'	<i>no tree.</i>
	'This is no/isn't a X.'	<i>no flower.</i>
	'I don't want X.'	<i>no boy.</i>
		<i>no stelpa.</i> (Ice. <i>stelpa</i> = girl-NOM)
		<i>no book.</i>
		<i>no juice.</i>
		<i>no banana.</i>
		<i>no teddy.</i> (4x)
		<i>no man.</i>
		<i>no sock/no sokk.</i> (Ice. <i>sokk</i> = sock.STEM)
		<i>no skó.</i> (Ice. <i>skó</i> = shoe.STEM)
		<i>no shoes.</i>
<i>not</i> + a + N	'This/X is not Y.'	<i>not a man.</i>
		<i>not a tic-tac.</i>
<i>isn('t)</i> + Subj/Predicate		<i>isn('t) that a boy?</i>
<i>no</i> + V	'Don't V!'	<i>no put!</i>
		<i>no lesa!</i> (Ice. <i>lesa</i> = read-INF)

(44) %com: U asks K about an object in a picture book

*UTE: *is this a tree?*

*KAT: *no t(r)ee.*

%com: = (this is) not a tree/this is no tree/this isn't a tree/no, it isn't a tree.

(45) *UTE: *do you want some banana?*

*KAT: *no ban(ana).*

%com: = I don't want banana/no, not banana.

%com: K rejects the banana bowl.

However, the fact that Katla's *no/not* + X utterances are so short makes it difficult to know what exactly they correspond to in adult English. Some arguably are clipped existentials, where an overt copula would be negated in the target (for (44) *no t(r)ee*. 'This isn't a tree') or constituent negations, possibly with a nominal modifier *no* ('This is no tree'). Others might be interpreted as rejections (e.g. (45) *no ban(ana)* 'I don't want banana'), where *do*, along with other things, has been omitted. Similar examples have been found for monolingual English children (see e.g. Drozd 1995, 1997). Because of the ambiguity surrounding these Neg + nominal negations, I do not think it is useful to regard them as clausal negations here; their form tells us nothing about verb placement or subject placement with regard to negation. Thus, they do not feature in the clausal negation counts in the following Tables and Figures.

However, there are three instances of multi-word negations in Katla's English at 1;6,24 that are relevant. One is (46), a yes/no-question with an initial negated third person singular copula, followed by subject and predicate.

- (46) *KAT: ['u:də "boij].
 %com: Ute [*boy!!*].
 %com: predication (Ute is a boy), NT copula omitted, indef. art omitted
 *UTE: *no-o, you're having us on.*
 *KAT: ['Idzə dæd ə "poij]?
 %com: *isn't that a boy?*
 %com: rising (question) intonation
 *UTE: *elephant # see?*

The utterance is targetlike, but Katla's pronunciation of the first element [Idzə] is unclear. This makes me uncertain whether this utterance should be taken as evidence for movement past negation and subject-auxiliary inversion. Recall however from Chapter 2 that Katla produces targetlike non-inverted non-negated declaratives with third person singular copulas in the same sample; this word order variation may support the interpretation that *isn('t) that a boy?* is analysed and verb-fronted.²⁵

The other two clausal negations at 1;6,24 are of the type *no* + verb (47-48), one of them a code-mix with an Icelandic verb.

- (47) %com: U takes K's baby doll and is about to put her in a cot.
 *UTE: *I'll put her to bed, shall I?*
 *KAT: *no put!*
 *UTE: *you don't want me to?*

²⁵ Some of these non-negated copulas at 1;6 are: *no, is a teddy.*; *is [shoes!!]*.; *is a ball.*; *it's a big dog.*; *there's a pretty dog.*; *that # is silly dog.*; *where is the teddy?*; *it's the boy*; *that's a boy*; *what # is that?*; *baa # that is the flower.*; *this is the book.*; *an(d) that is the teddy*. The next negations with copula in Katla's productions – and the next obligatory contexts for negation with copula – occur at 2;0,00 (S35), see (56).

- (48) %com: U gets The Three Little Goats book out to read it to K.
 *KAT: *no lesa!*
 %com: code-mix, lesa = read-INF
 *UTE: *oh, aren't we going to read it then?*

Both (47) and (48) are nontargetlike negations, used by Katla in similar contexts: The adult is about to do something, but Katla wants her not to do so. Such contexts call for obligatory *do*-support in adult English: *Don't put (the doll to bed/her there)!*, *Don't read!*. The fact that Katla does not use *don't* here, nor anywhere else, suggests that she has not yet acquired auxiliary *do*. Similar nontarget negation-initial directives, warnings and prohibitions occur in Katla's subsequent samples. I suggest below that they may be influenced by the Icelandic 'imperative' infinitival construction (cf. *no lesa!* vs. *ekki lesa!* Neg read-INF 'Don't read!'). After 1;6,24 there are no clausal negations in Katla's English until 1;11,24 (S34), where *don't* occurs for the first time, 3 instances (49).

- (49) Katla 1;11,24 (S34)
 a. *no, don't!*
 b. *you don't!*
 c. *you [don't!!]*

However, *don't* at this point does not combine with another verb and is simply used to threaten, shout at or tell off people. *don't* does not negate verb/predicate, as illustrated by the shouting match in (50); consequently we are not dealing with proper *do*-support yet.

- (50) Katla 2;0,15 (S39)
 %com: Katla hitting and throwing wooden bricks at Ute, U wants her to stop.
 *UTE: *no, don't.*
 *KAT: *don't [you!!].*
 *UTE: *[you!!] don't # don't hit me, Katla!*
 %com: K collects bricks to throw at U
 *MUM: *put it down!*
 *KAT: *[you!!] # don't!*
 %com: dialogue turns into a shouting match
 *UTE: *[you!!] # don't!*
 *MUM: *má ekki xxx!*
 %eng: may.3SG.PRES not xxx = one mustn't ...
 %com: M admonishes K not to throw bricks at visitors, K ignores this
 *KAT: *no, # don't!*

At 2;0,00 (S35), Katla combines *don't* with a thematic verb for targetlike clause-internal negation for the first time. All three instances take the form *I don't know*, which may be a pat phrase. (No other obligatory contexts for *don't* occur to test this.) However, Katla produces *I don't know* with shifting stress, illustrated in (51), which suggests that it is not

one unanalysed chunk, but rather Subject + *don't* + V. It is likely that Katla treats [*don't*] at 2;0 as a negative marker, and not as *do* + Neg, since forms other than *don't* do not occur.

(51) Katla 2;0,00 (S35)

- a. [I!!] *don('t) know*.
- b. *I don('t) [know!!]*. (2 instances)

Noteworthy negations before age 2;0 are also Katla's first few instances of English modals, at 1;11,24 (S34). She produces targetlike *can't* as well as non-negated *can* in the same sample, which suggests that the negated modal *can't* is not an unanalysed chunk for Katla; for illustration and discussion see (55-59) below.

Having given an impression of Katla's earliest English negations, I quantitatively investigate the interaction between negation, verb type (copula, auxiliary/modal, thematic verb) and finiteness in the next section.

5.2. Negation and verb placement

5.2.1. Finiteness and nonfiniteness

From 1;6,24 (S21) to 3;6,07 (S76), Katla produces 642 clausal negations in her English. 636/642 contain a verb and are thus informative for our purposes.²⁶ I classified these negations with regard to finiteness and word order. All verbs (thematic verbs, auxiliaries and copulas) that were overtly inflected for tense or agreement (e.g. *is*, *are*, *was*, *did*, *goes*, *walked*) and all uninflected verbs that also would be finite uninflected forms in the target (e.g. *(I) do*, *(they) go*) were counted as finite.; a breakdown by verb type will be given later.

Table 5.5. Katla's English verb and negation placement, finite vs. nonfinite
(1;6,24 (S21) to 3;6,07 (S76))

	+ finite	- finite	
Neg-V	-	29	
V-Neg	605	2	
<i>Total</i>	<i>605</i>	<i>31</i>	<i>636</i>

²⁶ The remaining 6 instances are copula omissions of the type Subject + *not* + Predicate, e.g. *I not baby*, *I'm big girl*. 'I'm not a baby, I'm a big girl.' (2;3,26, S43), where we do not know the position of the missing copula.

Besides the 636 clear clausal negations with an overt verb, there are other, verbless, negations of the type *no* + nominal (47 instances) and *not* + nominal (46 instances), which might be constituent negations or clausal ones where the subject, verb etc. is missing. Due to their shortness and ambiguity, they will not be investigated here.

Table 5.5. shows that there is a strong correlation between finiteness and verb placement: All 605 (100%) finite verbs precede negation; 97% (29/30) nonfinite verbs follow negation. Only nonfinite verbs that occur on their own count, i.e. if a finite auxiliary occurs together with a nonfinite verbal complement, this nonfinite verb is not included in the counts. This correlation only tells us that Katla knows about negation and verb placement; see Table 5.6. for the different behaviour of auxiliaries and thematic verbs in Katla's English.

5.2.2. Negation and auxiliaries

The bulk of the finite verbs preceding negation in Table 5.6. (99.5%, 602/605) are auxiliaries, copulas, modals or thematic *have*. This is entirely targetlike; in adult British English, it is precisely these verbs that do precede negation. Preceding negation here means either preceding the free-standing negation particle *not*, or a contraction of verb and *n't*. I discuss Katla's 602 finite auxiliary negations first, and then turn to the remaining 34 negations without a finite auxiliary.

Table 5.6. Katla's English verb and negation placement, Aux vs. thematic V
(1;6,24 (S21) to 3;6,07 (S76))

	+ finite Aux/copula/ modal/have	- finite Aux/copula/ have	+ finite thematic V (except have)	- finite thematic V
Neg-V	-	1	-	28
V-Neg	602	-	3	2
Total				636

Table 5.7. Katla's English negation with finite Aux/copula/have as a function of age.
Raw figures of utterances with clausal negation. Verbs are grouped by auxiliary type; samples are grouped into 3-month age ranges.

Age range	Copula + Neg	Aux <i>be</i> + Neg	Aux/V <i>have</i> + Neg	Modal + Neg	Aux <i>do</i> + Neg	
1;6-1;8	1	-	-	-	-	1
1;9-1;11	-	-	-	2	3	5
2;0-2;2	1	-	-	-	6	7
2;3-2;5	19	2	8	3	65	97
2;6-2;8	10	3	1	1	21	36
2;9-2;11	2	-	-	1	21	24
3;0-3;2	25	14	9	32	47	127
3;3-3;6	54	14	7	79	151	305
Total	112	33	25	118	314	602

Table 5.7. gives a chronological overview over the auxiliary negations. Not surprisingly, there are relatively few negations in the very early samples until age 2;2. From 2;3 negations increase both in type and quantity. Generally speaking, the large majority of negations with auxiliary throughout the observation period are made up of 3SG present copula *is not* and *isn't*, non-3SG present auxiliary *don't*, modal *can't* and *haven't*. This is not surprising, as these correspond exactly to the high-frequency obligatory contexts: There are far fewer contexts, and consequently, numbers for the other tenses (e.g. *wasn't*, *didn't*), persons/numbers (e.g. *am not*, *aren't*, *doesn't*), and other types of modals (e.g. *won't*, *wouldn't*).

Noteworthy are two facts: Auxiliary negations are 98% targetlike, and negated and non-negated auxiliaries/modals appear simultaneously. I discuss these two findings in turn.

There are hardly any form errors with Katla's negated copulas and auxiliaries, only 2% (13/602). Agreement and tense inflection are correct; there are sporadic inflection errors (1%, 7/602), all with *don't*, e.g. (52-53). Apart from these, there are sporadic errors in the choice of auxiliary (1%, 6/602), such as *be* instead of *have*, illustrated in (54).

(52) Katla 2;4,27 (S47)

%com: K picking up badger (cuddly toy), who's lying on the floor

*KAT: *he's + ... # don't want to like here.*

%com: 'like' = 'lie', 3SG null subject, T: he doesn't want to lie here.

*UTE: *huh?*

*KAT: *don't want to like here.*

%com: 'like' = 'lie', 3SG null subject, T: he doesn't want to lie here.

*UTE: *what?*

%com: K moves badger and sits him down in another place.

*KAT: *he's [a] sit down on here.*

%com: NT Icelandic-style progressive cf. hann er að sitja...

Target: he's sitting down (on) here.

(53) Katla 3;3,11 (S69)

%com: Katla is struggling with her toy tea dishes.

*KAT: *this don't work.*

%com: NT Agr, T: this doesn't work.

(54) Katla 3;3,11 (S69)

%com: K looks at a picture of a face without eyes.

*KAT: *this is not got any eyes.*

%com: NT Aux (T: this's not got/this hasn't got any eyes)

*UTE: *no, this one hasn't got any eyes.*

These form errors in Katla's English auxiliary negations are extremely rare. Their rarity mirrors the rarity of auxiliary form errors in monolingual English child language (Phillips

1995; Pinker 1984; Stromswold 1990:50-53, 72-73; Radford 1992, 1994; de Villiers and de Villiers 1985) – and in Katla's Icelandic negations (Section 4.3.).

Let's turn now to the second observation about Katla's auxiliary negations: As soon as negated forms of modals, auxiliary *be*, *have* and copulas appear, there are also the non-negated equivalents, in the same sample, but often even earlier, illustrated in (55-59). (This holds for *all* modals, copulas and auxiliaries, except for *do*, to be discussed later.) This suggests that Katla does not treat negated auxiliaries as unanalysed chunks, but that she has, right from first use, an adult-like representation of them as verb + Neg.²⁷ She does not go through a stage where non-negated auxiliaries are categorically absent – contra wide-spread assumptions about cross-linguistic child language (Bellugi 1967; Hoekstra and Jordens 1994; Lange and Larsson 1977; Klima and Bellugi 1966, 1973). As discussed in Section 3.2., for monolingual children it is often claimed that they start off with negative auxiliaries as unanalysed chunks; however these studies do not usually back up this claim with quantified data. I therefore do not think that Katla's early provision of non-negated auxiliaries should be seen to contrast with monolinguals.

(55) Katla's earliest negated modal *can't*.

a. Katla 1;11,24 (S34)

*KAT: [i:z 'ouvə] # [ðə 'dɔ:].

%com: *is over* # *the doll*.

%com: (she) is over (there), the doll.

*KAT: [ai kʌ:nt gaið "mu:a].

%com: *I can't* xx xx.

%com: probably: I can't play (any)more.

*UTE: *play?*

b. Katla 1;11,24 (S34)

%com: Katla tells her mother not to interfere with her toys.

*KAT: [ʃu: 'dount].

%com: *you don't*.

*KAT: [ju: 'ga:nt].

%com: *you can't*.

*MUM: *nei, ég segi +...*

c. *you can't, you can't.*

2;4,02 (S44)

d. *_ can't sit down.*

(1SG null subject) 2;6,17 (S49)

Compare these with simultaneous instances of non-negated targetlike *can*.

²⁷ Recall from Sections 4.1. and 4.2. that Katla produces negated and non-negated auxiliaries simultaneously also in her Icelandic.

e. Katla 1;11,24 (S34)

- *UTE: *there 's the [cat!!]*.
 *KAT: [jɛ ʔai "si: ðə gad].
 %com: *yeah, I [see!!] the cat.*
 *KAT: [ai kən si: "mjou].
 %com: *I can see [mjá!!]*.
 %eng: I can see (the) meeouw/cat.

f. Katla 2;0,00 (S35)

- %com: tickling game, Katla and Ute giggling, laughing and screaming
 *UTE: *ah, oh # oh.*
 *KAT: [kən ɡəd ju].
 %com: = *can get you.*
 %com: non-negated M, 1SG null subject.
 *UTE: *mhm.*

g. Katla 2;0,00 (S35)

- %com: Katla and Ute want to play with K's baby doll, but it's not here.
 *KAT: ["ail ɡəd id].
 %com: *[I'll!!] get it!*
 %com: TL contracted M
 [...]
 *KAT: [nou] # [ax].
 %com: *no # xx.*
 *KAT: [nou "ai kən du: id].
 %com: *no, [I!!] can do it.*

h.	<i>mummy, can you find Fireman Sam?</i>	2;3,15 (S42)
i.	<i>can I sit there?</i>	(2 instances) 2;3,15 (S42)
j.	<i>can I finish Fireman Sam?</i>	2;3,15 (S42)
k.	<i>can I read that, the book?</i>	2;3,15 (S42)
l.	<i>can I read that?</i>	2;3,15 (S42)
m.	<i>can [I!!]?</i>	2;3,15 (S42)

(56) Early negated third person singular present copulas (first instance 1;6,24 ex. (46))
 (Non-negated equivalents are frequent from 1;6,15 (S19), as discussed above.)

a.	<i>that isn't a fly.</i>	2;0,00 (S35)
a.	<i>it's not Postman Pat.</i>	2;3,15 (S42)
b.	<i>isn't it?</i>	2;3,15 (S42)
c.	<i>it's not fire-engine.</i>	2;4,02 (S44)
d.	<i>it's not red.</i>	2;4,02 (S44)
e.	<i>no, it's not. it's Noddy.</i>	2;4,02 (S44)
f.	<i>no, that's a name, isn't it?</i>	2;4,02 (S44)
g.	<i>that's [my!!] name, isn't it?</i>	2;4,02 (S44)
h.	<i>that's not Price.</i> (Norman Price is a boy in a children's book)	2;4,09 (S45)
i.	<i>this is not yours.</i>	2;4,27 (S47)

(57) Earliest negated past tense copulas

a.	<i>no, it wasn't, it was a snow baby.</i>	3;1,10 (S63)
b.	<i>no, it wasn't.</i>	3;1,10 (S63)
c.	<i>no, I wasn't.</i>	3;1,10 (S63)
d.	<i>she wasn't.</i>	3;1,10 (S63)
e.	<i>it wasn't Dad, it was Katla.</i>	3;1,10 (S63)

Compare with earlier non-negated equivalents:

f.	<i>what was that?</i>	1;6,15 (S19)
g.	<i>and that was a doll.</i>	2;0,00 (S35)
h.	<i>mummy, that was my cake!</i>	2;8,21 (S52)

(58) Early negated auxiliary *be*

a.	<i>(I think you're having coffee.) → I'm not, I'm have my juice.</i> (T: I'm not, I'm having my juice.) ²⁸	2;6,17 (S49)
b.	<i>he's not fara red.</i> (T: he's not driving when it's red.)	2;7,09 (S50)
c.	<i>that's not crying.</i>	3;0,14 (S60)
d.	<i>he's not, he's [not!!] going to like it in the house.</i>	3;2,11 (S66)
e.	<i>it's not gonna bite you.</i>	3;2,11 (S66)

Compare with earlier non-negated equivalents.

a.	<i>is eating [all!!].</i>	1;10,09 (S31)
b.	<i>is she going to bed?</i>	2;0,00 (S35)
c.	<i>it's going.</i>	2;0,00 (S35)
d.	<i>they are falling down.</i>	2;0,00 (S35)
e.	<i>we're falling down.</i>	2;0,00 (S35)
f.	<i>it's falling down.</i>	2;0,00 (S35)

(59) Early negated *have* (auxiliary and thematic V)

a.	<i>you haven't read Fireman Sam finished.</i>	2;3,15 (S42)
b.	<i>haven't.</i> (1SG null subject)	2;4,09 (S45)
c.	<i>no, you haven't.</i>	2;4,27 (S47)
d.	<i>you haven't got blue on.</i>	2;4,27 (S47)
e.	<i>I got # I haven't big toes.</i>	2;4,27 (S47)

Compare with non-negated equivalents.

²⁸ (58a-b) are instances of the mixed English-Icelandic progressive construction (Chapter 3), the target would be auxiliary *be* + *-ing*. *fara* (drive-INF) is a codeswitch into Icelandic.

f.	<i>I've got to get # [ana] bók.</i>	(aðra bók = other book)	1;11,24 (S34)
g.	<i>[I!!] have a clock.</i>		2;0,00 (S35)
h.	<i>it's fallen down.</i>		2;3,15 (S42)
i.	<i>let's have it turning round, okay?</i>		2;3,15 (S42)
j.	<i>he's got ring-ring.</i>	(ring-ring = a telephone)	2;4,02 (S44)
k.	<i>no, I've got black shoes.</i>		2;4,27 (S47)
l.	<i>you have a pretty dress.</i>		2;4,27 (S47)
m.	<i>I've fallen down.</i>		2;4,27 (S47)
n.	<i>what's happened?</i>		2;4,27 (S47)

5.2.3. Negation and *do*-support

There is one verb for which non-negated forms do not occur earlier than or simultaneously with the negated form. This is auxiliary *do*: *don't* is frequent as a negation marker, but non-negated *do* is absent.²⁹ This may suggest that *don't* is an unanalysed negation marker not only in the very early samples discussed above, but for quite some time.³⁰ Table 5.8. and Figure 5.3. provide a more detailed breakdown of Katla's negations with *do*.

Table 5.8. Katla's negations with Aux *do* as a function of age.

Raw figures. Samples are grouped into 3-month age ranges.

	Clause- internal <i>don't</i>	Clause- internal <i>doesn't</i>	Clause- internal <i>didn't</i>	Clause- internal <i>do/did not</i>	Negative imperative <i>don't</i> + V	Negative imperative bare <i>don't</i>	Total Aux <i>do</i> + Neg
1;6-1;8	-	-	-	-	-	-	-
1;9-1;11	-	-	-	-	-	3	3
2;0-2;2	2	-	-	-	-	4	6
2;3-2;5	32	1	-	-	28	3	65
2;6-2;8	18	-	2	-	1	-	21
2;9-2;11	15	1	-	-	4	1	21
3;0-3;2	24	8	6	1	8	1	47
3;3-3;6	109	16	14	2	8	2	151
Total	200	26	22	3	49	14	314
	←	251		→	←	63	→

²⁹ That separated *do not* does not occur is not surprising, as it is rare in colloquial English. It is noteworthy though that auxiliary *do* is not used in other contexts (emphasis, questions, elliptic responses), whilst thematic *do* is frequent.

³⁰ Some researchers have suggested that *don't* is an invariable (unanalysed?) negative imperative marker in the *adult* language, generated in that shape and in clause-initial position (e.g. Beukema and Coopmans 1989:432-434; Hankamer 1977), e.g. [*Don't*] *lean out!*. However, a treatment of *don't* as an unanalysed negative imperative marker leaves unexplained why native speakers are aware that *don't* can be split up into *do* + negation, as they do produce *do* + *not* negative imperatives, e.g. *Do not lean out!*, if less commonly than *don't*. For an elucidating discussion see Davies (1986:111-118).

In Table 5.8., I have divided negated *do* into clause-internal negations (for declaratives and questions) and negative imperatives. Of course, negation in imperatives is also clausal, but it always takes the form of clause-initial *don't*, whereas negation in declaratives and questions varies in form (*don't*, *doesn't*, *didn't* etc.) and is clause-internal (though there are a few clause-initial *do* in declaratives with subject topic drop, e.g. *no, _ doesn't work*. (3;3,11 (S69)), and in yes/no-questions, e.g. *do you not eat them?* (3;6,07 (S76)).

The large majority of negated *do*, 80%, (251/314) are used as negations in declaratives (and questions), exemplified below in (60-62). They occur from 2;0,00 (S35). Of these, a large majority, 80% (200/251) take the form *don't*. Third person singular present *doesn't* occurs for the first time at 2;4,27 (S47, one instance), when the first obligatory contexts for *doesn't* occur. Past tense *didn't* occurs for the first time at 2;8,21 (S52). *do not* is not attested until 3;0,29 (S62), *did not* not until 3;3,11 (S69). However, the early occurrence and high number of *don't* is targetlike, since the large majority of contexts (77%, 193/251) requires *don't*. There are very few agreement or tense errors, 3% (7/200), spread out over the whole observation period. In these cases, *don't* is used instead of third person singular present *doesn't* (recall (52-53)).

(60) Early clause-internal negations with *don't*

a.	<i>[I!!] don('t) know.</i>		2;0,00 (S35)
b.	<i>I don('t) [know!!].</i>	(2 instances)	2;0,00 (S35)
c.	<i>I don't want pretty dress.</i>	(2 instances)	2;4,09 (S45)
d.	<i>I don't splash in that one.</i>		2;4,27 (S47)
e.	<i>no, _ don't see.</i>	(1SG null subject)	2;4,27 (S47)
f.	<i>and my ice-cream, I don't put [ə] my shoe. (T: in/on my shoe)</i>		2;4,27 (S47)
g.	<i>I don't want to press that one two.³¹</i>		2;4,27 (S47)
h.	<i>I don't eat that one.</i>		2;4,27 (S47)

(61) Earliest clause-internal negations with *doesn't*

a.	<i>no, _ doesn't work.</i>	(3SG null subject)	2;4,27 (S47)
b.	<i>that one doesn't work.</i>		2;11,27 (S58)
c.	<i>it doesn't work.</i>	(2 instances)	3;0,14 (S60)
d.	<i>it doesn't come off.</i>		3;0,14 (S60)
e.	<i>no, he doesn't dance.</i>		3;0,29 (S62)

(62) Earliest clause-internal negations with *didn't*

a.	<i>I didn't press.</i>		2;8,21 (S52)
b.	<i>_ didn't press.</i>	(1SG null subject)	2;8,21 (S52)
c.	<i>it didn't work.</i>	(2 instances)	3;0,14 (S60)
d.	<i>no, no, you didn't.</i>		3;2,11 (S66)
e.	<i>I didn't hear anybody.</i>		3;2,11 (S66)

³¹ Katla's 'one two' refers to a button on the recording equipment which says '1 2'.

The remaining negated *do* 20% (63/314) are targetlike *don't*-initial negative imperatives used as prohibitions, warnings and tell-offs, 49 instances of *don't* + V, illustrated in (63), and 14 instances of bare *don't* (mostly in the early samples at 1;11 to 2;5, recall (49)-(50)).

- (63) Early clause-initial *don't* in negated imperatives
- | | |
|---------------------------------------|--------------|
| a. <i>don't do that, Fireman Sam!</i> | 2;4,09 (S45) |
| b. <i>don't push that!</i> | 2;4,09 (S45) |
| c. <i>badger, don't go to xxx!</i> | 2;4,27 (S47) |
| d. <i>don't press that one two!</i> | 2;4,27 (S47) |
| e. <i>that # don't put it there!</i> | 2;4,27 (S47) |

Katla's English auxiliaries with negations are targetlike both in placement and form. As in Icelandic, her finite English auxiliaries precede negation (100%).³² Unlike in Icelandic, where finite thematic verbs precede negation, Katla uses *do*-support for negation in English, or if we do not want to call it *do*-support, targetlike *don't* for clausal negation of otherwise auxiliary-less simplex thematic verbs (see also the next section). Katla's data thus mirror what is known about monolingual English acquisition: early appearance of *do*-support for negation, early appearance of negated auxiliaries, no placement errors, and virtually no agreement/tense errors (Ervin-Tripp 1973; Fletcher 1985; Miller 1973; Pinker 1984; Stromswold 1990; de Villiers and de Villiers 1985; the same is noted also by de Houwer (1990) for bilingual English-Dutch).

It is interesting to note that Katla's English negations are quite different from those found in the L2 English of children who have already mastered most of their L1 before English exposure. Young children whose L1 does not have *do*-support go through a phase in their L2 English where *do* in negation is categorically absent, and only *not/no* is used, as shown by e.g. Wode (1981/83) for German/English, Haznedar (1997a) for Turkish/English, and Armon-Lotem (1998) for Hebrew/English.

5.2.4. Negation and simplex thematic verbs

Figure 5.3. graphically illustrates Katla's clausal negations of simplex thematic verbs across the observation period. *do*-support clearly dominates the picture: grey bars with black border for *don't* + V, grey bars without border for *doesn't/didn't/do not* + V. Negations of

³² There is only one instance of a nonfinite nonthematic verb, a copula (recall Table 5.6). Being nonfinite, it follows negation:

- (i) Katla 3;0,29 (S62)
- | | |
|-------|--|
| %com: | Katla is taking a card off the wall, Ute tries to prevent her from doing so. |
| *UTE: | <i>no, no, no, Katla, stop it, don't be silly.</i> |
| *KAT: | <i>no, I [not!:] be silly.</i> |
| %com: | NT Neg |
| *UTE: | <i>well, yeah, then leave it on.</i> |

simplex thematic verbs without *do*-support are rare (black columns for Neg + V; white columns for V + Neg). It is these auxiliaryless forms that I turn to next. Table 5.9. gives a chronological breakdown.

5.2.4.1. Clause-initial negation and thematic verbs

In Table 5.9., columns 1-3 are clause-initial negation, columns 4-5 clause-medial. All of them have a nonfinite thematic verb, most an infinitive/bare form, some an *-ing*-form or a past participle. Whilst it is not correct in adult English to only have a nonfinite verb, Katla's placement of the nonfinite verb following the negation is correct.

Table 5.9. Katla's English negation with thematic verb alone, as a function of age.
Raw figures of utterances with clausal negation; samples are grouped into 3-month age ranges.

Age range	1 Subjectless <i>no/not</i> + thematic V INF	2 Subjectless <i>no/not</i> + thematic V- <i>ing</i> /PPP	3 <i>no/not</i> + Subj + thematic V INF	4 Subj + <i>no/not</i> thematic V INF	5 Subj + <i>no/not</i> + thematic V- <i>ing</i> /PPP	
1;6-1;8	2	-	-	-	-	
1;9-1;11	-	-	-	-	-	
2;0-2;2	-	-	-	-	-	
2;3-2;5	11	2	-	-	-	
2;6-2;8	1	1	-	-	-	
2;9-2;11	2	1	-	-	-	
3;0-3;2	2	3	-	-	-	
3;3-3;6	1	-	-	-	2	
Total	19	7	0	0	2	28

The large majority, 93% (26/28) are *clause-initial negations without a subject*. Note in particular that there is not a single instance of the famous allegedly universal Neg-SVO (column 3). Nor is there any clause-medial negation where *do*-support has been omitted (column 4). The only instances with clause-medial negation are 2 late progressive auxiliary *be* omissions of the type Subj + Neg + nonfinite *ing*-form (column 5): *look, they _ not coming down.*; *they _ not coming down.*, both at 3;3,02 (S68). All other auxiliaryless negations are negation-initial and subjectless. 7 of them (column 2) have a clearly nonfinite verb, an *-ing* form or a past participle, as their thematic verb. Subject and auxiliary *be* or *have* are omitted, but the clipped/elliptic utterances are more or less acceptable, illustrated in (64-65). They are irrelevant with respect to *do*-support.

(64) Katla 3;1,10 (S63)

- *UTE: *you're brown round your mouth.*
- *KAT: *why?*
- *UTE: *why do you think?*
- *UTE: *was it because you were eating?*
- *KAT: *not eating.*
- %com: K explains that it was not eating that made her brown in her face.
- *UTE: *huh?*
- *UTE: *what?*
- *KAT: *not eating it.*
- *UTE: *not eating anything?*
- *UTE: *were you drinking something?*
- %com: it turns out that Katla had chocolate milk.

(65) Katla 3;2,11 (S69)

- %com: Katla's dolls are having a dialogue, shifting role-play.
- *KAT: *he's [not!] going to # ask me.*
- *KAT: *not going to ask [you!!].*
- %com: maliciously: (I'm/he's) not going to ask you.
- *KAT: *he's not, he's [not!!] going to like it in the house.*
- *KAT: *it's so [messy!!] here now.*

The other negations have an infinitive as their thematic verb and are nontargetlike (column 1). It is these 19 clause-initial negated infinitives that I want to focus on, and they are the ones that appear in Figure 5.3. as black columns. These cases are interesting because they are nontargetlike: auxiliary *do*, i.e. the required finite (Infl) element is missing, and negation is initial. They might inform us about the applicability of the negation models discussed in Section 3. and about alternative representations of negation in Katla's English grammar.

As Table 5.9. shows, there are two such negations before age 2;0, namely imperative *no* + INF, already discussed in (47-48). In later samples, both *no* + INF and *not* + INF occur. Half (10/19) are used by Katla with the force of a negative imperative (directions, warnings, prohibitions, self-prohibitions 'Don't push!', 'Mustn't push!'). The remaining 9/19 are non-imperative assertions (e.g. *not write.* = 'I/We don't write.') and rejections (e.g. *no want it.* = 'I don't want it.'). A detailed breakdown is given in Table 5.10.

Below I also show each of these nontargetlike negated RIs in context, 'imperatives' in A, non-imperatives in B. The relevant utterance appears in bold. Note that in some cases the *no(i)*-negation occurs with a targetlike minimal pair (*don't*-negation, underlined) in the same discourse. This shows that Katla's English grammar contains two alternative constructions for the negation of simplex thematic verbs.

Table 5.10. Nontarget infinitives with clause-initial negation in Katla's English
(1;6,24-3;6,07) Samples are grouped into 3-month age ranges.

Age range	'Imperative' <i>no</i> + V INF	'Imperative' <i>not</i> + V INF	Non-imperative <i>no</i> + V INF	Non-imperative <i>not</i> + V INF
1;6-1;8	2	-	-	-
1;9-1;11	-	-	-	-
2;0-2;2	-	-	-	-
2;3-2;5	-	8	2	2
2;6-2;8	-	-	-	-
2;9-2;11	-	-	-	2
3;0-3;2	-	-	-	2
3;3-3;6	-	-	-	1
<i>Total</i>	2	8	2	7
	← 10 →		← 9 →	

A. 'Imperative' clause-initial negations

(47) Katla 1;6,24 (S34)

%com: U takes K's baby doll and is about to put her in a cot.

*UTE: *I'll put her to bed, shall I?*

*KAT: *no put!*

*UTE: *you don't want me to?*

(48) Katla 1;6,24 (S34)

%com: U gets The Three Little Goats book out to read it to K.

*KAT: *no lesa!*

%com: code-mix, lesa = read-INF

*UTE: *oh, aren't we going to read it then?*

(66) Katla 2;4,02 (S44)

%com: Katla investigates Ute's tape recorder.

*KAT: *that.*

%com: K points at the button which she mustn't touch.

*KAT: *not push button that one.*

%com: NT Neg; likely T: Mustn't push that button/Don't push that button!

(67) Katla 2;4,02 (S44)

%com: K wants to press the 'forbidden' button on the tape recorder.

*KAT: *not that one.*

%com: K remembering that she mustn't press that one, telling herself off.

*UTE: *not that one?*

*KAT: *don't do wi(th) that.*

%com: TL (self-)prohibition

*KAT: *not do the that.*

%com: NT Neg; likely T: Don't do that!, compare TL 'don't' negation above.

*UTE: *no # those you mustn't press # that's right # no # you can press this one.*

(68) Katla 2;4,02 (S44)

%com: Katla wants Ute to read the Noddy book with her.

*KAT: *read there. read that!*

*UTE: *read that # Noddy?*

%com: U starts to read, but K changes her mind, doesn't want U to read to her.

*KAT: *no # not read.*

%com: NT Neg; likely T: Don't read!

(69) Katla 2;4,09 (S45)

%com: K and U are reading a story about a boy who's trying to catch a bird.

*UTE: *Norman is climbing and then he 's falling down.*

%com: In the story, Norman falls off a tree, and the bird gets away.

%com: Katla doesn't want the bird to fly away.

*KAT: *not fly away, not fly away.*

%com: NT Neg, likely T: Don't fly away, don't fly away!

*UTE: *not fly away, not fly away?*

%com: questioning repeat

*KAT: *no.*

*UTE: *but the problem is that the bird [is!!] flying away, that's the problem.*

(70) Katla 2;4,23 (S46)

%com: Ute is imitating a cat who is trying to eat Katla's yoghurt

*KAT: *no, [my!!] do.*

%com: NT subject, T: no, I do it!

*KAT: *no, [mine!!] # no, [mine!!].*

*UTE: *should the cat not eat the yoghurt?*

*UTE: *look, she 's doing it anyway, yum yum yum.*

%com: K doesn't want the cat to eat her yoghurt.

*KAT: *no eat!*

%com: NT Neg, likely T: Don't eat!

*KAT: *no, [mine!!] first.*

%com: NT subject, T: no, [me!!] first (i.e. I (want to) eat first).

*DAD: *you eat first.*

*UTE: *oh, you want to eat first, right.*

(71) Katla 2;4,27 (S47)

%com: Katla and Ute are negotiating which buttons K can push on the recorder.

*KAT: *you press that.*

*UTE: *all right, but just once, okay, not too long.*

%com: K pointing at buttons she mustn't touch.

*KAT: *not press that one two.*

%com: NT Neg, likely T: Mustn't press/Don't press that '1 2' button.

*UTE: *no.*

- (72) Katla 2;5,04 (S48)
 %com: (toy) Badger is being naughty, walking on a book, wearing Katla's shoes.
 *KAT: *he's a doing + ...*
 *KAT: *he's xx in the shoes # xxx.*
 *KAT: **[not!!] put shoes on the book!**
 *UTE: *no, you don't walk with shoes on the book, silly badger!*
- (73) Katla 2;5,04 (S48)
 %com: Katla is fiddling with Ute's recording equipment.
 *KAT: *that.*
 %com: K pointing at a button she mustn't touch.
 *KAT: **not press that one.**
 %com: NT Neg, likely T: Mustn't press/Don't press that one.
 *UTE: *no, no, no, no, no.*

B. Non-imperative clause-initial negations

- (74) Katla 2;3,15 (S42)
 %com: Katla, Mum and Ute are playing with Katla's doll Baby
 *KAT: *baby.*
 *MUM: *you want baby?*
 %com: K rejects baby
 *KAT: **no baby want.**
 %com: NT Neg, peculiar Obj-V word order; likely T: 'I don't want Baby'.
 *KAT: *mamma want baby.*
 %com: NT 3SG -s omission, 'mamma' = Ice. mum-NOM.SG.FEM
- (75) Katla 2;4,27 (S47)
 %com: K is trying hard to push a button, which appears to be stuck.
 *KAT: *stuck # stuck.*
 *UTE: *try again!*
 %com: K doesn't want to push the button anymore (but rather another one).
 *KAT: **not do that again.**
 %com: NT Neg, likely T: 'I don't want to do that again.'
 *UTE: *no?*
 *KAT: *press that one.*
 *UTE: *okay, press it then.*
- (76) Katla 2;4,27 (S47)
 %com: Ute is washing up, Katla is splashing with water in the other sink.
 *KAT: *look, splash!*
 *UTE: *splash # are you pouring water?*
 *KAT: *splash # and, and again.*
 *UTE: *and again?*
 *KAT: **not do that.**
 %com: NT Neg, likely T: I don't want to do that.
 *KAT: *no.*
 *KAT: *I want to do it splash, splash over there.*
 %com: K is trying to pour water into a sieve but it runs out.

(77) Katla 2;4,27 (S47)

%com: Katla stuffs Ute's scarf under the hollow of her knee, then under her chin.

*UTE: *you bunch it all together under your knee.*

*KAT: *no.*

*UTE: *under your chin.*

%com: Katla suddenly throws the scarf away.

*KAT: *no want it.*

%com: NT Neg, T: 'I don't want it', compare with TL don't negation below.

*KAT: *that's Ute's.*

[...]

%com: K drapes the scarf round her head, Ute admires it, lots of giggling.

*KAT: *look!*

*UTE: *very nice!*

*KAT: *I don't want it.*

*KAT: *I don't want that.*

(78) Katla 2;10,15 (S55)

%com: K, M, U are having puppets who're fighting against the crocodile.

*KAT: ***not fight alla # one.***

%C/S

%com: alla = Ice. 'everybody'; NT Neg (unclear)

%com: K apparently doesn't want everybody to fight and redistributes puppets.

*MUM: *ha? who's the + ...*

%com: M doesn't understand

*MUM: *ó, á ég a(ð) hafa apann?*

%eng: oh, shall.1SG.PRES I.NOM to have-INF monkey-NONNOM.SG.MASC-
the.ACC.SG.MASC = oh, am I having the monkey?

(79) Katla 2;10,15 (S55)

*MUM: *Katla, what're you going to do on your birthday?*

%com: K is silent, M teases her:

*MUM: *we'll just sleep and relax.*

*KAT: ***not sleep.***

%com: NT Neg, K doesn't want to sleep, but eat a cake on her birthday:

*KAT: *eat it.*

*UTE: *eat it, eat what?*

*MUM: *we'll eat sausages and fish.*

*KAT: *not fish.*

(80) Katla 3;2,11 (S66)

*UTE: *what about in the nursery, do you do colouring there as well?*

*KAT: *no.*

*UTE: *you don't?*

*KAT: *not write, not write.*

%com: NT Neg, likely T: 'I/We don't write.'

*UTE: *huh?*

*KAT: *not write +...*

%com: NT Neg, likely T: 'I/We don't write at school'.

*KAT: *+ ... in the school.*

*UTE: *you don't write in the school?*

*KAT: *no.*

*UTE: *no, what d'you do in the school?*

*KAT: *just colouring.*

(81) Katla 3;3,11 (S69)

*UTE: *it's now ten o'clock, so it's time to go to bed.*

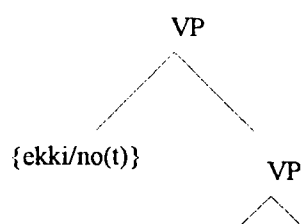
*KAT: *not go to bed.*

%com: NT Neg, Katla doesn't want to go to bed.

*KAT: *I can play # in my (py)jama.*

All of these utterances are nontargetlike. Note that the 10 'imperative' cases (47-48, 66-73) all occur before or at 2;5 and then disappear. It is tempting to explain them as early construction transfer from Icelandic to English: The interpretation and the subjectless negation-initial structure matches that of Icelandic imperative infinitivals, as illustrated in Figure 5.4.³³ Katla produces the English *no(t)*-imperatives early on, just as the Icelandic *ekki*-initial ones (Section 4.2, 4.4.).³⁴

Figure 5.4.



³³ I represent negation as an adjunct to VP here (Section 3.3.). I do not know where the imperative interpretation of Icelandic infinitivals comes from – from discourse or from some feature/operator in a covert functional projection above VP. There is no overt reflex in imperative infinitivals in adult Icelandic, Katla's Icelandic and Katla's English.

³⁴ Wode (1981/1983:142, 148), in his study of child second language acquisition of English by 4 German children also reports negative imperative infinitives, e.g. *not drink, not drink!*. Like Katla's nontarget negative imperatives, those by the Wode children lend themselves to a L1 transfer explanation: Like Icelandic, German has Neg + INF imperative infinitives, e.g. *nicht trinken!* not drink-INF 'Don't drink!'.

such a stage does not exist; the *no(t)*-initial negations do not represent Katla's earliest stage of negation. Rather, they are rare and occur *simultaneously* with targetlike clause-medial negations, where a finite auxiliary/copula (in Infl) precedes the negation marker. And the nontargetlike *no(t)*-initial negations occur simultaneously with targetlike *don't*-negations. Finally there are sporadic negations in Katla's English which are neither finite Aux + Neg, nor Neg + nonfinite thematic verb. Rather, the thematic verb precedes negation. They are discussed in the next section.

5.2.4.2. Thematic verbs preceding negation

A few clausal negations in Katla's data have not been investigated yet. They are 5 cases of thematic V + Neg, which appear in Figure 5.3. as white columns: 3 finite thematic verbs precede negation (83-84), as do 2 nonfinite ones (85-86). Should they be taken as evidence that Katla transfers thematic verb raising from Icelandic to English? I believe not.

(83) Katla 3;3,11 (S69)

%com: Ute and Katla are playing with puppet Mr Punch, who's being naughty.

*UTE: *you think he's being + ... # + ... gonna be good?*

*KAT: *I think [not!!].*

(84) Katla 3;3,11 (S69)

%com: It's late and Ute thinks Katla should go to bed, Katla disagrees.

*UTE: *so I think you should go to bed.*

*KAT: *no.*

*UTE: *I think so.*

*KAT: *no, I think [not!!].*

*UTE: *I think so.*

*KAT: *I think so not.*

%com: NT postverbal Neg, T: I don't think so.

*UTE: *I think you should.*

Considering (83-84), two of the three finite main verbs with postverbal negation (2x *I think not*) are in fact targetlike. There is of course a difference between *I don't think* and *I think not*, namely that *don't* in *I don't think* negates 'thinking', whilst *not* in *I think not* negates an elided proposition. However, when we compare *I don't think so* and *I think not*, this difference goes away, *so* standing in for the proposition to be negated. In the discourse context which Katla's *I think not* occurs in then, *I think not* is targetlike, negating the proposition of the preceding utterance ('he's gonna be good'; 'you should go to bed'). *I think not* is perhaps a bit formal and therefore surprising coming from a three-year-old. Katla may have modelled *think not* on her English input, which occasionally features nonproductive forms like *I think not*, *I suppose not*, *I hope not*, or on Icelandic with

generalised thematic verb raising (cf. *ég held ekki* I.NOM think.1SG.PRES not 'I think not/I don't think so.'). The third finite verb with postverbal negation is nontarget *I think so not* (84), probably modelled on the adult's preceding *I think so*.

(85) Katla 3;4,08 (S70)

- %com: Ute and Katla are looking at a picture of an owl sitting in a tree.
 U teases K, saying that it's Katla sitting in the tree. Katla argues that it can't be her in the tree because she hasn't got wings, and the owl does.
 *UTE: *look, with two eyes, you've got two eyes.*
 *KAT: *I got not this.*
 %com: NT postverbal Neg
 %com: K points at the wings
 *KAT: *I can't fly.*
 *UTE: *you can't fly, no, you haven't got wings.*

(86) Katla 3;4,20 (S72)

- %com: Ute and Katla are discussing a snowman's face and Katla's face.
 *UTE: *and you haven't got a potato for your nose, have you?*
 *KAT: *no, I got not.*
 %com: NT postverbal Neg

Finally there are two cases where *got* precedes the negation (85-86). *got* may be a past tense verb and thus finite; but seen in context, a past participle interpretation (and *have* omission) may be more plausible. Either way, *I got not* is ungrammatical in English.³⁵ It seems that Katla wrongly applies thematic verb raising past negation and confuses *got* with *have*. This is rather odd, since Katla has produced several hundreds of instances of *got* and *have* up to age 3;3, always placed correctly. Perhaps then, *I got not* is just a speech error.

Recall also that nontarget postverbal negations are vanishingly rare in Katla's English and occur very late, at age 3;3-3;4. Contrast the tiny number (three) of nontarget thematic V + Neg with the hundreds of correct thematic verb negations (314 instances, Table 5.8.), where the thematic verb does not raise and *don't*, *doesn't*, *didn't* is used instead. Recall also the 19 cases of Neg + thematic V (Tables 5.9., 5.10), where *do* is omitted, but which are 'correct' in the sense that the thematic verb follows negation. I therefore believe that we can treat Katla's 3 instances of thematic V + Neg (84, 85, 86) as negligible speech errors.

³⁵ A word-by-word translation of *I got not this* into Icelandic is ungrammatical too; Icelandic does not express possession with a *have* plus direct object as in English (*I (don't) have this; I have(n't) got this*), but instead with the copula, the preposition *með* 'with' and an accusative complement (*ég er (ekki) með þetta* I.NOM am.1SG.PRES not with this-ACC).

5.3. Summary

Katla's English clausal negations show targetlike verb placement: finite auxiliaries, copulas and *have* precede negation, thematic verbs follow negation (99%, (602+28)/636). In the overwhelming majority of obligatory contexts that require *do*-support for negation, Katla provides this *do*-support, from age 2;0,00 (94%, 314/(314+19)). In a small number of cases, she omits *do* and produces a subjectless negation-initial clause. She does not raise thematic verbs past negation. All of these observations are only to be expected for a monolingual child, they are noteworthy though for Icelandic-English Katla.

6. Summary and conclusion

In this chapter I have investigated Katla's acquisition of clausal negation and the interaction of finiteness and verb placement with regard to negation. In general, Katla's negations are very much like those found in monolingual children. Moreover, her negations across the whole observation period are basically targetlike, both for English and Icelandic. Note that this is not the case for certain other areas of Katla's syntax, e.g. protracted omission of English progressive auxiliaries (bare *-ing*), novel mixed progressives (Chapter 3), novel subject-initial Icelandic imperatives (Chapter 4), and oversupplied auxiliary *do* (Chapter 7)).

There is a virtually perfect correlation between verb placement and finiteness in both of her languages: 98% Icelandic verbs marked for finiteness precede the negation marker *ekki* (the remaining 2% are targetlike negation-topicalisation), irrespective of whether the verb is thematic, auxiliary or copula. Nearly all nonfinite verbs (95%) follow negation. These observations hold for the entire investigation period, including Katla's earliest negations.

In Katla's English, all finite auxiliaries and copulas precede the negation *not/n't*, but thematic verbs do not (except for 5 late instances at age 3;3-3;4). Auxiliaries and copulas not only precede negation as in the target, 98% also have perfect tense and agreement inflection. Thematic verbs, and nonfinite verbs in general, follow negation. Again, these observations hold for the whole of the observation period.

Note furthermore that from her earliest negations, Katla produces both negated and non-negated auxiliaries and copulas in the same sample, in English as well as Icelandic. This suggests that she does not treat negated auxiliaries as unanalysed chunks, as is often claimed (e.g. Klima and Bellugi 1973), but correctly analyses them as Aux + Neg. The only auxiliary for which this does not hold is *don't*, which occurs without a non-negated equivalent for a long time, yet targetlike at that: To negate English simplex thematic verbs – and only those – Katla employs *do*-support (or the negation marker *don't*) from 2;0 in most obligatory contexts. Her acquisition of this English-specific construction for negation is not in the least

delayed compared to monolinguals. (As we will see in Chapter 7, her *do*-support in other contexts is different though.)

These findings show that Katla is aware of (a) the interaction between finiteness and verb placement, and (b) the difference in finite thematic verb placement with regard to negation between Icelandic and English. Stromswold (1990) has shown that English-speaking monolinguals at an extremely early age are aware of the difference in placement between thematic verbs and auxiliaries. They hardly ever produce a thematic verb to the left of negation (less than 0.01%, Stromswold 1990:70). Katla, too, hardly ever does so (less than 0.5% in her English). My interpretation is that Katla keeps the settings of the verb movement parameter strictly apart, [+] for Icelandic, [-] for English. She correctly applies verb head movement – and subject XP movement – past negation into the functional IP domain, across the board to all types of verbs in Icelandic, but only to auxiliaries and copulas in English. This syntax differentiation is perhaps not so clear at first, since there are no cases of Icelandic thematic verb raising past negation before 2;11. But this is because there are no obligatory contexts in the early samples, and data from areas other than negation (adverbs, questions) can be used to show that thematic verb raising is operative early on, even though the contexts may be few. Verb movement and XP movement in Katla's grammar do not develop or mature, nor are they optional at first. Rather, they are there from the start.

Considering nonfinite clausal negations or negated root infinitives, we find them at low numbers both in Katla's English and her Icelandic. The nonfinite verb always follows the negation. Whilst such nonfinite utterances occur early, they do *not* represent the initial stage of Katla's negations. Rather, they occur at the same time that Katla also produces finite auxiliaries and copulas which precede negation. I have argued that this finding is incompatible with No Functional Categories approaches.

There are some clause-medial negations with a subject and a nonfinite verb, especially in Katla's Icelandic. The context makes it clear that a finite auxiliary is missing in these cases. I have suggested a null auxiliary account by analogy with the progressive auxiliary omissions discussed in Chapter 3.

The large majority of Katla's negations with a nonfinite verb however are clause-*initial* negations (*ekki* + V, *no(t)* + V). Instances of Neg-SVO are conspicuously absent. In fact, all negation-initial utterances are *subjectless* (Neg-V(O)), for both languages. I have argued that the absence of Neg-SVO casts doubt on proposals of a universal sentence-external, pre-subject negation stage (Klima and Bellugi 1973, Radford 1990a), proposals which have been challenged independently by research on monolingual child English (e.g. Bloom (1970, 1991), Boster (1996), Drozd (1992, 1995), Ervin-Tripp (1973), Fletcher (1979), Miller (1973), de Villiers and de Villiers (1979, 1985)).

Katla's Icelandic clause-initial negations are often *targetlike*; they correspond to negative imperative infinitivals (RIs) in the input. These have the imperative force of directives, warnings, prohibitions and self-prohibitions (e.g. *ekki ýta!* not push-INF 'Don't push!', 'Mustn't push!'). About half of Katla's English clause-initial negations can also be construed as having such imperative force; however, their form is clearly nontargetlike (*not do that!* 'Don't do that!', 'Mustn't do that'). *do*-support is missing here. I have suggested that they may be due to interference from the Icelandic imperative infinitival construction, although this need not be the case, as similar forms have been attested in some monolingual English-speaking children.

What Katla's English and Icelandic nontarget nonfinite negations have in common is this: They are nonfinite not because verb movement has not applied, but because an auxiliary is missing, and they are *rare*. Nontarget nonfinite negations are vastly outnumbered by targetlike finite negations, where the required auxiliary or *do*-support is used.

To summarise, Katla's English negation data mirror monolingual child English: early appearance of *do*-support for negation, early appearance of negated auxiliaries, no placement errors, and virtually no agreement and tense errors. Katla's Icelandic verb placement data mirror those of monolingual Scandinavian children: finite verbs precede negation, nonfinite ones follow it. She thus treats her two languages separately, English as non-verb raising, Icelandic as verb raising.

Chapter 6. Root infinitives in Icelandic

1. Introduction: Root infinitives in child language

For a large number of languages, one- to two-year-old children have been found to use root infinitives (RIs) in their productions. Root infinitives are verbs homophonous with nonfinite verb forms in the adult language, typically infinitives,¹ which occur in root contexts. Generally, some sort of *finite* verb or verb construction is required in this context in the adult language. What this finite verb (construction) precisely should be is a matter of considerable debate in the literature: (a) a simplex thematic verb with finite inflection, (b) a periphrastic construction of a finite auxiliary plus a thematic infinitive, or (c) a periphrastic construction of a finite thematic verb (commonly 'want') with an infinitival complement. The different proposals about what children's RIs correspond to in the target language have to do with the fact that RIs can be quite ambiguous. A root infinitive, especially when taken out of context, can be interpreted in all sorts of ways, some of which are illustrated in (1).

Root infinitives without a subject are common in early child productions too; these are even more ambiguous to interpret, allowing in addition to (1a-c) for instance an imperative reading ('Sit there!') or possibly a bare VP reading ('And what did you say Mr Punch did? → Sit there.').

(1) *Mr Punch sit here.*

- a. 'Mr Punch sits here.'
- a'. 'Mr Punch sat here.'
- b. 'Mr Punch is sitting here.'
- b'. 'Mr Punch can/must/will sit here.'
- c. 'Mr Punch wants to sit here.'

¹ Recently, it has been suggested that not only infinitives, but also other nonfinite verbs such as participles and stems should be considered 'root infinitives'. This is because in some languages, young children hardly ever produce root infinitives, but they do produce other bare nonfinite verb forms (e.g. Lyon 1997; Phillips 1995; Sano and Hyams 1994:545; Varlokosta, Vainikka and Rohrbacher 1996). Also, languages such as the Semitic languages and many polysynthetic languages, e.g. Inuktitut, do not have an infinitive (Crago and Allen 1997).

For RIs in child Icelandic, it is likewise difficult to ascertain what they correspond to in the adult language, as illustrated in (2).

- (2) *Trúðurinn* (ekki) sitja hérna.
Punch-NOM.SG.MASC-the.NOM.SG.MASC (not) sit-INF here
- a. 'Trúðurinn situr (ekki) hérna.'
Punch-the sit-3SG.PRES.INDIC (not) here
- a'. 'Trúðurinn sat (ekki) hérna.'
Punch-the sit.3SG.PAST.INDIC (not) here
- b. 'Trúðurinn er/var (ekki) (að) sitja hérna.'
Punch-the is/was (not) (to) sit-INF here 'Mr Punch is/was not sitting here.'
- b'. 'Trúðurinn má (ekki) sitja hérna.'
Punch-the must/may.3SG.PRES.INDIC (not) sit-INF here
- c. 'Trúðurinn vill (ekki) sitja hérna.'
Punch-the want-3SG.PRES.INDIC (not) sit-INF here

Icelandic being a verb-raising language, word order is an important factor when investigating RIs. If a child root infinitive follows negation/sentential adverbs, this word order is targetlike if the RI corresponds to a periphrastic verb construction with a thematic infinitive. Neg-RI placement is thus evidence of the child knowing about the correlation of [$\pm$] finiteness and [$\pm$] verb raising. However, on the assumption that the child RI corresponds to a finite simplex verb, the child has not only omitted finite inflection, but also failed to raise the verb out of the VP.

During the 1990s, generative linguists have homed in on the issue of RIs by carrying out studies of children of different L1s, often longitudinally, and presenting quantified data.²

² Most of these studies are of monolingual children, e.g. Bar-Shalom and Snyder 1997; Behrens 1993a, 1993b; Boser, Lust, Santelmann and Whitman 1992; Bromberg and Wexler 1995; Clahsen and Penke 1992; Crago and Allen 1997; Crisma 1992; Grinstead 1993; Guasti 1993/94; Ferdinand 1996; Haegeman 1995b, 1996a; Hamann and Plunkett 1997; Hoekstra and Hyams 1995, 1996; Hoekstra, Hyams and Becker 1997; Ingram and Thompson 1996; Jonas 1995; Jordens 1990; Kempen, Gillis and Wijnen 1997; Klein 1974; Krämer 1993; Lasser 1995a, 1995b; Phillips 1995; Platzack 1990; Poeppel and Wexler 1993; Rhee and Wexler 1995; Rizzi 1993/94, 1994; Roeper and Rohrbacher 1994; Rohrbacher and Vainikka 1994, 1995; Sano and Hyams 1994; Schaner-Wolles 1995-96; Schlichting 1996; Schütze and Wexler 1996a, 1996b; Torrens 1992; Varlokosta, Vainikka and Rohrbacher 1996, 1998; Verhulst-Schlichting 1985; Weverink 1989; Wexler 1994; Whitman 1994; Wijnen 1995a, 1995b, 1997; Wijnen and Bol 1993. RIs in child second language acquisition are now also being studied (e.g. Haznedar 1997a; Haznedar and

These studies investigate whether the occurrence of RIs correlates with null subjects in child language, null subjects in the adult language, rich inflection, and word order. As regards word order, most researchers agree that RIs occupy positions typical for nonfinite verbs: In languages with overt verb movement, RI verbs are rare in higher functional positions (above Neg), and hardly ever occur in V1 and V2 positions, such as in questions and non-subject-initial topicalisations (e.g. Clahsen, Kursawe and Penke 1996; Crisma 1993; Levow 1995; Phillips 1995; Poeppel and Wexler 1993; Rizzi 1993/94; Santelmann 1995; Schlichting 1996; but see Schaner-Wolles 1995-96 for a dissenting view).

There is also some agreement in the literature, though by no means unanimous, that the majority of early null subjects are found in root infinitive clauses. Yet children also produce RIs with overt subjects, and finite verbs with null subjects (in non-pro-drop languages). The relationship of RIs and null subjects is heavily debated (e.g. Bromberg and Wexler 1995, Haegeman 1993/94, 1995b, Krämer 1993, Poeppel and Wexler 1993, Wexler 1994 in favour of a correlation between RIs and null subjects; for dissenting views, see Ingham 1992:137-145, Phillips 1995 and Roeper and Rohrbacher 1994 for English; see also de Haan and Tuijnman 1988 on Dutch).

Another bone of contention is whether RIs depend on the *type* of language the child is learning, and if so, what type of language this is. For instance, non-pro-drop languages are sometimes said to 'foster' child RIs, whereas pro-drop languages do not (e.g. Bar-Shalom and Snyder 1997; Hoekstra and Hyams 1996:254; Hyams 1996; Rhee and Wexler 1995, Sano and Hyams 1994; Wexler 1994). Alternatively, morphologically poor languages are said to promote child RIs, whereas in a language with rich inflection children do not use RIs (e.g. Phillips 1995:334-336; Wexler 1994). It is certainly tempting to propose such neat correlations, but the supporting empirical evidence is not as clear-cut as is often claimed.

Whilst studies of child RIs vary enormously with regard to hypotheses and explanations, the data findings converge on one point: Many children acquiring their first language seem to go through a period during which they employ both target finite verbs and a substantial number of nontarget nonfinite verbs, the latter being termed Optional Infinitives (OIs, Wexler 1994). There is considerable variation, however, in the frequency and duration of such OIs, both between individual children acquiring the same language, and children acquiring different languages. In the generative literature, this individual variation is sometimes paid little attention, wrongly in my view. Those OIs that have been found occur some time after the child's first two-word combinations (around or after age 1½) and

Schwartz 1997; Prévost 1997a, 1997b), as well as RIs in specifically language impaired children (e.g. Hadley and Rice 1996; Rice and Wexler 1996; Rice, Wexler and Cleave 1995).

stretch over a period of many months, or even years.³ A general finding is that OIs *gradually* decrease over time. Many researchers mention a tapering-off of OIs (e.g. for English, German and Dutch) after the age of two and a half, though few studies actually investigate OIs beyond the third birthday in any detail; notable exceptions are Krämer (1993), Schlichting (1996), Wijnen (1995) and Wijnen and Bol (1993) for Dutch.

For Icelandic, OIs have not been investigated, though my own informal observations of monolingual Icelandic children, anecdotal evidence (Jóhanna Barðdal, p.c. March 1998; Hrafnhildur Ragnardóttir p.c. August 1997; Sigríður Sigurjónsdóttir p.c. May 1997), and Sigurjónsdóttir's ongoing work suggest that they are widespread.

In previous chapters we have seen that Katla, too, produces root infinitives in her Icelandic (and also in her English), with quite a range of context-dependent interpretations. The adult equivalents of Katla's Icelandic RIs are of various types, including periphrastic progressives (Chapter 3), simplex finite verbs (such as imperatives, Chapter 4), and, perhaps surprisingly, also infinitives (such as negative imperative infinitivals, Chapter 5). In the present chapter, I document some further types of root infinitives in Katla's productions and discuss them in the light of current approaches to RIs in the literature. I focus on Katla's Icelandic RIs (and postpone the investigation of her English RIs until Chapter 7, where they

³ To give an impression of how much individual variation there is even amongst children acquiring the same language, I give a snapshot of Dutch children's OIs. I choose Dutch because the development of OIs over time has been extensively studied longitudinally, which is not (yet) the case for e.g. German (Ingram and Thompson 1996; Krämer 1993; Poeppel and Wexler 1993; Rohrbacher and Vainikka 1994, who investigate OIs in one sample only per child). Schlichting (1996) analyses cross-sectional data from 100 (monolingual) Dutch children age 1;6-3;11 (producing a total of 6111 analysable verbal utterances). She does not group children by age, but according to a measure of utterance length and complexity (Stage I-VI). Schlichting finds a gradual decline of nonfinite thematic verbs (OIs), from 100% (Stage I) to 88%, 71%, 42%, 20%, petering out at 8%-10%. Another cross-sectional study (26 children) is the one by Wijnen and Bol (1993:246) who suggest that the OI stage ends after age 2;6 in Dutch, as OIs decrease from 56% in the age range 1;6-2;0 to 26% for the 2;0-2;6-year-olds, and drop down to 6% for 2;6-3;0 and 4% for 3;0-3;6. Wijnen and Bol (1993) also study two children longitudinally, Thomas and Niek. For Thomas, the OI stage is argued to end at 2;9 (Thomas' OIs make up 50% of root clause verbs at 2;3-2;4, decreasing to 8% at 2;8-2;9). This is corroborated by Krämer (1993:199), who also investigated Thomas' data. (She found 58% OIs at 2;3-2;4, 26% OIs at 2;5, 13% at 2;7, 15% at 2;8. The figures vary slightly due to different counting criteria.) However, for the child Niek, studied longitudinally by Wijnen and Bol (1993:244), the OI stage seems to last considerably longer, *until age 3;4* (Niek produces 70% OIs at 2;7 and 2;10, down to 8% by 3;4-3;5.). Niek is also studied by Wijnen (1995:106), who gives roughly equivalent figures (80% OIs at 2;7, decreasing to 5% by 3;4). In contrast, a fourth Dutch child, Peter, stops producing OIs much earlier: While 100% of root clause verbs are OIs at 1;9,6, they are down to 10% at *age 2;2*, and have vanished by 2;4 (Wijnen 1995:106).

are discussed in connection with auxiliary *do*.). Icelandic is particularly interesting, as it is generally described as non-pro-drop *and* has rich inflectional morphology.

I will argue that Katla's data show that there is not one unified account of root infinitives in child language, a finding that has consequences for cross-linguistic studies of child grammars. I will also suggest that the occurrence of child RIs may have less to do with whether the adult language is pro-drop or 'morphologically rich' (as classified by linguists), but more with the actual constructions and morpho-phonological verb forms the child hears in the *input*, an issue often neglected in RI studies.

2. Icelandic verb inflections

Analytic verb constructions and some aspects of the simplex verb inflectional system of adult Icelandic have already been discussed in earlier chapters. In this section, I investigate how they may bear on the issue of root infinitives in child language.

2.1. *-a* infinitives

As regards morphology, Icelandic infinitives consist of a stem and the suffix *-a* (e.g. *sitj-a* sit-INF). This is different from English, where the infinitive *is* the stem and also homophonous with all finite present tense forms except third person singular. Icelandic, on the other hand, has an overt infinitival suffix. The few infinitives that don't end in *-a* have a vowel-final stem, often an *-a*-like vowel (for details, see Chapter 4). As a rule then, Icelandic infinitives end in *-a*. The converse does not hold however; the verbal ending *-a* does not exclusively signal an infinitive, as we will see in the next section.

One aspect of connected speech deserves mentioning with regard to infinitives: In rapid informal speech, word-final *-a* followed by a vowel-initial syllable may undergo assimilation and elision (see also Helgason 1993:46-47). This can be formalised as (3).

$$(3) [a] \rightarrow \emptyset / \_ \# V$$

Since infinitives end in *-a*, they can be affected by this rule when followed by a vowel-initial word, in particular when the vowel is articulatorily close to [a]. Katla's parents occasionally elide *-a*. Thus, for example, *standa á haus* 'stand-INF on head 'make a headstand' is pronounced ['standa au "hœls] but can also be pronounced ['standau "hœls] in rapid speech. An *-a* which is followed by a consonant-initial word or by a pause cannot be elided.

In Icelandic – and in Katla's input – infinitival forms are very common. They occur in a wide range of Aux/V + INF constructions. Multi-verb constructions involving a thematic *infinitive* are more common in Icelandic than in English, and especially so in informal spoken Icelandic (cf. Katla's parents' transcripts; Jóhanna Barðdal p.c.; Einarsson 1945). Some examples are given in (4). Besides high-frequency progressive/durative Aux *vera* 'be' (+ *að*) + INF 'be (do)ing' (4a), there is for instance inchoative or future *fara* 'go' (+ *að*) + INF 'start (do)ing', 'be going to (do)' (4b), as well as completed action *vera búinn* 'be done' (+ *að*) (+ *vera*) (+ *að*) + INF 'be finished (do)ing/have been (do)ing' (4c). Recall from Chapter 3 that in connected speech, *að* and present tense forms of the auxiliary *vera* are often phonetically reduced or elided.

There are also many modals that combine with an infinitive (4d-e), some with a bare infinitive, e.g. *mega* 'may', *vilja* 'want', *skulu* 'shall/will/should', others with *að* plus infinitive, e.g. *kunna* 'can/know', *verða* 'must/have (got) to', *eiga* 'shall/should/be to/be supposed to', *ætla* 'intend to/be going to'.

- (4) a. PROGRESSIVE AUX
hún er *að mál-a.*
 she is.3SG.PRES.INDIC to paint-INF
 'She's painting.'
- b. INCHOATIVE AUX, FUTURE AUX
hún fer *að mál-a.*
 she go.3SG.PRES.INDIC to paint-INF
 'She is starting/going to paint.'
- c. COMPLETED ACTION AUX
hún er búin (að) (vera) að mál-a.
 she is.3SG.PRES.INDIC finished-3SG (to) (be-INF) to paint-INF
 'She has finished painting/She has painted.'
- d. MODAL without *að*
hún vill mál-a.
 she want-3SG.PRES.INDIC paint-INF
 'She wants to paint.'
- e. MODAL with *að*
hún á að mál-a.
 she should.3SG.PRES.INDIC to paint-INF
 'She should paint./She's supposed to paint.'

Furthermore, it is grammatical in Icelandic to use a bare infinitive as the root in certain discourse contexts; the same is the case for e.g. German and Dutch (Kempen, Gillis and

Wijnen 1997; Klein 1974; Krämer 1993; Lasser 1995a, 1995b, 1997a, 1997b; Miller 1976; Schlichting 1996:93; de Vriendt-de Man 1969:322; Weverink 1989; Wijnen and Bol 1993:242-243; Wijnen and Verrips 1998).⁴ That is, an infinitive on its own (bare VP) can have a finite interpretation. There are two contexts that allow such roots in Icelandic: Negative imperatives, and sentence fragments. Neither are much discussed in the literature on Icelandic; however, they are very common in informal spoken Icelandic. Neg-initial subjectless 'imperative' infinitivals have already been discussed in Chapter 5, e.g. *ekki lesa!* 'not read-INF' ('Don't read!'). In contrast, positive infinitival imperatives are unattested (*@/lesa! read-INF ('Read!')).

Recall from Chapter 4 that colloquial spoken Icelandic also sports subjectless infinitival sentence fragments, such as clipped answers to questions as illustrated in (5), and also in contexts other than question/answer. These are real-life examples produced by Katla's mother; the relevant RIs are in bold face, inaudible elements are bracketed.

- (5) Examples of subjectless root infinitives (sentence fragments) by Katla's mother in conversation with Katla.

- a. Context: Description of an ongoing action (doll play).

hva(ð) (e)r (h)ún a(ð) gera? —tal-a vi(ð) afa.
 what is she to do-INF talk-INF with grandad-NONNOM
 'What's she doing?—Talking to grandad.'

⁴ Furthermore, there are Mad Magazine sentences in these languages, root clauses with a nonfinite verb and an *overt* subject (cf. Akmajian 1984). These have exclamatory or question intonation and a surprised or counterfactual reading (e.g. German *Uwe einen Hund anschaffen!/?* 'Uwe get a dog?—Never!/No way!'). I did not observe any such Mad Magazine sentences in the speech of Katla's parents, and there were none in the input transcriptions. Many languages also have infinitival wh-exclamatives, marginally with an optionally overt subject (e.g. German *Aber wie (ich) ihr das klarmachen?* But how (I.NOM) her.DAT that.ACC clear-make-INF 'But how to make that clear to her?'). No such wh-exclamatives with overt subject are attested in the transcribed Icelandic input to Katla. Moreover, Dutch and Russian occasionally permit declarative RIs with overt subject. Such RIs occur in certain narrative registers, as described by Avrutin (1997:66-73) for Russian, and Wijnen (1997:7-8, 'anecdote register utterances') and Lasser (1997b:34) for Dutch, see (i-ii). Such narrative RIs aren't possible in Icelandic.

- (i) Dutch *de conducteur floot al voor het vertrek, dus ik rennen.*
 the conductor whistled already for the departure, so I run-INF
 'The conductor was already whistling for departure, so I ran.'
 (Wijnen 1997:7-8)
- (ii) Russ. *togda carevna xoxotat'.*
 then princess laugh-INF
 'Then, the princess started to laugh.' (Avrutin 1997: 66-73: focus on the event of the princess laughing rather than on the princess herself.)

- b. Context: M is demonstrating for K how to cut out a circle.
sjáðu! —klipp-a í hring.
 look-you.2SG.CL cut-INF in circle
 'Look! Cutting a circle.'
- c. Context: Mum asks Katla what she does when she is at the nursery.
 *MUM: *og hva(ð) gerir þú með krökkunum í skólanum?*
 %eng: and what do you do with the children at school?
 *KAT: *púsla.*
 %eng: puzzle-INF = do jigsaws.
 %com: TL RI
 *MUM: *já.*
 %eng: yes.
 *KAT: *og sitja [fl] á golfinu.*
 %eng: and sit-INF [fl] on floor-DAT.SG.NEU-the.DAT.SG.NEU
 %com: [fl] is a breakoff of Eng. floor', K corrects herself, Ice. 'golf'
 *MUM: *sitja á golfinu í skólanum, og leika ykkur?*
 %eng: sit-INF on floor-DAT.SG.NEU-the.DAT.SG.NEU in school-
 NONNOM.SG.MASC-the.DAT.SG.MASC, and play-INF you-PL.REFLEX
 = sit on the floor at school, and play?
 %com: TL RIs in the input
 *KAT: *nei, ekki leika.*
 %eng: no, not play-INF
 %com: TL RI, constituent negation
 *MUM: *hva(ð) eru(ð) þi(ð) (að) gera þá þe(gar) þi(ð) sitji(ð) á golfinu?*
 %eng: = What're you doing then when you sit on the floor?
- d. Context: Resolving unclarity. Mum asks Katla what she should do.
hva(ð) á [ég!!] (að) gera? —lesa þetta?
 what shall I.NOM to do-INF read-INF this?
 'What shall I do/What do you want me to do? —Read this?'
- e. Context: Resolving unclarity. Mum asks Katla what she wants to do.
en hvað viltu gera? —fara út?
 but what want-2SG-you do-INF go-INF out
 'But what do you want to do? —Go outside?'
- f. Context: Katla has been complaining to M about having the recorder on.
slökkv-a á tækinu hennar Ute?
 switch-off-INF at recorder-DAT.SG.NOM her-GEN.SG.FEM Ute
 'Switch off Ute's recorder?' (Do you want to switch off ...?, Do you want me to
 switch off ...?, You really want to switch off ...?, etc.)

While sentence fragments in English often contain an *-ing* verb, in Icelandic they usually contain an infinitive. Note that such bare VPs are interpreted as *finite*, although they do not contain any subject, finite auxiliary or finite inflection. Adult grammar thus allows a finite interpretation of nonfinite utterances in which the functional projections of IP and CP are

absent or at least not utilised.

As the examples in (5) show, adult RI sentence fragments allow a variety of interpretations depending on context, e.g. an ongoing activity (progressive) reading in (5a-b), but clearly not so in (5c), which has a habitual interpretation. (5d-f) are neither ongoing activity nor habitual, but lend themselves to a modal, desiderative interpretation.⁵

In sum, infinitival forms are extremely common in spoken Icelandic, and root infinitives are targetlike in certain discourse contexts. We should bear both facts in mind when investigating root infinitives in Icelandic child language. Note that the child is presented with data that may lead her/him to believe that nonfinite root clauses are allowed in the target grammar. (S)he will have to learn the particular pragmatic and discourse conditions to restrict root infinitives to the appropriate contexts. Since RIs occur in the adult language and thus in the input to the child, we cannot expect child RIs to drop to zero. To be able to measure the targetlikeness of the child's productions, it is therefore necessary to analyse the actual distribution of verbs in the input.

2.2. *-a* and finite verb inflections

The verb inflectional system of Icelandic is not transparent. Finite verbs, thematic and auxiliary, are inflected for person (singular and plural), number (first, second, third), tense (past and nonpast), mood (indicative, subjunctive, imperative) and voice (active, passive/mediopassive/reflexive). Inflection is a combination of suffixes and root-internal vowel changes (ablaut, umlaut, vowel harmony). Suffixes are partly agglutinative, partly fusional and syncretic. The tense morpheme can sometimes be separated from the agreement morpheme in these suffixes, and a few of the agreement morphemes can be broken down into their quasi-agglutinative morphemes for person versus number.⁶

Recall from Chapter 4 that there are 10 major verb paradigms, known as verb classes (strong and weak), some of which are illustrated in (6-7).

⁵ I disagree with Ingram and Thomson's (1996) claim that in the input to children, RIs typically occur in the immediate context of a modal, e.g. following a question that contains a modal. Ingram and Thomson propose that as a consequence, children come to associate (root) infinitives with modals, and thus with modal meanings. Since Icelanders frequently produce RI sentence-fragments that aren't in the context of a modal and that don't have a modal reading, we would not expect any such association.

⁶ Active voice is the default and unmarked form. The passive/reflexive/medio-passive suffix *-st* attaches to the rightmost periphery of the inflected or uninflected active verb:

(i)	<i>kall-a</i>	call-INF	'call'
vs.	<i>kall-a-st</i>	call-INF-PASS	'be called'
(ii)	<i>köll-uð-um</i>	call-PL.PAST-IPL	'(we) called'
vs.	<i>köll-uð-um-st</i>	call-PL.PAST-IPL-PASS	'(we) were called'

(6) Examples of some weak verb paradigms (Past tense formation by dental suffix)⁷

a. WEAK CLASS 1

INFINITIVE **kall-a** 'call' (STEM: *kall*; due to vowel harmony *köll*)

PRESENT INDICATIVE	PAST INDICATIVE	IMPERATIVE
1SG <i>kall-a</i>	<i>kall-að-i</i>	-
2SG <i>kall-ar</i>	<i>kall-að-ir</i>	<i>kall-a</i>
3SG <i>kall-ar</i>	<i>kall-að-i</i>	-
1PL <i>köll-um</i>	<i>köll-uð-um</i>	-
2PL <i>kall-ið</i>	<i>köll-uð-uð</i>	<i>kall-ið</i>
3PL <i>kall-a</i>	<i>köll-uð-u</i>	-

b. WEAK CLASS 3

INFINITIVE **lif-a** 'live' (STEM: *lif*)

PRESENT INDICATIVE	PAST INDICATIVE	IMPERATIVE
1SG <i>lif-i</i>	<i>lif-ð-i</i>	-
2SG <i>lif-ir</i>	<i>lif-ð-ir</i>	<i>lif_</i>
3SG <i>lif-ir</i>	<i>lif-ð-i</i>	-
1PL <i>lif-um</i>	<i>lif-ð-um</i>	-
2PL <i>lif-ið</i>	<i>lif-ð-uð</i>	<i>lif-ið</i>
3PL <i>lif-a</i>	<i>lif-ð-u</i>	-

(7) Examples of some strong verb paradigms (Past tense formation by ablaut)

a. STRONG CLASS 6

INFINITIVE **far-a** 'go' (STEM: *far*)

PRESENT INDICATIVE	PAST INDICATIVE	IMPERATIVE
1SG <i>fer_</i>	<i>för_</i>	-
2SG <i>fer-ð</i>	<i>för-st</i>	<i>far_</i>
3SG <i>fer_</i>	<i>för_</i>	-
1PL <i>för-um</i>	<i>för-um</i>	-
2PL <i>far-ið</i>	<i>för-uð</i>	<i>far-ið</i>
3PL <i>far-a</i>	<i>för-u</i>	-

b. STRONG CLASS 7

INFINITIVE **hlaup-a** 'run' (STEM: *hlaup*)

PRESENT INDICATIVE	PAST INDICATIVE	IMPERATIVE
1SG <i>hleyp_</i>	<i>hljóp_</i>	-
2SG <i>hleyp-ur</i>	<i>hljóp-st</i>	<i>hlaup_</i>
3SG <i>hleyp-ur</i>	<i>hljóp_</i>	-
1PL <i>hlaup-um</i>	<i>hlup-um</i>	-
2PL <i>hlaup-ið</i>	<i>hlup-uð</i>	<i>hlaup-ið</i>
3PL <i>hlaup-a</i>	<i>hlup-u</i>	-

⁷ The verb class numbers refer to classification in traditional Icelandic grammars.

A handful of verbs do not quite fit into the 10 strong and weak classes (reduplicating verbs; preterite-present verbs). Their paradigms will not be discussed here, as they are so few.⁸ Note that for all verb classes, *-a* (homophonous with the infinitive) is the finite third person plural present indicative marker. Note also that the Icelandic auxiliaries (including modals) belong to the weak and strong verb classes and behave much like thematic verbs as regards inflection – unlike English modals. Moreover, Icelandic auxiliaries and modals have nonfinite forms, such as an *-a* infinitive (e.g. *að meg-a* ‘to may’), and can be used as verbs in their own right. For instance, they can take an accusative direct object DP (e.g. *þú mátt það* you may-2SG.PRES it ‘You may do it.’) or a directional complement (e.g. *ég ætla til Edinborgar* I intend-1SG.PRES to Edinburgh-GEN.SG.FEM ‘I intend to go/I’m going to Edinburgh.’).

As regards verb classes, it is not the case that one is the typical, regular class, and the others are exceptions. Verbs in the strong classes are less frequent with regard to type (number of lexical entries) than weak verbs, but certain strong ones are more common with regard to tokens, especially in the informal spoken language, as they include many high-frequency verbs.

⁸ There is some overlap of paradigms; for instance, the agreement markings for first, second and third person plural are the same regardless of verb class. However, tense marking and the singular agreement suffixes differ from verb class to verb class (see (6-7) 2SG.PRES *kall-ar*, *lif-ir*, *hleyp-ur*, *fer-ð*, plus *-r*, *-rð*, *-t*, *-Ø* in other verb classes; 1SG.PRES *kall-*, *lif-i*, *hleyp-*, *fer-*). In other richly inflecting Indo-European languages such as Latin, German and Polish, agreement marking remains constant across verb classes, but in Icelandic it doesn’t. This non-transparency of the Icelandic verb class system is likely to impede children’s acquisition of morphosyntax. A recent cross-linguistic study of past tense in 4-, 6-, and 8-year-old Icelandic children shows that they make substantial verb inflection errors: They inflect the verb, but often with the wrong verb class morphology (Ragnarsdóttir, Simonsen and Strömquist (1997:260-268)).

Verb classes also make it difficult for the linguist to classify and interpret Katla’s thematic verb inflections. Consider the following example:

- (i) Katla (3;0,17) and her mum are playing a lotto game, K gets a picture of a dwarf.

<i>kom</i>	<i>litill</i>	<i>dverg</i>
come.STEM	small-NOM.SG.MASC	dwarf.STEM.MASC

‘A little dwarf comes.’

(T: *kem-ur litill dvergur* come-3SG.PRES small dwarf STEM-NOM.SG.MASC)

Katla uses nontargetlike *kom* instead of target *kem-ur* (3SG.PRES.INDIC, a strong verb class with overt agreement *-ur* and ablauted root vowel). Why *kom*? Explanation (a): Katla does not know that finite verbs must inflect; *kom* is a nonfinite stem; (b) she knows that finite verbs inflect but is not sure which verb class *koma* ‘come’ belongs to; *kom* is an uninflected default; (c) finite verbs inflect and 3SG verbs are inflected by leaving off infinitival *-a*, but Katla has not learnt yet that this is only so for certain verb classes; or (d): Katla knows that finite verbs inflect differently depending on verb class but has miscategorised *koma* as belonging to a verb class where 3SG is marked by the stem. (d) is most likely since at 3;0,17, Katla does produce 3SG verbs inflected targetlike, some by stem-only, some with a targetlike overt suffix, and others with a nontarget overt suffix.

However, the only productive class is WEAK CLASS 1, see (6a), which deserves particular mention. From Chapter 4 we already know that WEAK CLASS 1 verbs are special as only they have an imperative ending in *-a*, and that this *-a* imperative is often subjectless and homophonous with the infinitive. WEAK CLASS 1 verbs are also special as only they have the finite first person singular present indicative ending in *-a*, again *homophonous with the infinitive*.

In written and in carefully pronounced spoken Icelandic, all forms except for 1SG and 3PL present are distinctive from the infinitive *kalla*. However, it is less well known that in colloquial spoken Icelandic, tense and agreement endings of WEAK CLASS 1 are affected by elision and assimilation. As a consequence, finite *-ar* is realised as [a] and *-aði* as [a⁰] in the present and past indicative respectively, as illustrated in (6'a).

(6') a. WEAK CLASS 1 INFINITIVE *kall-a* 'call' in connected speech⁹

PRESENT INDICATIVE	PAST INDICATIVE	IMPERATIVE
1SG <i>kall-a</i>	<i>kall-a(ð-i)</i>	-
2SG <i>kall-a(r)</i>	<i>kall-a(ð)-ir</i>	<i>kall-a</i>
3SG <i>kall-a(r)</i>	<i>kall-a(ð-i)</i>	-
1PL <i>köll-um</i>	<i>köll-uð-um</i>	-
2PL <i>kall-ið</i>	<i>köll-uð-u(ð)</i>	<i>kall-ið</i>
3PL <i>kall-a</i>	<i>köll-uð-u</i>	-

This levelling only happens in connected speech, when the verb is followed by another word. Nevertheless, it means that six out of twelve finite forms in the paradigm of a common and the only productive verb class may sound like the infinitive. Descriptive grammar books (e.g. Einarsson 1945; Jóhannesson 1997; Pétursson 1992) and articles on Icelandic morpho-syntax (e.g. Thráinsson 1996) do not discuss these possible elisions, but I have noted them in conversations with Icelanders, and in the transcripts of Katla's parents.¹⁰ (An analysis of the parents' transcripts is given later on.)

To sum up, spoken Icelandic not only sports frequent *-a* infinitives in multi-verb constructions (Aux + INF) and bare *-a* infinitives with a finite interpretation, but also certain singular present and past tense *-a* forms that are *finite*. When investigating child root infinitives, we therefore cannot assume a priori that all *-a* verbs are infinitives. A careful contextual analysis of a RI will help to determine what the corresponding verb or verb

⁹ Historically, the *-a* in the *kalla* paradigm wasn't an inflectional ending but belonged to the stem, such that the 1SG and 3PL *kalla* forms were stems only. Young children don't know these historical facts; they are thus irrelevant for language acquisition.

¹⁰ For Icelanders, the phonetically inaudible inflection is phonologically present. Thus, if asked, they will typically claim that they have just pronounced or heard *-r* or *-ði*, whilst in fact it was a phonetically null allomorph. When acquiring Icelandic, the acoustic non-salience may well be an obstacle.

construction is in the adult language. We may find that the equivalent also is a RI (negative 'imperative'; sentence fragment), or an auxiliary construction containing an infinitive. In other cases, however, the corresponding adult form is a simplex finite verb. We will then have to decide whether the child's RI should be regarded as evidence for lack of knowledge (e.g. lack of tense, lack of agreement), or evidence for knowing a lot (e.g. tense, paradigms), but not yet having assigned a verb to the correct verb class, but instead to the productive WEAK CLASS 1. Here, a comparison with the forms and functions of finite verbs produced at the same time as the RIs may help. Let's now look at Katla's data.

3. Katla's Icelandic RIs as compared to finite verbs: Positioning

For the purposes of this chapter, I will define a root infinitive as a thematic infinitival form used in a root context. I will consider RIs both in the child's as well as her parents' productions. To start with, all Icelandic thematic verbs that end in *-a* and occur on their own (i.e. without a finite Aux) are considered RIs, unless *-a* is the correct finite inflection (3PL.PRES.INDIC for all verb classes; 1SG.PRES.INDIC and 2SG.IMP for WEAK CLASS 1). This initial broad *definition by form* thus comprises all the relevant thematic RIs, including some that may be targetlike. I have chosen this counting procedure in line with a number of child language researchers, especially those working on Dutch and German (e.g. Krämer 1993; Lasser 1995a, b, 1997a, b; Wijnen 1995a, b, 1997), because I think it is important to look at all RIs and not to exclude certain ones (e.g. sentence fragments) a priori from the investigation. This is especially important as we know so little about the actual uses and frequencies of RIs in the spoken adult language and in the input to children, and nothing at all about the situation in Icelandic. A detailed investigation of the different types of RIs, both as regards form and function, will be provided later in the chapter.

Katla's RIs are to be compared with her finite thematic verbs/verb constructions. These are all thematic verbs inflected for finiteness and all finite auxiliaries with a thematic verb complement. Hence, the figures do not include copulas, auxiliaries without thematic complement, auxiliaries with a non-infinitival verb complement (Aux + PPP) and (nonfinite) thematic participles on their own.

Katla produces her first thematic verb at 1;6,07, the one-word utterance and root infinitive *sitja* (sit-INF). Over the whole observation period (1;0,29 (S1) to 3;6,07 (S76)), Katla produces 316 RIs, plus a further 11 RIs 8-10 months later (4;2,06-4;4,06), included here for follow-up reasons. Besides these 327 root infinitives, there are 405 finite thematic verbs/verb constructions.

As has been discussed earlier, Icelandic is a language with verb raising and V2, where all finite verbs move out of the VP into the functional domains of IP and CP, whereas nonfinite verbs don't. Thus, if a clause contains negation or a sentence adverbial, a finite verb must occur to the left of it. The finite verb moves further to the left, i.e. past the subject, in V1 declaratives, V1 yes/no-questions, V1 imperatives with postverbal subject, non-subject-initial V2 declaratives and in non-embedded wh-questions (if the wh-word is not the subject). Thus, all of these clause types constitute contexts where we can determine the positioning of the verb.

When testing for a correlation of verb placement and finiteness, researchers usually find that a large amount of natural production data has to be discarded because it is uninformative, such as sentence fragments without Neg/Adv or clauses with SVO word order (in SVO-languages). This is also the case for Katla's data: The majority of her utterances are ambiguous with regard to verb placement, simply because they do not contain a negation, sentential adverb, postverbal subject, non-subject-initial topicalised element or question. 87% (284/327) of Katla's RIs and 65% (265/405) of her finite thematic verbs/verb constructions are thus ambiguous as regards verb position. The remaining 43 RIs and 140 finite thematic verbs are informative though, and for them we find a clear correlation between form and placement of the verb, as illustrated in the contingency table in Table 6.1.

Table 6.1.
Finiteness and verb placement (Katla 1;6,15-3;6,07; 4;2-4;4)

	Raised	Nonraised	Ambiguous	Total
Root infinitives	6	37	284	327
Finite thematic verbs/ verb constructions	139	1	265	405
<i>Total</i>	<i>145</i>	<i>38</i>	<i>549</i>	<i>732</i>

Table 6.1. illustrates that most RIs, nonfinite by form, occupy a position reserved for nonfinite verbs; this is the case for 86% (37/43) of Katla's informative RIs. In contrast, nearly all finite thematic verbs and verb constructions, finite by form, occupy a position reserved for finite verbs, 99% (139/140).¹¹ An explanation for the 6 RIs that go against the correlation 'not finite = not raised' is given in Section 5.5.

¹¹ The one seeming counter-example to the correlation 'finite = raised' is *ég bara sleik pímuliti(ð)* I only lick a-tiny-bit (3;2,11), with Subj-Adv-V-Obj word order. This example is in fact grammatical, as the adverb or modal particle *bara* is one of the few particles that can optionally be used between subject and verb in Icelandic, giving rise to V3.

The clear correlation of verb form and verb position found for Katla's Icelandic thematic verbs is very similar to that documented for children acquiring other verb-raising languages, e.g. German (e.g. Poeppel and Wexler 1993), French (e.g. Pierce 1989, 1992), or Swedish (e.g. Santelmann 1995).¹²

Let's now look at the development of Katla's RIs and finite verbs over time.

4. Katla's RIs as compared to finite verbs: Frequencies

Figure 6.1. illustrates the distribution of Katla's RIs in raw figures sample by sample. A black diamond denotes a root infinitive, a grey circle denotes a finite verb (construction). We can see that the number of verbs in general increases with age, and that there is a distributional shift: In the early samples RIs predominate; from 2;11, finite verbs do.

To understand the development of Katla's verbs better, I do not group them sample by sample, but according to age range in the other Figures. Six age ranges are chosen for maximum effect. The first three, 1;6-1;10, 1;11-2;4 and 2;5-2;10, are roughly six months in length each. Nothing much happens with regard to Katla's RIs during that time, so the long periods of the age ranges are justified, as can be verified from the sample-by-sample breakdown in Figure 6.1. After 2;10, there are considerable changes in Katla's RIs; I therefore chose the next age range to be much shorter (2 months; 2;11(,15)-3;1(,20)). There are no significant changes in the samples after that, so I grouped the samples of the five months till the end of the observation period (3;2-3;6) together. Follow-up samples in the age range 4;2-4;4 are included for reasons of comparison.

Take a look at Figure 6.2. (raw figures) and Figure 6.3. (percentages). Here, RIs (black columns) are contrasted with finite thematic verbs/verb constructions (grey columns). RIs

¹² In a manuscript that I received after the completion of this thesis, Sigríður Sigurjónsdóttir investigates RIs for monolingual Birna (2;00,19-2;6,13; 8 files). As I have done for Katla, Sigurjónsdóttir looks at verb placement in the contexts of negation, yes/no- and wh-questions and non-subject-initial topicalisations. Here, Birna produces many finite, raised verbs, but no raised RIs (except one). Thus, her RIs occupy positions reserved for nonfinite verbs in the target language, mirroring what I have found for Katla (Table 6.1.). From Sigurjónsdóttir's counts (1998b, Tables 8, 13, 19) I constructed the contingency table in (i); note though that Sigurjónsdóttir's figures combine finite thematic verbs *and* auxiliaries. Sigurjónsdóttir also notes that Birna's RIs decrease over the 6-month investigation period, from 47% RIs (90/192) at 2;00,19 to 11% (45/395) at 2;06,13.

(i) Finiteness and verb placement (Birna 2;0-2;6)

	Raised	Nonraised	Ambiguous	Total
RI	1	25	344	370
Finite V (thematic V, Aux)	644	4	not known	not known

(579 instances). Add to this 197 root infinitives. And finally, 64/1407 simplex verbs have the finite inflection *-a* (e.g. 3PL.PRES, or 1SG.PRES for WEAK CLASS 1 verbs), resulting in $(579+197+64)/1604 = 52\%$.

From an analysis of RIs purely based on frequencies, we can conclude that Katla goes through an extremely protracted 'OI stage', to borrow Wexler's (1994) term. It starts at 1;6, where thematic verbs occur near-exclusively as infinitives (93%); these slightly decrease but still heavily predominate at 2;10 (76%). The infinitives decrease further with age, but at least until 3;6 remain at a level substantially higher than in adult Icelandic. Only after age 4 does Katla leave the 'OI stage'.

Comparing Katla's Icelandic RI frequencies to those found for other children and other languages, Katla certainly does *not* pattern with children who acquire a morphologically rich pro-drop language, such as Polish, Italian or Spanish. In these languages, the level of RIs is extremely low, often around 1%-2%, and those children that do produce a few more RIs stop producing them very early on, around age 2;0 or MLU <2.5 (e.g. Bar-Shalom and Snyder 1997:23-25 for Polish and Italian; Grinstead 1993 for Spanish; Guasti 1993/94 for Italian; Torrens 1992 for Catalan; Schaeffer 1990 for Italian; see also Phillips 1995:334-337). This is completely different from Katla's RIs.

Katla, acquiring a morphologically rich non-pro-drop language (Icelandic) does not pattern with Russian children either, who also acquire a language that is known to be morphologically rich and has been described as non-pro-drop (Bar-Shalom and Snyder 1997:22).¹⁴ Bar-Shalom and Snyder (1997:24) report on two Russian children. Both produce RIs to begin with, more than Italian children, but still relatively few (a maximum of 24% for Varya at 1;7/MLU 2.99; 28% for Tanya at 2;5/MLU 1.66). There is a substantial drop of RIs immediately after that for the Russian children, falling below 5% by 2;0 and 2;7 respectively. Katla's RIs are much, much more frequent and do not drop away.

¹⁴ It should be noted that thematic subjects can in fact be null in adult Russian, contra Bar-Shalom and Snyder (1997). The status of Icelandic is as follows: Referential subjects in non-initial position must nearly always be overt, which points to Icelandic being non-pro-drop. Optionally null referential subjects in non-initial position occur in imperatives, co-ordinated clauses, and in certain embedded *að* 'that' clauses (Þráinsson and Hjartardóttir 1986:150-161; Sigurðsson 1989:Chapter 5). Topic drop of referential subjects (and objects) from initial position is widespread in informal Icelandic, perhaps more so than in other Germanic (non-pro-drop) languages. On the other hand, Icelandic *non-referential* subjects are obligatorily *null* in clause-medial position (like in prototypical pro-drop languages e.g. Italian). Clause-initially, however, non-referential subjects must be overt (*það* 'it'), unlike Italian. *það* occurs if no other phrase is topicalised. This has led to the proposal that Icelandic has an overt expletive topic, but no overt expletive subject (e.g. Faarlund 1990:190-191). Null expletives occur in a wide range of contexts including 'weather' verbs and impersonal constructions and behave like a locally identified small *pro* (Platzack 1987b; Sigurðsson 1989). Perhaps then, Icelandic is best labelled semi-pro-drop.

However, if we compare Katla's Icelandic RIs with the productions of (monolingual) children acquiring other (non-pro-drop) Germanic languages, e.g. English, German, Dutch, Flemish, Swedish, we do find similarities in frequency. Like Katla, these children go through a very early period where thematic verbs are exclusively or near-exclusively (ca. 80%-100%) nonfinite, or at least homophonous with nonfinite verbs of the adult language (e.g. Behrens 1993a, 1993b; Haegeman 1993/94; Krämer 1993; Phillips 1995; Platzack 1990; Schlichting 1996; Verhulst-Schlichting 1985; Wijnen 1995:110-111; Wijnen and Bol 1993).¹⁵ This does not mean that the child does not produce finite verbs at that time also; however, these finite verbs are typically copulas, auxiliaries and modals, i.e. those verbs that are mostly finite in the adult language and in the input (e.g. Behrens (1993:116) for German; Schlichting (1996:140) and de Jong (1979:135) for Dutch).

The finding of massive predominance of thematic RIs in very early child language holds across individual children and across the Germanic languages (and for French). It should be stressed that this is so *irrespective* of whether the language in question is rich, poor or middling as regards inflectional morphology. However, after an initial period of near-exclusive RIs, Germanic-speaking children vary substantially in their behaviour. The proportion of RIs decreases, but depending on the language and especially depending on the individual child, the nature of this decrease varies. For some children, RIs rapidly drop to a very low (adult-like) level soon after age 2;0. For other children, the decrease happens later and/or is a much more drawn-out process, and substantial numbers of RIs (higher than in the target) are produced for not only months, but years.

Researchers have tried to link the nature of the falling proportions of RIs to a particular type of target language. Phillips (1995) in particular has suggested that richness of morphology has an inverse correlation with child RIs. Thus, the fewer morphological distinctions are made in the inflectional paradigm, the more frequent the RIs will be and the longer time it will take for RIs to disappear from the productions of children acquiring that language.

[C]hildren learning languages with richer inflectional paradigms use fewer root infinitives and emerge from the root infinitive stage at a younger age.

(Phillips 1995:334)

Phillips claims that this is indeed what his data show. He combines data from various children and finds that English and Swedish (with the poorest agreement morphology) have the highest proportions of RIs (in the 50%-100% region), French, German and Dutch have

¹⁵ Rohrbacher and Vainikka (1994) however find that for the German children Katrin (1;5) and Nicole (1;8), thematic verbs are 'only' 64% RIs. Rohrbacher and Vainikka argue that these children are early developers and that an earlier RI-only stage should not be excluded.

markedly fewer RIs (ca. 10%-40%), and Spanish, Catalan, Hebrew and Italian have the lowest RI proportions (ca. 0%-35%) (Phillips 1995:335-336).

However, there are several problems with Phillips' conclusions. To me, it seems odd to assume that a child knows, a priori, what 'rich' morphology is and in particular, how rich her/his language is, as she does not have recourse to the possibilities of crosslinguistic comparisons as linguists do.

Secondly, even from a comparative linguistics perspective, I do not see how Phillips' language categorisation by 'richness' is justified. Take, for instance, English and Swedish, which according to him form a group. Yet they are not the same; English distinguishes third person present by -s, whilst Swedish has no distinctions in the paradigm at all.¹⁶ The argumentation extends to the other 'richness' groupings. French, Dutch and German do *not* straightforwardly form a middling-rich morphology class that sets them off from all others, as these languages do not make the same number of distinctions in their paradigms. On 'richness' counts, Swedish should be poorer than English, and consequently children acquiring Swedish should produce more RIs than English children. However, the opposite is the case: The Swedish data Phillips uses contain fewer RIs than nearly all his English data samples, and in particular, even *fewer* RIs than the age-matched German samples by the child Simone around 2;0.¹⁷ Children acquiring German, French and Dutch should fall into the 'middling' RI group, according to Phillips. Yet Simone produces 65-70% RIs around age 2;0, a very high percentage that, on Phillips' account, should only be found in children learning a morphologically poor language.

Furthermore, it simply is not the case that children acquiring the same language behave alike with regard to the decrease in RIs. There is *considerable* individual variation. Recall for instance the discussion of Dutch in fn. 3, where for one child, Peter, RIs drop to an adult-like level by age 2;2, but for another child, Niek, only at 3;4 (Wijnen 1995:109-111).

¹⁶ Furthermore, I urge some caution when making statements about root infinitives in child Swedish. Phillips (1995) relies on data from Platzack (1990), who in turn cites Lange and Larsson (1973) who in turn had access to the original transcripts. In written Swedish, finite verbs have an overt suffix (e.g. -r, -de), which distinguishes them from infinitives (suffix -a). However, in spoken Swedish, these finite consonantal endings are usually realised -a for the largest and productive verb class (WEAK CLASS 1). Hence finite and nonfinite thematic verbs are often indistinguishable. Such -a is not at all restricted to rapid connected speech as shown for Icelandic in Section 2.2., but is extremely common (Bohnacker 1997a:72; Santelmann 1995:76). Swedish children also produce many verbs ending in -a, which may look like an infinitive but in fact match the spoken finite target. Unfortunately, researchers using Swedish child data often seem to be unaware of this fact and count -a verbs as (nontarget) root infinitives. This may inflate the number of RIs considerably.

¹⁷ In this regard, Simone is not some abnormal child; dozens of studies, e.g. by Clahsen and collaborators, show her data to be comparable to other children in other ways. The size of Simone's samples in fact makes them a reliable data source.

The nature of the falling curve also varies: Peter is a child whose RIs drop away sharply within a couple of months, whilst for Niek the decline is gradual and takes nearly a year.

The development of Katla's verbs is similar to that of Germanic-speaking children like Niek. RIs gradually decline over time, with a pronounced drop at 2;10/2;11 due to the Icelandic input boost at the time. Katla's RIs are however drawn out over a longer period of time than for the 'average' Germanic (monolingual) child – into Katla's fifth year of life. This is surprising, and it is completely unexpected under an approach that inversely links RIs to rich inflection as Phillips (1995) does.

In the following sections, I analyse the RIs Katla produces in more detail. We will see that the finding of a gradual decline based on frequencies alone actually *hides* changes that take place in Katla's interim grammar. We will also see that there are different types of RIs. The nature of Katla's RIs changes substantially over time.

5. Different types of RIs

5.1. Classification and interpretation

Katla's RIs (and those of her parents) can be classified into different types, with regard to (non)targetlikeness, overtiness of subject, Aux or simplex verb inflection omission, and intended meaning. I use a conservative definition of what is targetlike (a, b, c):

- a. Subjectless negation-initial RIs with imperative force.
- b. Subjectless RIs used as a clipped utterance in an appropriate (question/answer) context.
- c. RIs with overt subject and a present progressive reading in accordance with the situational context (i.e. where a finite form of aspectual auxiliary *vera* has been omitted; recall Chapter 3).

For the time being, all other types of RIs are classified as not targetlike; these include:

- d. RIs with overt subject and an simplex verb reading (indicative, declarative), i.e. where finite simplex inflection has been omitted.
- e. Subjectless RIs with a nonmodal, simplex verb reading, i.e. where subject and finite simplex inflection have been omitted.
- f. RIs with an overt subject and a modal or intensional reading, i.e. where a finite modal auxiliary has been omitted.
- g. Subjectless RIs with a modal or intensional reading, i.e. where subject and a finite modal auxiliary have been omitted.
- h. Unclear RIs (typically subjectless).

Can we determine the 'meaning' of child RIs and reliably classify them as (non)targetlike? It is of course impossible to know what the child really meant or intended with an utterance, but if we have detailed information about the discourse, the actions of the child and the reactions of the conversation partner(s), we can make a reasonable guess.

I interpreted and classified Katla's RIs with the help of the following cues: Intonation, linguistic context (utterances preceding and following the RI), and, in particular, situational context. What exactly is it that is happening before, during, and after a RI is uttered; what is Katla doing, what are the adults doing and how do they react? Is Katla describing an ongoing action (progressive) or a present state (simplex), does she tell a story (perhaps with past time reference), does she tell the truth or invent a story, does she give an order/command or prohibition (imperative), does she ask for something (imperative/modal), does she want someone to do something, does she want to do something herself, does she not want to do something, does she try to do something but can't? The answers to these questions are crucial, as they determine whether the RI denotes actual, indicative events (e.g. ongoing/progressive vs. perfective; present vs. past) or has a 'modal' interpretation (e.g. wanting/wishing).

The big advantage with having collected and transcribed the data myself is that I could usually answer these questions, which is just not possible when using someone else's data or data transcripts. And I could go back and listen to the tapes again. I visited Katla's family often several times a week (including baby-sitting), and when Katla was somewhat older, we also went out together and she came to my house. I was therefore intimately familiar with the room(s) where the recordings took place, the location of things, the toys played with and the story books talked about, the daily routines, and I knew about Katla's friends and relations and 'current events' in her life. Recall from Chapter 1 that I was sometimes present during Icelandic recordings, but in another corner of the room, seemingly busy and not participating in Katla's interaction with the parent(s). I could thus listen and observe the action, take notes, and use my observations when transcribing the recording afterwards. Other Icelandic-only recordings were made by the parents during my absence, who helped me with the transcripts afterwards. To summarise, the 'meaning' and (non)targetlikeness of Katla's RIs was determined with the help of linguistic and *extra*-linguistic context, for which details were fortunately available because of my data collection method. Uninterpretable and ambiguous RIs were classified as type (h), unclear.

Katla produces all of the above RI types (a-h); the adults some of them. *Overall*, 41% (133/327) of Katla's RIs can be classified as targetlike (a, b, c), and 59% (194/327) as not targetlike or unclear. The details of this will be discussed later, in connection with Table 6.2.; for the moment let's concentrate on a comparison of Katla's RI types with those of the adult controls: 85% (167/197) RIs I classified as targetlike (a, b, c), 15% (30/197) as

nontargetlike/unclear. Not surprisingly, nontarget RIs make up a much, much lower proportion for the adults.

Katla's different types of RIs are illustrated in context in the following examples (8-15). Relevant RIs are in bold type. Note that in some cases the mother also produces a RI in the same dialogue e.g. (9); in others, Katla keeps using nontargetlike RIs although her mother provides the correct corresponding finite construction, e.g. (12).

a. Targetlike subjectless 'imperative' Neg + INF

(8) Katla 2;4,02 (S44)

%com: Mum and Katla are looking at a picture of 3 children crying.

*KAT: *ekki gráta!*

%eng: not cry-a/INF = Don't cry!

%com: Katla 'comforts' the crying children.

b. Targetlike subjectless sentence fragment INF

(9) Katla 2;11,15 (S56)

%com: M, U and K are discussing a picture of a boy with a telephone

*MUM: *hva(ð e)r strákurinn a(ð) gera?*

%com: what is boy-NOM.SG.MASC-the to do-INF = what's the boy doing?

%com: sets up a progressive context.

*KAT: *bara ýta.*

%eng: just push-INF = (he's) just pushing.

%com: TL bare VP, progressive reading.

*UTE: *what do you do on the phone?*

%com: U sets up a simplex verb context.

*KAT: *bara ýta takkana.*

%eng: just push-INF button-ACC.PL.MASC-the.ACC.PL.MASC
= just push the buttons

%com: TL bare VP, simplex reading; NT omission of P 'á' (*ýta á takkana*).

*MUM: *bara ýta á takkana, já.*

%com: just push-INF on button-ACC.PL.MASC-the.ACC.PL.MASC yes

%com: RI in the input, bare VP

*MUM: *o(g) talar þú soldi(ð) í símann?*

%eng: and talk-2SG.PRES you little in telephone-NONNOM.SG.MASC-the.SG.MASC
= And do you talk a bit on the phone?

%com: K nods

c. Targetlike subject + progressive INF, no Aux

(10) Katla 3;0,17 (S61)

%com: K and M are playing picture pairs, K asks for a particular dwarf picture.

*KAT: *hver er með dvergu(r) sem lúlla á koddann, koddinum sínum?*

%eng: who is with dwarf-NOM that sleep-INF on pillow-NONNOM.SG.MASC-the.ACC, pillow-NOM.SG.MASC-the.DAT.SG.MASC REFLEX-DAT.SG.MASC
= Who's got a dwarf that's sleeping on a pillow?

%com: TL progressive RI (cf. *sem er að lúlla*).

d. Nontargetlike subject + INF (simplex inflection omitted)

(11) Katla 2;11,15 (S56)

%com: K shows M a stencil she and U have just made.

%com: Katla explains that Ute did the drawing.

*KAT: *teikna Ute.*

%eng: draw-INF Ute

= Ute drew this.

%com: NT RI with postverbal subject 'Ute', null object (topic drop)

Target: *það teiknaði Ute* (this draw-PAST.3SG Ute)

*UTE: *yeah, but you helped!*

*KAT: *nei.*

%eng: no.

%com: M asks whether K helped with the stencil:

*MUM: *ekki neitt, hjálpaðir þú ekki til?*

%eng: not nothing, help-PAST.2SG you not to

= Didn't you help with it at all?

*UTE: *you [did!!!]*

e. Nontargetlike subjectless INF (simplex inflection omitted)

(12) Katla 3;0,17 (S61)

%com: M and K are talking about nurse Alison, who reads for the children at Katla's nursery.

*MUM: *og les hún bækur, sínar eigin bækur, kemur hún með bækur í skólann og les fyrir ykkur?*

%eng: = And does she read books, her own books, does she come to school with books and read (them) for you?

%com: K shakes head

*MUM: *eða les hún bækurnar þínar?*

%eng: or read.STEM/3SG.PRES she.NOM book-PL-the.PL.FEM your-PL.FEM
= Or does she read your books?

*KAT: *lesa bækurnar sitt.*

%eng: read-INF book-PL-the.PL.FEM REFLEX-SG.NEU = read her (own) books.

%com: NT RI instead of (subject +) finite 3SG.PRES: (*hún*) *les* 'she reads'

%com: NT SG.NEU on the possessive, T: *bækurnar sínar* PL.FEM

*MUM: *les hún bækurnar sínar, eða les hún bækurnar sem skólinn á?*

%eng: read.STEM/3SG.PRES she.NOM book-PL-the.PL.FEM REFLEX-PL.FEM
or read.STEM/3SG.PRES she.NOM book-PL-the.PL.FEM that
school-NOM.SG.MASC-the.NOM.SG.MASC own.3SG.PRES
= Does she read her own books, or does she read the books that the school has?

*KAT: *lesa bækurnar sem er(u) í skólinum.*

%eng: read-INF book-PL-the.PL.FEM that is in school-NOM.SG.MASC-the.DAT.MASC

= Read the books that are in the school.

%com: NT RI instead of finite 3SG.PRES: *les* 'reads'; NT P omission and NT nominal inflection; T: *í skólanum* (in school-NONNOM.SG.MASC-the.DAT)

f. Nontargetlike ‘modal RI’ subject + INF, Aux omitted

(13) Katla 3;4,18 (S71)

%com: Mum has repeatedly been telling Katla to pick up her tissues from the floor, Katla doesn’t want to do this, but wants M to play with her.

*KAT: *nei, ég vil ekki gera.*

%eng: no, I want.1SG.PRES not do-INF
= No, I don’t want to do it.

*KAT: *nei, ég vil ekki.*

%eng: no, I want.1SG.PRES not
= I don’t want to.

*MUM: *já, þú verður fyrst að tina allt saman og henda í ruslið.*

%eng: = Well, first you’ve got to pick everything up and throw it in the bin.
[...]

*MUM: *ég vil ekki leika við þig fyrr.*

%eng: I want.1SG.PRES not play-INF with you-ACC until
= I don’t want to play with you until (you’ve cleaned up).

%com: K is defiant:

*KAT: *ég [ekki!!] gera það.*

%eng: I.NOM [not!!] do-INF it
= I don’t want to do it/ I won’t do it.

%com: NT modal omission, T: *ég vil ekki/mun ekki/ætla ekki að gera það.*
(I want/will/intend not ...)

g. Nontargetlike subjectless ‘modal RI’, Aux omitted

(14) Katla 2;11,15 (S56)

%com: M and K are looking at pictures in a toy catalogue.

*MUM: *þarna eru líka bækur um Postman Pat og Spot.*

%eng: there are also books about Postman Pat and Spot.

*KAT: *é(g) á [þennan!!].*

%eng: I own.1/3SG.PRES this-ACC.SG.MASC
= I’ve got [this!!] one.

*KAT: *ég! # ég!*

%eng: I.NOM! # I.NOM!

%com: K points at books she would like (but doesn’t have):

*KAT: *ég fá!*

%eng: I.NOM get.INF

%com: NT RI, modal omitted: *ég vil fá (það).* (I want to get (it/this))

*KAT: *fá!*

%eng: get.INF

%com: NT RI, subject + modal omitted: *ég vil fá (það).* (I want to get (it/this))

h. Unclear RI

(15) Katla 3;0,17 (S61)

*MUM: *hvada peysa er það?*

%eng: which jumper-NOM.SG.FEM is this?

*KAT: *pabbi peysu.*

%eng: daddy-NOM.SG.MASC jumper-NONNOM.SG.MASC = daddy's jumper

%com: NT DP, possessor should be GEN; referent should be NOM: pabba peysa

%com: the article in question *isn't* daddy's jumper.

*MUM: *pabbi peysu?*

%com: M repeats Katla's NT utterance with rising question intonation, presumably wanting a correction of the facts and/or form.

*KAT: *nei # leita þetta.*

%eng: no, search-INF this = no, look for this.

%com: unclear subjectless RI

%com: K agrees that this isn't daddy's jumper, and talks about looking for something (RI). What she means remains unclear, and M ignores K.

*MUM: *já, en þessar buxur þarna?*

%eng: yeah, but these trousers there?

5.2. Targetlike RIs hide developmental changes

If we discount targetlike RIs (a, b, c) and look at the frequencies of 'nontargetlike/unclear' RIs only over time, we find roughly the same scenario as described in Section 4 for all of Katla's RIs: Massive predominance of RIs in the samples up to 2;10, gradually decreasing from 90% (1;6-1;10) to 80% (1;11-2;4) and 62% (2;5-2;10); predominance of finite verbs/verb constructions after that point. However, these figures also reveal a pattern in Katla's RIs that was obscured by the targetlike RIs before: Firstly, root infinitives *increase* towards the end of the observation period from 17% (33/194) at 2;11-3;1 to 28% (67/241) at 3;2-3;6 (see Figs. 6.4. (raw figures) and 6.5. (percentages)). Secondly, whilst at 4;2-4;4 nontargetlike RIs are down to 16% of all thematic verbs/verb constructions, this percentage is much higher than the adult controls, who only have 2% (30/1604). So Katla's RIs have *not* reached adult levels by age 4;4, although things look as if they had if we look at all RIs (Figures 6.2.-6.3.).

5.3. RIs by subtype: Overall proportions

With regard to the RI subclasses (a-h), we can investigate the development of each subclass over time, and we can also compare the overall proportions of each for Katla versus for the adult controls. Let's start with the overall proportions, illustrated in Table 6.2.; the figures period by period will be discussed later.

Table 6.2. Icelandic root infinitives by type

	Katla overall, 1;6-3;6 + 4;2-4;4	Adults, 10 samples
(a) TL subjectless 'imperative' Neg + INF	7 = 2%	28 = 14%
(b) TL subjectless sentence fragment INF	74 = 23%	91 = 46%
(c) TL subject + progressive INF, no Aux	52 = 16%	48 = 24%
(d) NT subject + INF (no simplex inflection)	65 = 20%	20 = 10%
(e) NT subjectless INF (no simplex inflection)	49 = 15%	0
(f) NT 'modal RI' subject + INF, no Aux	20 = 6%	0
(g) NT subjectless 'modal RI', no Aux	13 = 4%	0
(h) Unclear RI	47 = 14%	10 = 5%
Total	327 = 100%	197 = 100%

As regards targetlike RIs, negated imperative infinitivals (a) are less common in Katla's productions (7/327, or 2% of all RIs) than in the child-directed speech of her parents' (28/197, 14%). I doubt that this is connected to a difference in their grammars; it is most likely pragmatically conditioned: Parents of young children typically have more power and authority to prohibit the child from doing something than vice versa.¹⁸ Targetlike subjectless RI sentence fragments (b) are frequent both in Katla's (74, 23%) and the adults' productions, though percentage-wise they are twice as common for the adults (91, 46%). For targetlike progressive RIs with a subject (c), raw figures are comparable for Katla (52, 16%) and her parents (48, 24%), but the percentage out of all RIs is higher for the adults.

The big differences between Katla and the adults are found in subclasses (d-h). RIs with an overt subject but omitted simplex verb inflection (d) are twice as common for Katla (65, 20%) than for her parents (20, 10%). Subjectless RIs with omitted verb inflection (e) are also common for Katla (49, 15%) but not found in the adult speech samples at all. There are also 20, or 6%, 'modal' RIs with a subject, where a finite auxiliary is omitted (f), but again, these are not found in the adults. Subjectless, auxiliaryless 'modal' RIs (g) make up 13, or 4%, of all of Katla's RIs; they are not found for the adults. Finally, unclear RIs (h), which are difficult to interpret, are common for Katla (47, 14%), but uncommon for the adult controls (10, 5%). This is hardly surprising. We expect the utterances of adults to be clear, whereas uninterpretable utterances are always found in early child speech.

¹⁸ A higher frequency of imperative RIs in the speech of parents than of the respective child has also been found by Lasser (199:49-50) for German-speaking Simone and Andreas.

5.4. Contextual restrictions on RIs

What is it exactly that makes RIs (a-c) targetlike in the adult language? It is the restriction to particular contexts and consequently to particular interpretations. RIs with a subject are targetlike when restricted to present progressive contexts (with a null allomorph of the aspectual auxiliary *vera* 'be'). Negated subjectless RIs are targetlike when used with a particular meaning or illocutionary force, namely prohibition. And other subjectless RIs are targetlike when restricted to a discourse that permits the speaker to omit subject and auxiliary/verb inflection because the subject, tense and aspect specifications are recoverable from context (as e.g. in question/answer pairs), see Section 2.1.

I suggest that one important reason for Katla's wide-spread use of RIs is that she has not worked out the particulars of these pragmatic and discourse restrictions on RIs, especially in her early samples (up to 2;10). Discovering these conditions may take longer in Icelandic than in some other languages because RIs are quite common in the spoken language.

In Table 6.3., I have combined some of the subclasses of RIs irrespective of whether the discourse context is appropriate or not. If we now compare the distribution of RIs in Katla's and the adults' overall samples, we find that they are remarkably *alike*.

Table 6.3. Root infinitives by type, irrespective of (non)targetlikeness in context

	Katla overall, 1;6-3;6 + 4;2-4;4	Adult controls, 10 samples
(a) subjectless 'imperative' Neg + INF	7 = 2%	28 = 14%
(b+e+g) subjectless RI	136 = 42%	91 = 46%
(c+f) subject + INF, no Aux	72 = 22%	48 = 24%
(d) subject + INF, no simplex inflection	65 = 20%	20 = 10%
(h) unclear RI	47 = 14%	10 = 5%
Total	327 = 100%	197 = 100%

Subjectless RIs ((b) + (e) + (g)), i.e. bare VPs, make up a comparable proportion of all RIs (42% for Katla, 46% for the adults).¹⁹ RIs with subjects but no auxiliary ((c) + (f)) are also nearly the same for Katla (22%) and the adults (24%). I suggest that that they receive their aspectual and tense interpretation from context, and that subjectless RIs receive both their subject (number, person, referent) and tense specification from context. Note that this is not a process particular to Katla or particular to child grammar; it is rather a process also found

¹⁹ I have not included negative imperatives and unclear RIs here, but they could be added to the subjectless RIs, resulting in 58% for Katla, 65% for the adults.

in spoken adult Icelandic (recall the examples in (5)), though somewhat more restricted than for Katla; as the comparison of child and parent productions has shown.

Thus I differ from the proposals found in the literature about children's default tense specification from context (e.g. Harris and Wexler 1996; Hoekstra and Hyams 1995, 1996; Hyams 1996; Schütze and Wexler 1996a; Wexler 1994). These researchers claim that child RIs have a non-modal, indicative interpretation and nearly always present time reference (Harris and Wexler 1996:23; Hoekstra and Hyams 1996:258). This interpretation comes from the here-and-now setting the young child is in; i.e. tense specification comes from the discourse context (Harris and Wexler (1996:24) claim that this is 82% present and 18% nonpresent). They further claim that this default tense specification, and thus root infinitives, go away once the child's grammar changes and becomes adultlike. There are various proposals as to what exactly this change in the grammar is. Wexler and his collaborators hypothesise that children either lack the functional projection of T(ense) or the feature(s) related to T. During the 'OI stage', children thus apparently have two syntactic representations, one without T (or without T features) for OIs, and one presumably with a specified T for targetlike finite clauses. Wexler proposes that the functional projection T(ense)P becomes obligatory or the (past) tense feature in Tense matures around age 2;5. Due to this maturation, default tense specification from context disappears (Harris and Wexler 1996:2, 6; Wexler 1994:340). Wexler's hypothesis however suffers from empirical problems: If T matures at 2;5, we would expect OIs to suddenly vanish after that point, across individual children and across languages. Yet many longitudinal studies have documented a *gradual* decline of OIs, before and after the proposed maturation point of 2;5. Also, OIs taper off at different ages and MLUs even for children acquiring one and the same language, as was discussed earlier. And Katla continues to produce nontargetlike RIs beyond age 4. These facts do not square with maturational accounts (e.g. Wexler 1994; Rizzi 1993/94; Radford 1990).²⁰

Hyams (1996) and Hoekstra and Hyams (1995, 1996) propose that the child's Number feature is underspecified, Number being part of the IP architecture, and root infinitives are 'rescued' by allowing Tense to be directly bound by discourse. This possibility is ruled out

²⁰ Structure-building accounts such as those by Clahsen and Penke (1992), Radford (1996) and Vainikka (1993/94) cannot easily handle protracted OI stages either. These accounts assume that the child constructs clausal functional categories (e.g. T, Agr) on the basis of overt finite verbal morphology in the input. Once the child productively uses this morphology and makes tense and agreement distinctions (as s/he does of course with finite verbs during the OI stage), the respective functional projections are assumed to have been constructed. However, structure-building accounts cannot explain why nontargetlike root infinitives continue to occur after that point.

once a pragmatic principle matures some time before 3;0 (Hyams 1966:120).²¹ Under any of these approaches, tense specification of child RIs is a process *different* from adult grammar.

For Katla's RIs, I suggest no such thing. Rather, she makes use of the same subject and tense specification processes from context as the adults do, only somewhat too freely. For similar proposals for child Dutch and German, see Krämer (1993:203-304), Lasser (1995a, 1995b; 1997b) and Wijnen and Bol (1993:242).

A note may be in order here on the interpretation of child root infinitives in context. The present time reference and non-modal indicative interpretation of child RIs is often presented as a valid cross-individual and cross-linguistic generalisation, e.g. 'Root infinitives generally denote ongoing events or states' (Hyams 1996:107; see also Harris and Wexler 1996; Hoekstra and Hyams 1995, 1996; Wexler 1994). This is a controversial claim; and I believe it is in fact wrong. These researchers do not indicate how they determine that a child RI is non-modal and has present time reference, or at least cite the RI *in context*. They often do not provide a statistical breakdown of RIs according to type either ('modal', 'past', 'present', 'imperative', 'unclear' etc.). Nor do they investigate the occurrence and possible interpretations of RIs in the input to the child. These are important methodological matters, and even more so when the data were not collected and transcribed by the researchers themselves. One would have to listen to the child, and preferably watch or have watched the child for intentional clues, such as stress, rising or falling contours, as to whether the RI might be a command, a request or question. More often than not the transcripts on CHILDES, especially those used for syntactic acquisition studies, do *not* include this information for all utterances. Even more important, in order to distinguish between indicative and 'modal' meanings (such as wanting, being able to), one would need to know exactly what the child and her interlocutor(s) were doing before (s)he produced a RI, what they were doing while uttering it, and afterwards. Transcripts very rarely give an exhaustive commentary to that effect.

Some researchers have carried out more detailed, quantified analyses of RIs in context. In contrast to Hyams, Wexler and collaborators, they all have found (i) that RIs also occur in the input; (ii) that there is a large number of clearly intensional/modal child RIs (with omitted Aux); (iii) that there are ambiguous RIs, and (iv) that there are non-modal RIs (e.g. Behrens 1993a:64-65; Krämer 1993:200-204; Wijnen 1995:115-116; Wijnen 1998).

A possibility that hasn't been much investigated is that the interpretation of RIs is to some extent language-specific, and that an intensional/modal interpretation may be frequent for some languages but not for others. I think that Katla's RIs as discussed in Chapters 3, 4, 7

²¹ Hoekstra and Hyams suggest that this pragmatic principle is Grodzinsky and Reinhart's (1993) Rule I, whereby grammatical binding overrides deictic discourse interpretation in adult grammar.

and the present chapter document such language-specific interpretation of RIs: As will be shown, a large number of Katla's Icelandic RIs are either imperative, or progressive (ongoing activities). Such interpretations however are hardly found for Katla's English RIs.

5.5. Overt and null subjects

In the preceding section, the distribution of RIs in Katla's samples was compared with that of the adults. If we now consider utterances with overt subject versus those without, the distribution is as follows: Overall, the majority of Katla's RIs, viz. 58% (190/327), are subjectless; 42% (137/327) RIs have an overt subject. On the other hand, only 11% (44/405) of Katla's finite thematic verbal utterances are subjectless; 89% (361/405) have an overt subject.²² At first sight, these figures appear to confirm claims in the literature that root infinitives and null subjects correlate in child language (e.g. Bromberg and Wexler 1995; Haegeman 1993/94, 1995b; Krämer 1993; Rizzi 1993/94; Wexler 1994).

However, note that a sizable minority of Katla's RIs, 42%, have overt subjects. Note also that the adults in the transcripts show a near-identical pattern to Katla with regard to null subjects (Tables 6.2.-6.3.): 65% (129/197) of their RIs are subjectless, 35% (68/197) have an overt subject. Only 6% (87/1407) of the adults' finite thematic verbal utterances are subjectless; 94% (1320/1407) have an overt subject.²³ Thus, both for the adults and the child, slightly over half of the RIs are subjectless, but not an overwhelming majority. Overtly finite utterances on the other hand nearly always have an overt subject.

This is the subject provision concerning *all* types of root infinitives. However, if we limit ourselves to only those RIs that actually should have an obligatory subject in the target language, the figures change considerably. Once (targetlike) subjectless bare VP sentence fragments and negative imperative RIs are removed from the counts (Tables 6.2.-6.3.), we find that the majority of Katla's Icelandic RIs have an overt subject, 56% (137/246); if unclears are removed also, 69% (137/199) do.²⁴ Just as for the overtly finite utterances, the subject in Katla's root infinitives may be a pronoun (e.g. *ég* I.NOM; *þú* you.NOM; *við* we.NOM; *sem* that/who.REL), a lexical DP with or without a determiner, or a proper noun (e.g. *mamma* mum-NOM, *Katla*-NOM; *Ute*); examples occur throughout the chapter.

The high percentage of overt subject provision (56%) in Katla's RIs goes against proposals that child RIs mostly lack a subject and that root infinitives and nontargetlike

²² Thematic verbal utterances break down as follows: 91% (246/270) of the finite simplex thematic verb have an overt subject; 85% (115/135) of the auxiliary + thematic verb constructions have an overt subject.

²³ Of the adults' finite simplex thematic verbs, 94% (547/579) combine with an overt subject, of the finite auxiliary + thematic verb constructions, 93% (773/828) do.

²⁴ The adults have 87% (68/78) overt subjects in their RIs excluding sentence fragments and negative imperatives; 100% (68/68) if unclears are removed.

subject-drop are intimately connected. Perhaps then, as e.g. Phillips (1995), Inham (1992) and Roeper and Rohrbacher (1994) have argued for English, there is no such correlation, or not for all languages. For Katla's Icelandic RIs, at least, there does not appear to be any; future research on the subject provision by monolingual Icelandic children will make an interesting comparison.

The longitudinal development of subjects in Katla's RIs and their functions are investigated in Sections 5.7. and 5.9.

5.6. Simplex verb inflection omissions and Tense

In the overall distribution of RIs by type there is one clear difference between Katla and the adults that I have neglected so far: RIs with subject but missing simplex verb inflection. Such RIs make up 20% of all of Katla's RIs, but only 10% for the adults.

In fact, there is not only a quantitative, but also a qualitative difference. For the parents, simplex verb inflection omissions are restricted to WEAK CLASS 1 forms in connected speech, discussed in Section 2.2. Parent examples are given in (16-17); note the optionality of *-a* and *-aði* on the verb stem *hróp* 'cry' in past tense contexts in the mother's speech. Note also that the infinitival past tense forms can occur in positions restricted to clearly raised verbs, such as clause-initially in yes/no-questions (16) and in non-subject-initial V2 declaratives (17). These RIs are rare, but they do occasionally occur in adult speech.

(16) %com: M and K are talking about a boy who's got toothache.

*MUM: *hvað hrópaði hann?*

%eng: what cry-3SG.PAST he = What did he cry?

*KAT: *illt.*

%eng: ill-NEU

*MUM: *hrópa hann illt?*

%eng: cry-a he ill-NEU = 'Did he cry 'ill'?

%com: RI in V1, finite past tense interpretation (*hrópaði*), WEAK CLASS 1

*KAT: *nei.*

*MUM: *hann hrópaði + ...*

%eng: he cry-3SG.PAST = He cried + ...

*KAT: *mér er svo illt.*

%eng: me.DAT is so ill-NEU = I feel so unwell. (TL oblique subject)

(17) %com: M and K are playing bingó, where cards need to be matched against pictures on a board.

*MUM: *nú vanta mig bara eim á hvort spjald til (þe)ss a(ð) fá bingó.*

%eng: now lack-a me.ACC only one on each board to it to get.INF bingo
= Now I only need one more card on each board in order to get bingo.

%com: RI in V2, finite present tense interpretation (*vanta-r*) WEAK CLASS 1

Of Katla's 65 RIs with a subject but omitted verb inflection, there are some WEAK CLASS 1 verbs. In 7 cases, Katla produces *-a* instead of singular present *-ar* and past tense *-aði*. Some examples are given in (18-20) below; a subjectless example of the same type is (21).

(18) Katla 3;0,17 (S61)

- %com: M and K are playing bingó. K is counting the cards on her board.
 *KAT: *einn, tveir, þri(r)*.
 %eng: one, two, three
 *KAT: *mí vanta bara bamba*.
 %eng: now lack-a only Bambi-NONNOM.SG.MASC
 = Now only Bambi is missing.
 %com: RI in non-subject-initial V2 with topicalised Adv and postverbal oblique case subject, RI with 3SG.PRES interpretation (*vanta-r*) WEAK CLASS 1
 [...]
 *KAT: *ég vantar bara einn þarna og einn þarna*.
 %eng: I.NOM lack-1/3SG.PRES only one there and one there
 = Now I only need one there and one there.
 %com: TL verb inflection, compare with RI above;
 NT NOM subject instead of oblique ACC subject (*mig vanta-r*).

(19) Katla 3;0,17 (S61)

- %com: M and K are playing picture pairs.
 *MUM: *lögrelgumaður og teketill, það passar ekki saman*.
 *KAT: *þessi passa lögrelgumaður, sérðu?*
 %eng: this fit-a policeman-NOM.SG.MASC, see-2SG.PRES~you.2SG.CL?
 = this (one) and the policeman go together, do you see?
 %com: RI with 3SG present tense interpretation (*passa-r*) WEAK CLASS 1
 *MUM: *já, þú fannst hann*.
 %eng: yes, you found him.

(20) Katla 3;2,11 (S66)

- %com: M and K are discussing a woman in a car outside who is hooting and driving off in a hurry.
 *MUM: *verður billinn (að) flýta sér?*
 %eng: must-3SG.PRES car-NOM.SG.MASC-the-NOM.SG.MASC (to) hurry-INF REFL
 = Does the car have to hurry?
 *KAT: *já*.
 %eng: yes.
 *KAT: *a(f) þ(v)i (að) annars svo loka búðina*.
 %eng: because otherwise so close-a shop.SG.FEM-the-ACC.SG.FEM
 %eng: = Because otherwise the shop'll be closed (when the woman gets there).
 %com: RI with 3SG.PRES interpretation (*loka-r*), WEAK CLASS 1
 NT article suffix on N, T: *búð-in* (shop.SG.FEM-the-NOM.SG.FEM)

(21) Katla 2;11,21 (S57)

%com: M and K are discussing a boy in a book who uses all sorts of tricks to put off having to go to bed.

*MUM: *hva(ð) gerist svo?*

%eng: what happens then?

*KAT: *sulla vatnið á golfið.*

%eng: spill-a water-the on floor-the = (he) spills water on the floor
RI with 3SG.PRES interpretation ((hann) sulla-r), WEAK CLASS 1

*MUM: *já.*

%eng: yes.

These cases where Katla uses an infinitival form instead of a tensed simplex thematic verb are *the* prototypical RIs according to many researchers, and they are said to occur because the child's representation of Infl, Tense, Agr etc. is not adultlike (e.g. Clahsen, Penke and Parodi 1993/94; Déprez and Pierce 1994; Haegeman 1995b; Harris and Wexler 1996; Hoekstra and Hyams 1995, 1996; Hyams 1996; Jonas 1995; Meisel and Müller 1992; Radford 1994; Rizzi 1993/94; Sano and Hyams 1994; Wexler 1994). I believe however that there is nothing wrong with Katla's representation of functional categories, for the following reasons. RIs with *-a* instead of WEAK CLASS 1 inflections occur in Katla's data relatively late, from 2;7 onwards, but then alongside targetlike *-ar* and *-aði*; notice for instance *vanta* lack-INF and *vantar* lack-1/3.SG.PRES in the same sample (18). Moreover, these RIs occur in positions reserved for finite raised verbs, to the left of sentential adverbs, to the left of postverbal subject, and in V1 and V2 positions. This is illustrated above by a RI in unambiguous V2 position in (18), a RI with postverbal subject in (20); recall also example (11), *teikna Ute*. (draw-a Ute 'Ute drew it. '), a V1 RI declarative with postverbal subject. It is likely that these RIs are in fact finite verbs.

Recall from the contingency table Table 6.1. that although the large majority (86%, 37/43) of Katla's informative RIs occupy positions in the clause that are reserved for unraised nonfinite verbs, a minority of 6 RIs do occupy positions reserved for clearly raised, finite verbs. It turns out that 5 of these 6 RIs are WEAK CLASS 1 and all of them have a *non-modal* interpretation.²⁵

Since we cannot expect Katla to be more targetlike than her parents (cf. raised RIs, (16-17)), we should classify these RIs as *finite* and acceptable, and attribute their infinitival look to low acoustic salience and processes of connected speech.

However, unlike the adults, Katla also produces *-a* RIs with verbs that do not belong to WEAK CLASS 1, as illustrated in (22-25); recall also (12), repeated here, where Katla uses *lesa* (read-a) instead of *les* (read.3SG.PRES), despite her mother's correct model utterances.

²⁵ The sixth raised RI is illustrated in (23) below.

(22) Katla 1;7,21 (S24)

%com: K has been searching for her baby doll. Upon finding it, she announces:

*KAT: [ssgaga] *finna baby*.

%eng: [...] find-a baby = Katla found Baby

%com: [ssgaga] is Katla's pronunciation of her Icelandic name.

%com: NT RI, most likely with past tense reference

Target: Katla/ég fann baby. (Katla/I.NOM find.1/3SG.PAST baby)

(23) Katla 3;0,17 (S61)

%com: K and M are playing the card game bingó.

*KAT: *hver er með, með dvergu sem er (að) garg(a) o(g) góla?*

%eng: who.NOM is with, with dwarf-u that is.3SG scream and cry-INF
= Who's got a dwarf that's screaming and crying?

*KAT: *ég*.

%eng: I.NOM = Me!

%com: K finds the matching picture, so it is her turn once more:

*KAT: *ég fara bara aftur*.

%eng: I.NOM go-a just again = I just go again, i.e. I have one more turn.

%com: NT RI, to the left of the sentence adverbial 'bara', present tense interpretation, T: *ég fer* (go.1SG.PRES.INDIC)

*MUM: *já*.

%eng: yes.

(12) Katla 3;0,17 (S61)

%com: M and K are talking about nurse Alison, who reads for the children at Katla's nursery.

*MUM: *og les hún bækur, sínar eigin bækur, kemur hún með bækur í skólann og les fyrir ykkur?*

%eng: And does she read books, her own books, does she come to school with books and read (them) for you?

%com: K shakes head

*MUM: *eða les hún bækurnar þínar?*

%eng: or read.STEM/3SG.PRES she.NOM book-PL-the.PL.FEM your-PL.FEM
= Or does she read your books?

*KAT: *lesa bækurnar sitt*.

%eng: read-INF book-PL-the.PL.FEM REFLEX-SG.NEU = read her (own) books.

%com: NT RI instead of (subject +) finite 3SG.PRES: (hún) les 'she reads'

%com: NT SG.NEU on the possessive, T: *bækurnar sínar* PL.FEM

*MUM: *les hún bækurnar sínar, eða les hún bækurnar sem skólinn á?*

%eng: read.STEM/3SG.PRES she.NOM book-PL-the.PL.FEM REFLEX-PL.FEM
or read.STEM/3SG.PRES she.NOM book-PL-the.PL.FEM that
school-NOM.SG.MASC-the.NOM.SG.MASC own.3SG.PRES
= Does she read her own books, or does she read the books
that the school has?

*KAT: *lesa bækurnar sem er(u) (i) skólinum*.

%eng: read-INF book-PL-the.PL.FEM that is in school-NOM.SG.MASC-
the.DAT.MASC = read the books that are in the school.

%com: NT RI instead of finite 3SG.PRES: les 'reads'; NT P omission and NT nominal inflection; T: *í skólanum* (in school-NONNOM.SG.MASC-the.DAT)

(24) Katla 3;0,17 (S61)

- %com: M and K are talking about who K's been playing with at the nursery.
 *MUM: *af hverju ert þú ekki búin a(ð) vera (að) leika við Zoe?*
 %eng: why are-2SG you not done-PPP.NOM.SG to be-INF (to) play-INF with Zoe
 = Why haven't you been playing with Zoe?
 *KAT: *af þ(v)i Zoe fara i annan skóla.*
 %eng: because Zoe go-a in other-ACC.SG.MASC school-NONNOM.SG.MASC
 = Because Zoe went to another school, i.e. because she changed school.
 %com: NT RI, past reference, T: Zoe fór (go.3SG.PAST)
 *MUM: *já, hún fór i annan skóla.*
 %eng: Yes, she went to another school.

(25) Katla 4;2,20

- %com: Katla is telling Ute over the phone what she is having for dinner.
 *UTE: *fish fingers it is, is it?*
 *KAT: *yeah, and rice and chocolate pudding.*
 *UTE: *oh, but you're not having chocolate pudding with the fish, are you?*
 *KAT: *no, you silly.*
 %com: K turns to her mother to tell her how stupid Ute is:
 *KAT: *mamma, Ute heldu(r) við borda fisk me(ð) súkkulaði!*
 %eng: mummy, Ute think-PARTIAL3SG.PRES we eat-a fish.ACC.SG.MASC with
 chocolate.INDECL = Ute thinks we have fish with chocolate!
 %com: NT RI, T: IPL.PRES (við borð-um), but subjunctive, due to embedding
 under a verb of belief (heldur 'thinks')
 *MUM: *nei, við xxx.*
 %eng: no, we xxx.
 %com: K turns to Ute again and proudly announces:
 *KAT: *we('re) eating chocolate pudding with [cream!!].*

How should these *non-WEAK CLASS 1* RIs be interpreted? There are 9 such examples over the entire observation period. The first one, illustrated in (22) *Katla finna baby*, occurs at 1;7,21 (S24), at a time when Katla does not yet produce any finite thematic verbs; finite verbs being restricted to copulas and auxiliaries (Chapters 2, 3, 5). This might indicate that Katla has not learnt the correct finite form of the verb *finna* yet, or it might indicate a more general problem with Tense. Yet Katla also uses *non-WEAK CLASS 1* RIs in much later samples, after age 3;0 and even after age 4;0, as illustrated in (23)-(25), at a time when she has been producing finite inflected thematic verbs in different persons, numbers, tenses and moods for quite some time.²⁶ Note also that there is one example (23) of a *non-WEAK*

²⁶ As regards finite verbs, Katla produces her first present tense thematic simplex verb at 1;9,18 (S28, an isolated example), a few more examples from 1;11,24 (S35) onwards, and then regularly from 2;5,04 (S48). Katla's first past tense thematic simplex verbs occur at 2;10,15 (S55), and regularly from then onwards, including overregularised weak past forms from 3;0,17 (S61). The first analytic verb constructions occur at 1;6,15 (S19, one isolated

CLASS 1 RI in a position reserved for finite verbs, namely to the left of the sentential adverb (*ég fara bara aftur* I go-a just again). Perhaps then, these RIs too are finite simplex verbs for Katla, and their nonfinite form should be put down to problems with morphology. This would not be surprising, considering that the Icelandic verb class system is not exactly transparent, and considering that *-a* is in fact a finite inflection for some verbs, even more so in connected speech.²⁷

The distribution of Katla's 65 RIs with subject but no verb inflection is shown in Table 6.4. The declaratives (WEAK CLASS 1 and non-WEAK CLASS 1) discussed so far make up only a minority of these forms (25%, (7+9)/65). Word order facts suggest that they behave like finite verbs. However, the remaining 75% are rather different.

Table 6.4. Root infinitives with subject, but omitted simplex verb inflection

	Katla overall, 1;6-3;6 + 4;2-4;4	Adult controls, 10 samples
WEAK CLASS 1 verb, <i>-a</i> instead of <i>-ar</i> or <i>-aði</i> , declarative	7 up to 2;10: 1 after 2;10: 6	20
Other verbs, declarative	9 up to 2;10: 3 after 2;10: 6	0
<i>pú</i> + INF, nontargetlike imperative	49 up to 2;10: 9 after 2;10: 40	0
Total	65	20

instance), more readily from 1;11,24 (S34) onwards for present tense, and from 2;11,27 (S58) for past tense. For both simplex verbs and analytic verb constructions, type and token frequencies increase from 2;10 to 2;11, most likely due to Katla's Icelandic input boost at the time (Figures 6.2.-6.3.).

²⁷ In this regard, RI findings from another Germanic verb-raising language, namely German, may be of interest. Like Icelandic, German has an overt infinitive morpheme (*-en*); however, this ending is homophonous with certain finite ones, e.g. third person plural. Although the vast majority of RIs produced by German-speaking children occur in positions reserved for nonfinite verbs, some children also produce a limited number of RIs in 'finite positions' (non-subject-initial V2; questions). Raised 'infinitival' *-en* verbs are found e.g. for Simone (Clahsen and Penke 1992:201-204) and Nico (Köhler and Bruyère 1995-96, Schaner-Wolles 1995-96:101-107, 110), and according to Schaner-Wolles they have a nonmodal reading. Perhaps these RIs aren't infinitival, but truly finite, and the children have problems with morphology, as I have suggested for Katla's raised 'RIs'.

As Table 6.4. shows, 75% (49/65) of RIs with omitted simplex inflection are imperatives with preverbal subject, *þú* (you.SG) + INF. These mainly occur in the samples after 2;10.²⁸ An example is given in (26). As was discussed in Chapter 4, *þú* + INF imperatives are particular to Katla, unattested for monolingual Icelandic children and unattested in the input. Recall that word order facts indicated that they are nonfinite, as the imperative RIs do not occur in unambiguously finite verb positions. I explained them as transfer of the (ambiguously nonfinite *you* + bare V/INF) English imperative construction, helped by the fact that the word order corresponds to that of the Icelandic nonfinite VP.

(26) Katla 2;11,21 (S57)

%com: Katla got a pink lolly at the hairdresser's.

*KAT: *a pink sleikipinna.*

%C/S

%eng: a pink lolly-NONNOM.SG.MASC

*MUM: *hvað heitir það á íslensku?*

%eng: what's that in Icelandic?

%com: K hesitates

*KAT: *[þú!!] segja það!*

%eng: you.NOM say.STEM-INF it = [you!!] say it!

%com: NT preverbal subject, NT INF, T: *seg~ðu!* or *seg [þú!!]!* (imperative stem with subject enclitic and or free-standing postverbal subject)

These English-style imperative RIs are the main reason why Katla has a higher overall percentage of RIs with overt subject but no finite verb inflection (20%) than the adults (10%). And to anticipate things: If we look at the development of nontargetlike RIs over time, we will see that imperative RIs are also responsible for a large part of Katla's *late* RIs. Recall that there is an *increase* in Katla's nontargetlike RIs (d-h), both as regards raw figures and percentages (28%), towards the end of the observation period (3;2-3;6) (Figures 6.4.-6.5.). And although the number of RIs is lower again in the follow-up samples at 4;2-4;4 (17%), it is still much higher than for the adult controls (2%).

5.7. Developmental shifts: RIs with overt subjects increase

I now explore the development of the different subtypes of RIs *over time*; both as regards subject vs. no subject and auxiliary vs. simplex inflection. This is done with the help of Figures 6.6. to 6.9., where a cluster of columns of different RI types is shown for each age range. The ranges are the same as in earlier Figures (1;6-1;10; 1;11-2;4; 2;5-2;10; 2;11-3;1; 3;2-3;6; 4;2-4;4).

²⁸ The 9 examples before 2;10 all occur in one sample (1;11,24, S35) and are most likely to be transfer from English, as was shown in Chapter 4 (cf. Figure 4.5.).

Let's start with Figures 6.6. and 6.7. Katla's raw figures are shown in six column clusters in Figure 6.6., and on the right-hand side are the adult controls. Since the totals of adult RIs in 10 samples are so high (1604), I have divided them by half to have a raw total that is better comparable to Katla. The column chart in Figure 6.7. shows the percentages of RI subtypes out of all RIs during each age range. On the right, there is a breakdown of RI subtypes in Katla's data *overall*, and on the far right are the adult controls.

The main developmental trends are as follows. Unclear, subjectless RIs (dotted columns) are very common in the early samples (44% of all RIs at 1;6-1;10), but they decrease over time to a very low level (0%-6%), comparable to that of the adults (5%). This is only to be expected; we normally understand 4-year-olds better than 1½-year-olds. Targetlike RIs with subject (white columns with thick black border) and targetlike RIs without subject (white columns with thin black border) make up a sizeable proportion of all RIs for every age range, but there is no clear decrease or increase over time.²⁹ This is also the case for nontargetlike RIs without subject (grey columns).

However, nontargetlike RIs with subject (black columns) increase substantially over time, from 7% (3/45 at 1;6-1;10) to 22% (16/74, 1;11-2;4), 24% (6/25, 2;5-2;10), 44% (39/88 at 3;2-3;6) and 55% (6/11 at 4;2-4;4); this increase is also seen in the growing black percentage block in Figure 6.7. Keep this in mind when we now explore the RIs with regard to auxiliary versus simplex verb inflection omissions in the following sections.

5.8. Auxiliary omissions

Let's now look at only 'nontargetlike/unclear' RIs, i.e. subtypes (d-h), in detail. Their development is shown in Figures 6.8. (raw figures) and 6.9. (percentages). Again, a cluster of columns is given for each age range; plus an overall breakdown in Figure 6.9. on the right-hand side. The aforementioned decrease of unclear subjectless RIs (dotted columns, type (h)) is now even more conspicuous (from 74% to 0%), though not particularly exciting.

In all but the follow-up samples, Katla produces RIs with subject (grey columns with black border) and without subject (light columns with black border) where an obligatory auxiliary/modal is missing, as illustrated in (27-29), recall also examples (13-14) above.

²⁹ There is a particularly high number (33) of subjectless RIs (sentence fragments) at 2;11-3;1; these mainly occur in two very long dialogues between Katla and her mother, where the mother asks questions and Katla responds with (appropriate) clipped answers.

(27) Katla 2;0,00 (S35)

%com: M is on the phone in the background.

*KAT: [ai 'ta:la 'mama] # ['ta:la 'mama].

%com: *é(g) tala mamma # tala mamma.*

%eng: I.NOM talk-INF mum-NOM.SG.FEM, talk-INF mum-NOM.SG.FEM
= I want to talk to mum.

%com: NT RI, 1 SG reference, intensional meaning, modal omission.

T: *ég vil tala við mömmu* (I.NOM want.1SG.PRES talk-INF to mum-NONNOM.SG.FEM), NT P omission and NT case on the object

%com: M doesn't want Katla to talk to her right now.

*MUM: *þú xx +... tala við pabba.*

%eng: you xxx +... talk-INF to dad-NONNOM.SG.MASC = you can talk to dad.

%com: K doesn't like this idea:

*KAT: *nei!*

%eng: no!

(28) Katla 2;0,12 (S36)

%com: It is early in the morning: K and D are downstairs, M is still sleeping.
K wants M to come down.

*KAT: *mamma koma niður # borða morgunmat.*

%eng: mum-NOM come-INF down, eat-INF breakfast.STEM/ACC.SG.MASC
= mum should/is to come down (and) have breakfast.

%com: NT RI, 3 SG modal omission, T: *mamma á (að) koma niður ...*

(29) Katla 3;0,17 (S61)

%com: Mum wants Katla to tell her the story of a book, but Katla doesn't want to. She wants M to read it, explaining that she herself cannot read.

*KAT: *mamma, ég ekki lesa þessa bók.*

%eng: mum.NOM, I.NOM not read-INF this-ACC.SG.FEM book.ACC.SG.FEM
= Mum, I can't read this book.

%com: NT INF, modal omission T: *ég kann ekki (að) lesa þessa bók.*

*MUM: *ha?*

%eng: what?

*KAT: *ég kann ekki lesa þessa bók.*

%eng: I.NOM can.1SG.PRES not read-INF this-ACC.SG.FEM book.ACC.SG.FEM
= I can't read this book.

%com: TL modal + Neg + INF, 'að' omitted, but TL cf. M's utterance:

*MUM: *nei, þú kannt ekki [lesa!!], ég veit það.*

%eng: no, you.NOM can-2SG.PRES not read-INF, I.NOM know.1SG.PRES that
= No, you can't [read!!], I know that.

%com: M tells K that even though she can't *read*, she can *tell* her the story.

The raw numbers and percentages of these modal RIs without auxiliary are not particularly high for any age range (see Figure 6.8.-6.9.); they vary from 0%-25% (with subject) and 0%-17% (without subject). Some are intensional in meaning (wanting, wishing), where the modal *ætla* (að) 'intend/want/be going to' or *vilja* 'want' is missing, e.g. (27). Other modal RIs lack other auxiliaries, such as *kunna* 'can/be able to/know how to' (29), *fara* (að)

‘start/be going to’, *eiga* ‘may/shall/should’, e.g. (28). In addition to these modal auxiliary omissions there are also frequent auxiliary omissions in progressive constructions, which, being acceptable in spoken Icelandic, do not feature in the nontarget counts. In Chapter 3 we have seen that these progressive auxiliary omissions decrease over time whilst overt progressives with overt auxiliary increase. In the present chapter (Figure 6.6., Section 5.5.) we have seen that the number of progressive auxiliary omissions out of all RIs stays roughly the same over time. This is also the case for the modal auxiliary omissions (Figure 6.8.). I now extend my ‘Null Aux’ analysis from Chapter 3 to them: Let’s assume that in Katla’s mental representation of progressive and modal RI clauses there can be a finite null auxiliary in Infl. She uses the overt and the null form interchangeably, compare *ég ekki lesa* (I Ø not read-INF) vs. *ég kann ekki lesa* (I can not read-INF) in (29), and similar examples cited in Chapters 3 and 5. Interestingly, when one compares the ratios of Null Aux for progressive aspectual auxiliary *vera* ‘be’ and for the modal auxiliaries, there is a clear difference in frequency, as illustrated in Table 6.5. Whereas 55% of Katla’s progressive auxiliaries are null from 1;6-3;6, only 22% of her modal auxiliaries are null.

Table 6.5. Null Aux in root infinitives (with subject) in Katla (1;6-3;6)

	Null Aux RIs
Progressive analytic verb constructions	52/95 = 55%
Modal analytic verb constructions	20/93 = 22%

Whilst these 22% modal omissions are 22% ‘too many’ as measured against the adults, they are less than half of the percentage for progressive auxiliary *vera* omissions. Interestingly then, Katla differentiates quantitatively between those auxiliaries that can be null in adult Icelandic and those that cannot. This is especially noticeable in her productions after 2;10: Only 9% (8/87) of modal auxiliaries are null, compared to 38% (23/61) of progressive auxiliaries (Chapter 3).

‘Null Aux’ has already been proposed as a description of children’s root infinitives, especially for German, English and Dutch (e.g. Behrens 1993a:64-65; Bennis, Beukema and den Dikken 1997; Boser, Lust, Santelmann and Whitman 1992; Ferdinand 1996; Krämer 1993:200-206; Schlichting 1996:93; Whitman 1994; for an earlier account see Klein 1974:20-21). These researchers assume that the same syntactic representations underlie children’s utterances as adults’ utterances, with the difference that the heads and specifiers of functional categories can optionally remain phonetically empty in child grammar. In particular, in RIs there is a phonetically nonrealised (null) auxiliary which contains the tense and agreement features of finite Infl. Null Aux occupies I or C and blocks raising of the thematic verb (Boser, Lust, Santelmann and Whitman 1992:55-58).

The Null Aux hypothesis is often incorrectly referred to as 'Modal drop' in the literature and it is sometimes claimed that it would predict that all child RIs have modal (irrealis) readings, but never temporal (present/past) descriptive readings (e.g. Schönenberger, Pierce, Wexler and Wijnen 1995:65; Poeppel and Wexler 1993; Harris and Wexler 1996). These researchers suggest that if non-modal RIs are found in children's productions (and they are), this refutes the Null Aux hypothesis. However, their argumentation is too simplistic. Note firstly that Modal drop is a misnomer; most proponents of Null Aux assume a flexible interpretation for the null auxiliary, which can represent any modal, auxiliary or verb that takes an infinitival thematic complement (e.g. Boser, Lust, Santelmann and Whitman 1992:54-58).³⁰ Secondly, some proponents of Null Aux assume that only certain child root infinitives have a null auxiliary. For the remaining RIs, they allow other explanations, such as being exposed to bare VPs in the input (e.g. Krämer 1993; Schlichting 1996). I quite agree – why shouldn't there be several co-existing reasons and explanations for child root infinitives, only one of which is Null Aux? However, most research has been preoccupied with determining and hypothesising one single cause and one unified account of RIs.

Null Aux proponents have not been able to explain why a child would posit null auxiliaries in the first place, if they do not exist in the adult language.³¹ In spoken Icelandic

³⁰ This goes back to the results of an repetition-task experiment with German children in the Swabian/Badish dialect area. Boser (1989), cited in Boser et al (1992) found that two-to-four-year-olds often inserted auxiliaries (modals, aspectuals, dummies) in verb-second position in response to stimulus sentences which contained no auxiliaries at all, as illustrated in (i). The children did so at a time when their spontaneous productions featured OIs.

(i) Adult: *Sonja kochte den Kaffee, weil Rita den Tee kochte.*

Sonja made the coffee since Rita the tea made

Child: *Sonja Kaffee kochen, und der Mann tut Tee kochen.*

Sonja coffee make-INF and the man does-3SG Tee make-INF

³¹ There is anecdotal evidence that in informal Dutch the aspectual (intentional/future) auxiliary *gaan* 'be going to', which takes an infinitival thematic complement, in story-telling contexts can be null occasionally, though rarely. I am not aware of any research on the frequency of this construction in the input to Dutch children. Schlichting (1996:93, 115, 134) reports that children frequently omit auxiliary *gaan*, e.g. *zij* Ø *lezen* instead of *zij gaan lezen* (she go-3SG.PRES read-INF 'She's going to read.').

Furthermore, it has been suggested that in the colloquial input to German children, adults occasionally omit auxiliaries from analytic verb constructions, resulting in a RI with overt subject, which is otherwise 'ungrammatical'. Ingram and Thomson (1996:110) cite such an utterance, namely the interrogative *Papa malen?* (daddy paint-INF, meaning perhaps 'Shall daddy paint?/Is daddy painting?'). Note however that this is a clipped question, where the auxiliary is omitted from first position, which is possible in many languages. One would need to know whether German-speaking parents ever omit auxiliaries from clause-medial position. To my knowledge, this has not been documented in the literature; for instance, Lasser (1997b) did not find any clause-medial auxiliary omissions in the transcripts of the (German) adults interacting with the children Andreas and Simone.

however, the finite progressive auxiliary is optionally null, and as a consequence, we find many root infinitives in Katla's Icelandic with a progressive reading, whilst 'modal' RIs are less common. It would be most interesting here to compare the *frequencies of the different RI subtypes* in child and adult productions across individuals and especially across languages. Today, we unfortunately know too little about the actual input to young children and about children's RIs we know little more than the overall frequencies. One cross-linguistic prediction would be that for languages which have a high-frequency progressive construction that involves an *infinitive* (e.g. Icelandic), children should produce more RIs with progressive readings (nonmodal) than children acquiring a language which lacks such a construction (e.g. English, German). My impression is that this is the case, further cross-linguistic research will tell.

5.9. Thematic verb inflection omissions: Imperative RIs

The large majority of Katla's *nontargetlike* RIs are not auxiliary omissions but thematic verb inflection omissions, as illustrated in Figures 6.8. and 6.9., both for subjectless RIs (dark grey borderless columns) and RIs with subject (black columns). These two types increase over time, as can best be seen from the growing dark grey-black block at the top of Figure 6.9. The combined percentage of these RIs with omitted verb inflection strongly increases over time, from only 7% (2/27, at 1;6-1;10), to 45% (22/49, 1;11-2;4), 33% (4/12, 2;5-2;10), 70% (23/33, 2;11-3;1), to 84% (54/64, 3;2-3;6) and 100% (9/9, 4;2-4;4).

Table 6.6. Root infinitives, subject and thematic verb inflection omitted

Katla overall, 1;6-3;6 + 4;2-4;4	
WEAK CLASS 1 verb, -a instead of -ar or -aði, declarative	4 up to 2;10: 0 after 2;10: 4
Other verbs, declarative	3 up to 2;10: 0 after 2;10: 3
INF nontargetlike imperative	42 up to 2;10: 15 after 2;10: 27
Total	49

As we have seen in Section 5.5., the large majority (75%) of RIs with a subject but omitted verb inflection (black columns) do not correspond to a declarative in the indicative, but to an imperative, e.g. **þú segja mér þetta!* (you say-INF me that '(You) tell me that!'). In adult Icelandic, the verb should be inflected for imperative (usually a stem form) and take a postverbal subject (*segðu mér þetta!* say.STEM/IMP~you.CL me that); i.e. the verb should be

finite and raised. The breakdown in Table 6.6. shows that the same obtains for the nontargetlike subjectless RIs with omitted verb inflection (dark grey columns): 86% (42/49) have an imperative interpretation.

To summarise, there is a developmental shift in Katla's RIs in addition to the general decrease in RIs over time. Nontargetlike RIs *increase* in the late samples, and these often have an overt subject but lack thematic verb inflection (no Null Aux). In fact, most of them are of a particular type: infinitival forms used with imperative force. This we only know because the intonation and extra-linguistic context could be taken into account when analysing the data; without this information they would easily have been misqualified just as any RI. As argued in Chapter 4, these imperative root infinitives are not produced 'because Katla is in the Optional Infinitive stage'. If this were the case, they would hardly increase after 3;0 and predominate at 3;2-3;6 and 4;2-4;4. Moreover, we would expect to find imperatives with preverbal subjects and unraised verbs in the productions of other (monolingual) Icelandic children; but the two children investigated in the literature never do so (Birna and Ari, Sigurjónsdóttir (1991)). Rather, this type of imperative RI is specific to Katla and due to interference from the English imperative construction, homophonous with the infinitive (Chapter 4). If we remove the imperative RIs from Katla's counts, we find that RIs in general gradually decrease and reach adult levels earlier, and that Katla's 'non-imperative' nontarget RIs smoothly decrease over time to nearly zero. This is illustrated in Figure 6.10., which only includes nontargetlike RIs, where grey columns denote non-imperative RIs, and black columns imperative RIs.

6. Summary and Conclusion

In this chapter, I have investigated root infinitives in Katla's Icelandic, verbs which are homophonous with the infinitive ending in *-a*. RIs were found to occur over the entire observation period, from 1;6, when Katla produces her first word combinations, until 3;6, and also in the follow-up samples eight to ten months later, at 4;2-4;4. In Katla's early samples (1;6-1;10) RIs make up nearly all (93%) of her *thematic* verb (constructions), and even though there is a slow decrease, RIs dominate the scene until 2;10. The percentage of RIs gradually falls to 19% (4;2-4;4), in favour of overtly finite thematic simplex verbs and analytic verb constructions (Aux + INF). Even if one factors out acceptable RIs, the number of remaining, nontargetlike RIs out of all of Katla's thematic verbs is extremely high (90% at 1;6-1;10; 16% at 4;2-4;4).

As regards verb positioning, Katla's Icelandic RIs mostly occupy positions reserved for unraised, nonfinite verbs (86%), whereas nearly all verbs that are finite by form occupy

positions for raised, finite verbs (99%). This mirrors the correlation of verb form and verb positioning found for many other children that acquire verb-raising languages, including a monolingual child that is currently being studied by Sigurjónsdóttir (1998b), recall fn. 12.

We don't know how well Katla's long-term development matches that of Icelandic monolinguals, as the longitudinal development of RIs has not been studied. In ongoing work, Sigurjónsdóttir (1998a, b) investigates RIs in the productions of Birna (2;0-2;6), and notes a decrease of RIs from 47% to 11% during this period. We do not know anything about RIs in other Icelandic children, in children under age 2;0, or about the long-term development of RIs after age 2;6. We can, however, compare Katla's Icelandic data to those of children acquiring other languages. Katla's initially high percentage of RIs and the extended RI 'stage' are in sharp contrast to what is known about child RIs in 'morphologically rich' pro-drop languages, such as Italian, Spanish and Polish (e.g. Guasti 1993/94; Bar-Shalom and Snyder 1997). RIs are very rare in the productions of children acquiring these languages and they disappear early on (ca. by age 2;0).

On the other hand, Katla matches children acquiring non-pro-drop languages, such as German, English, Swedish or Dutch, who all start with a very high percentage of RIs (ca. 80%-100%) out of all thematic verbs (e.g. Rohrbacher and Vainikka 1995; Platzack 1990; Schlichting 1996; Wijnen 1995). After this initial RI peak, children embark on quite different individual developmental routes, as was shown for child Dutch, the language for which RIs longitudinally and cross-sectionally have been researched most. Some children get rid of RIs fast and early on (around 2;2); for others, RIs decline very slowly (until 3;4). Importantly, this individual variation has nothing to do with how 'richly' or 'poorly' inflected the language is (contra Phillips 1995). Katla's Icelandic development fits those children that acquire a non-pro-drop language and happen to take the 'slow' route out of RIs. In contrast to much current work on RIs (e.g. Bromberg and Wexler 1995; Haegeman 1993/94; Wexler 1994), Katla's data show no correlation between root infinitives and null subjects. 42% of all RIs occur with overt subjects, including pronominal, definite subjects, if only obligatory contexts for overt subjects are considered, 56% or 69% (depending on the count) have an overt subject. This much can be gleaned from a longitudinal investigation of frequencies in her overall production of RIs.

However, I argued in this chapter that overall frequencies are not enough when studying root infinitives in child language. Some RIs might in fact be targetlike, and there might be RIs of different subtypes, the distribution of which might change over time. We therefore need to study child RIs in context and classify them according to their function or interpretation. In order to be able to do this, we need to know not only the linguistic discourse a RI occurs in, but also its intonation and extra-linguistic context. Child RIs also need to be classified as to whether their use is targetlike or not, which in turn necessitates

an investigation of RIs in the *actual input* to the child. Very few studies in the literature have so far paid attention to these matters.

The study of thematic verbs in spoken Icelandic, and in particular in a quantified breakdown of all thematic verbs produced by Katla's parents in 10 samples shows the following: On average 12% of thematic verbs/verb constructions are root infinitives (with a range of 7%-20%); in addition, 36% consist of an auxiliary plus infinitive. The remaining thematic verbs are finite simplexes (of which a small number carry the finite inflection *-a*, homophonous with the infinitive, such as third person plural present, or first person singular present for a common verb class, WEAK CLASS 1). Thus, infinitives are extremely common in Katla's input, making up half of all thematic verbs; and root infinitives make up a sizeable minority of the input verbs. Adult RIs mainly occur as Neg-initial subjectless 'imperatives', as subjectless sentence fragments (e.g. as an answer to questions), plus as progressives with subject where a present tense form of the aspectual auxiliary is omitted/null. Measured against this input, there is a substantial number of in fact targetlike RIs in Katla's productions (18% of all thematic verbs, or 41% of all RIs). The number of nontargetlike RIs is thus not quite as high as at first glance: however, it shows a development with an unexpected twist: Nontargetlike and unclear RIs predominate in the samples before 2;10, decreasing slightly over time. At 2;11, probably due to an Icelandic input boost during a visit to Iceland, finite verbs and verb constructions increase substantially and RIs drop further. However, from 3;2 to 4;4, the percentage of nontargetlike RIs *increases*, a development not attested for other children in the literature.

To find an explanation for Katla's curious behaviour, I looked at her RIs by type: positioning of the RI verb in the clause; subject vs. no subject; auxiliary omission vs. simplex inflection omission; indicative vs. imperative inflection omission; function and interpretation of the RI. I found a wide spread of RI subtypes and developmental shifts between these types, but in particularly one shift over time: RIs with preverbal subject *þú* 'you' and an infinitival verb with an imperative interpretation (and some subjectless equivalents) increase enormously, whereas the only possible target in adult Icelandic is a finite raised imperative verb with a postverbal subject. These are the 'English-style' nontarget imperatives discussed in Chapter 4, but they increase so much that they become the predominating type of root infinitive in Katla's productions from 3;2 onwards. In Chapter 4, I attributed them to cross-language influence from English and subsequent delearning problems. I therefore predict that monolingual Icelandic children – who, as we know, do not use *þú* + INF imperatives – should not produce nontargetlike RIs for such an extremely long period as Katla does, nor should their RIs increase after age 3 or 4. Future research on monolingual child Icelandic will tell whether this prediction is correct.

Imperatives aside, Katla produces a range of other RI types. Firstly, there are RIs (mostly with a subject) whose interpretation in context indicates that the thematic verb is

truly an infinitive, but a finite auxiliary is missing. I have suggested a Null Aux analysis for these (e.g. Boser, Lust, Santelmann and Whitman 1992; Krämer 1993). Most common in this group are RIs with a progressive, ongoing activity, reading. As discussed in Chapter 3, the Icelandic progressive construction consists of auxiliary *vera* 'be' + *að* + INF, where *að* and the present tense auxiliary are often phonetically reduced or elided in informal spoken Icelandic. Other (modal) auxiliary constructions do not permit a null auxiliary. I have suggested that these facts influence Katla: Whilst she produces auxiliaryless RIs both with progressive and with modal readings, progressive auxiliary omissions are twice as common (55%) as modal omissions (22%) and modal omissions drop to only 9% after 2;10, whereas null progressive auxiliaries stay at 38%.

My claim, however, is *not* that all of the (non-imperative) RIs that Katla produces are instances of Null Aux. There are additional accounts and explanations for root infinitives. An important one is the fact that subjectless VPs occur as root clauses *in the input* (also noted for Dutch and German by e.g. Kempen, Gillis and Wijnen 1997; Krämer 1993; Lasser 1995a, b; Schlichting 1996; Wijnen and Bol 1993). These sentence fragments receive their subject, tense and aspect interpretation from the immediate context (e.g. in response to a question, or as an explanation or description of an activity). Katla also produces subjectless RIs, some of which are acceptable in context. Others are not, especially in the early samples. I rejected proposals that treat such RIs as signalling a deficiency in the child's representation of Tense or Number and a process of tense specification that is different from adult grammars (e.g. Harris and Wexler 1996; Hoekstra and Hyams 1995, 1996; Hyams 1996; Sigurjónsdóttir 1998a; Wexler 1994). Instead, I argued that tense (and subject) identification from context is a process found in child and adult grammars alike. Katla produces more RIs than the adult controls because she has to work out the particulars of the pragmatic and discourse restrictions on RIs.

Furthermore I have proposed that a small group of Katla's root infinitives aren't infinitives at all, but genuinely tensed verbs. These are non-imperative, non-progressive and non-modal RIs with subject that correspond to a simplex tensed thematic verb in adult Icelandic. I rejected proposals that explain the missing verb inflection by a deficiency in the child's syntactic representation. Instead I have argued that if there is a 'deficiency' at all, it lies in Katla's mastery of morphology. I based my argumentation on verb placement, verbal morphophonology and input facts. As regards verb placement, I found that in Katla's RIs in question, the verb can occupy positions reserved for *raised* finite verbs, namely to the left of the sentential adverb, and to the left of the subject, in unambiguous V1 or V2 position. (In contrast, other types of RIs always have the verb in nonfinite verb positions.) I also found that in spoken adult Icelandic, some forms of the present and past tense paradigms of one

common and productive Icelandic verb class (WEAK CLASS 1) are affected by processes of connected speech: Certain finite forms become homophonous with the infinitive (STEM + -*a*). Such pseudo-infinitival forms are also attested in Katla's parents' speech, including in positions reserved for raised finite verbs. This may induce Katla to likewise produce raised, tensed WEAK CLASS 1 'root infinitives'. Moreover, she occasionally overextends the paradigm of this productive verb class to other verbs. These are problems with the morphology of the non-transparent Icelandic verb class system and have no ramifications for syntax proper.

In sum, Katla's Icelandic data indicate that there is not one single unified account of her root infinitives, but several. I have shown how crucial it is to analyse child RIs in context, including the extra-linguistic context, when determining their function and (non)targetlikeness. I have also stressed the importance of investigating the *input* quantitatively and qualitatively before we make assumptions and claims about 'deficient' child grammars. Katla and her parents, and other young children and their caretakers, speak a lot more alike than we may at first think.

Chapter 7. Auxiliary *do*

1. Introduction

In generative theory it has been debated ever since Chomsky (1957) how to explain and represent *do*-support as particular to English. In this chapter, I investigate Katla's acquisition of auxiliary *do*. We have already seen that Katla has no difficulty acquiring *do* in the context of negation of simplex thematic verbs (Chapter 5), which is interesting also because no such phenomenon is found in her other language, Icelandic. However, the acquisitional path is not so smooth as regards Katla's English *do* in environments other than negation. I compare her data to those of monolingual English children and investigate how well particular accounts of auxiliary *do* fare with regard to the acquisition data.

Auxiliaries belong with the few verbs that occur to the left of negation in English and invert with the subject in questions. Being functional elements, auxiliaries are often assumed to be generated in the heads of functional projections, e.g. I^0 , T^0 or Agr^0 , whilst in other models at least some auxiliaries are placed in multiple verbal head projections (V^0) of their own and raised to higher functional heads (cf. Chomsky 1986; Ross 1969). Having little semantic content, the primary auxiliaries *have*, *be* and *do* are closely connected with finiteness, tense, and agreement. Yet auxiliary *do* is different from *have* and *be*, in that *do* lacks nonfinite forms and cannot be used in regular affirmative declaratives.

For monolingual English children, auxiliaries as a whole have been relatively well studied (e.g. Bellugi 1967; Brown 1973; Klima and Bellugi 1973; Pinker 1984; Stromswold 1990; de Villiers and de Villiers 1985). Monolinguals appear to make few errors with auxiliaries, restricted to early instances of auxiliary omission, and the occasional lack of subject-Aux inversion in *wh*-questions. Auxiliary inflection for tense and agreement is described as virtually error-free. However, I am not aware of any research that has explicitly tested whether this is so for auxiliary *do*. Readers will recall for Katla's English and Icelandic too, inflection and placement of auxiliaries, modals and copula (with regard to negation) are virtually error-free. In contexts other than negation, Katla's acquisition of auxiliary *do* will be shown to be somewhat different. I discuss two types of 'optional' *do*: nontarget omissions, and nontarget additions. Special attention is paid to a stage prominent in Katla's grammar at age 3;1 to 3;3, where in nonemphatic declaratives, she optionally adds a finite

form of *do* to the thematic verb, instead of using the target simplex verb only. But before we get to the child data, let's consider the distribution of auxiliary *do* that we find in adult English, and how generative models have tried to represent and explain such *do*.

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, questions and tags, elliptic responses, and contrastive emphasis, as illustrated below. Consider the affirmative declarative in (1a), where the simplex main (or thematic) verb must be inflected for finiteness, and auxiliary *do* cannot be used (1b). In contrast, in (2)-(6) a form of *do* must be used, whilst finite inflection on the thematic verb is ungrammatical.¹

Declaratives

- (1) a. *She wants that picture.*
b. **She does want that picture.* (ungrammatical with unstressed *does*)

Negation

- (2) a. *She doesn't want that picture.*
b. **She not wants that picture.*
c. **She wants not that picture.*

Questions

- (3) a. *Does she want that picture?*
b. *What does she want?*
c. **Wants she that picture?*
d. **What wants she?*

Tags

- (4) a. *She wants that picture, doesn't she?*
b. *She doesn't want that picture, does she?*

¹ These observations can be extended to imperatives. Unstressed *do* is ungrammatical for positive imperatives (a), whilst *do* is obligatory for negated ones (b), and stressed *do* is used for emphatic imperatives (c).

- (i) a. *Look at it!*
a'. **Do look at it!* (ungrammatical with unstressed *do*)
b. *Don't look at it!*
b'. **Not look at it!*
c. [*Do!!*] *look at it!*

Ellipsis

- (5) a. *Does she want that picture?* — *Yes, she does.*
b. *Does she want that picture?* — **Yes, she wants.*

Contrastive emphasis

- (6) a. *She [does!!] want that picture.*
b. **She [wants!!] that picture.*²
c. *She owns – or [did!!] own – Brancewood Castle.*

In (6a), *do* affirms the truth of the proposition 'she wants that picture.' Such an emphatic positive is used to deny a stated or implied negative, and is thus contrastive.³ *do* in this function is heavily stressed and typically raised in pitch, bearing the intonation nucleus. Apart from contrasting positive-negative polarity, *do* can also be used to draw contrastive attention to tense, see (6c). There are also instances of stressed *do*, e.g. (7), where it is hard to ascribe to *do* any contrastive meaning. Such 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).

Emotive emphasis

- (7) a. *This really [does!!] taste delicious.*
b. **This really [tastes!!] delicious.*

A less well-known fact is that such non-contrastive stressed *do* in affirmative declaratives is as common in spoken (British) English as contrastive *do*.⁴

² I indicate heavy stress in an utterance by putting the stressed item into square brackets with exclamation marks, following CHILDES/CHAT conventions (MacWhinney 1991). Bolding in an utterance does *not* indicate stress, but is used for ease of exposition.

³ I am concerned with the truth of the proposition 'she wants that picture' here, and to positively affirm this, *do* is obligatory. Of course, *she [wants!!] that picture* is not ungrammatical, but then we have a different situation, where the presuppositional set contains verbs other than 'want'. To contrast the constituent *wants* with another verb (e.g. *adores/remembers/hates*), *wants* is stressed.

⁴ For a large-scale quantitative analysis of auxiliary *do* in declaratives, see Nevalainen and Rissanen (1985), who searched the prosodically-tagged spoken London-Lund Corpus (British English) and compared it to other corpora. They found that *do* in affirmative declaratives is 4 times more frequent in spoken than in written English. *do* occurred in many contexts, and 50% of *do* in affirmative declaratives in spoken English were not contrastive. Those *dos* used for contrastive polarity were all heavily stressed (100%) and most also raised in pitch (84%). Non-contrastive *dos* were stressed (96%), but rarely raised in pitch. Finally, there were some few cases of non-contrastive unstressed *do* (4%), as in (i).

(i) *I really [do!!] need a f- # I really do need a [friend!!] with a [freezer!!].*

Nevalainen and Rissanen (1985:45) conjecture that the rhythm of the clause with its two heavily stressed elements (*friend*, *freezer*) induces the stress reduction on the second *do*.

Auxiliary *do* also occurs in some other, much less common, contexts, i.e. exclamatives and certain inversion constructions, which I do not discuss here due to their very low frequency (cf. Quirk, Greenbaum, Leech and Svartvik 1985:1383).⁵

Just like the other two English primary auxiliaries *have* and *be*, *do* can be inflected for number and person (*do* versus *does*) and tense (*do/does* versus *did*). Yet *do* is different from the other auxiliaries in that it lacks nonfinite forms, thus patterning with the English modals, consider:

Finite forms

- (8) a. *Did/*Do she wash the car then?*
 b. *Has/*Have she washed the car then?*
 c. *Is/*Be she washing the car then?*
 d. *Can she wash the car then?*

Nonfinite forms

- (9) a. **Would she do wash the car then?*
 b. *Would she have washed the car then?*
 c. *Would she be washing the car then?*
 d. **Would she can wash the car then?*

Auxiliary *do* has no 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). *do* appears in questions, negations and as a bearer of stress whenever there does not happen to be a *have*, *be* or modal around. Auxiliary *do* has

⁵ Examples for *do* in exclamatives are:

- (i) *I used to go to London to see my mum, but now she comes to me, and do I need her!*
 (ii) *Boy, did she look annoyed!*

The most well-known inversion construction is negative inversion (iii), where a negated or restrictive focusing constituent is preposed. Other cases have *do* after a preposed adverbial (iv) or – distinctly poetic – after a locative PP (v).

- (iii) a. *Not only do they rob you, they smash everything too.*
 b. **Not only they rob you, they smash everything too.*
 c. **Not only rob they you, they smash everything too.*
 (iv) *They decided to buy the house—and bitterly did they come to regret it.*
 (v) *Down the hill did the baby carriage roll.*

None of these constructions is frequent in English – adverbial and locative inversion with *do* optionally exists in few, highly literary, registers only – and they are extremely rare or absent altogether in the spoken English that serves as input to young children. No such *do* occurs in my data.

several characteristics: it is always tensed or finite, and it can be used irrespective of verb valency or event type, unlike the transitive, agentive thematic verb *do*.⁶

English is just one of many languages with a *do* auxiliary, historically derived from the corresponding thematic verb *do*. The German dialects, and some Southern and Western dialects of Dutch, optionally employ auxiliary *tun/doen* 'do'.⁷ This fact has largely been ignored in the generative literature, with the notable exception of Erb (1995). Auxiliary *tun* 'do,' though not considered to be part of the grammar of Standard German, is a common feature of virtually all German dialects.⁸ *tun* occurs in affirmative and in negative

⁶ Thematic verb *do* is extremely versatile; it can be used as a bleached 'light' verb, consider *do the dishes*, *do a bit of gardening*, *do some serious rethinking*, where much of the semantic content of the VP comes from the complements. *do* can also be used as a substitute verb for a predicate that has been mentioned shortly before, as in (i-iv).

- (i) *Pat didn't wash the car, but she really meant to do so/it.*
- (ii) *Has she washed the car yet? —Yeah, she's done it./ Yes, she [has!!] done.*
- (iii) *Has she washed the car yet? —Well, she's just doing it/so.*
- (iv) *Has she washed the car yet? —Yeah, she did (that/so) last night.*

I treat such substitute *do* as a main/thematic verb, not as auxiliary *do*. Note that substitute *do* often takes an *it*, *that* or *so* with it. Also, substitute *do* can easily be nonfinite (cf. the infinitive in (i), past participle in (ii) and *ing*-form in (iii)), whilst auxiliary *do* is limited to finite forms. For a discussion of the predicate substitutes *do it*, *do that*, *do so*, and *do* alone, see, e.g. Quirk, Greenbaum, Leech and Svartvik (1985:874-879, 891, 905).

⁷ For Dutch and Flemish *doen* 'do', see Hollebrandse and Roeper (1996), Jordens (1990), van Kampen and Evers (1995), Schaerlaekens and Gillis (1987) and Stein (1990).

⁸ Being a native speaker of such a dialect (Swabian), I will briefly comment on auxiliary *tun*. Whilst there is a substantial literature on *tun* in the German dialects, these studies need to be approached with caution, in particular, studies which claim that *tun*-support is absent from a dialect, or that *tun*-support has a particular meaning *different* from simplex verbs. Researchers have been most eager to assign a particular interpretation to clauses with *tun*-periphrasis: aspectual, causative, past tense, 'discourse foregrounding', 'rhythmic reasons', 'quaint', 'uneducated style' etc. The habitual, durative, stative, iterative, etc. aspect which *tun* supposedly encodes varies from study to study, and findings are most contradictory (e.g. Erben 1969; Eroms 1984; Keseling 1968; Rohdenburg 1989; Schönenberger and Penner 1994; Stein 1990). Unfortunately, these aspect interpretations are assigned post hoc by the researcher – who often does not speak the dialect in question – on the basis of a few examples. Native speakers are hardly ever consulted for grammaticality judgments, nor are they tested on minimal pairs of *tun*-periphrasis and simplex verbs. And it is not investigated which aspectual interpretations clauses with *simplex* verbs can have. In short, the methodology and data on which these studies of *tun*-support are based leave a lot to be desired. (The same can be said about many of the earlier diachronic studies of auxiliary *do/tun* in older version of English and German.) As Bohnacker (1996) and Erb (1995) have pointed out, clauses with *tun* may well lend themselves to a variety of aspect etc. interpretations, but from this it does not follow that *tun* is a particular aspect marker: Clauses with the corresponding simplex verb also lend themselves to a variety of aspect etc. interpretations!

declaratives, in interrogatives, indicative, subjunctive and imperative, root clauses and embedded clauses, but appears to be always optional, never obligatory, unlike English *do*.

Furthermore, several languages closely related to English, i.e. German, Dutch and the Mainland Scandinavian languages (though *not* Icelandic, see below) obligatorily use a *do*-type verb for VP-topicalisation. This is also possible in English, where a finite *do* takes the place of the verb following the subject when a nonfinite VP is preposed or topicalised, consider (10).

VP-topicalisation

- (10) a. *Doug's gang had threatened to beat him up, and [_{VP} beat him up] they did.*
b. *How she managed to win no-one exactly knew, but [_{VP} win] she did.*
c. [_{VP} Buy the O'Keeffe collection], *they did indeed.*

Note, however, that VP-topicalisation is different from the inversion constructions above, as *do* does not precede the subject in (10). In contrast to many other Germanic languages, VP-topicalisations are rare in English, mainly found in repetition contexts as in (10a, b), and as they are virtually non-existent in the colloquial spoken input to children I have examined, I will not investigate them further here.

However, English seems to be one of the few languages, and indeed the only Germanic one, that *obligatorily* uses auxiliary *do* to negate, question, and contrast as in (2-6), whilst at the same time disallowing auxiliary *do* in affirmative declaratives (1b). Explaining then why it might be that *do 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.

2.2. Generative explanations for *do* in English

The fact that auxiliary *do* is finite, tensed and inflected for subject-agreement has led to the assumption that it does not originate in a V-head, but in Infl (e.g. Chomsky 1989; Pollock 1989; for dissenting views, see Culicover 1976; Emonds 1976; Ross 1969; Roberts 1993; Wilder and Ćavar 1994:82). 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 terms *do*-support (e.g. Chomsky 1957; Klima 1964), *do*-operator, and *do*-periphrasis (e.g. Quirk, Greenbaum, Leech and Svartvik 1985).

2.2.1. *do* as the exception

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 the generative models changed over time, for several decades, Last Resort insertion has 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. This can be summed up as (11), and illustrated with the example of negation, as in (12).

(11) Insert *do* when Infl features (Tense, Agreement) are stranded.

(12) $[_{CP} [_{IP} SPEC [_{I'} I^0 \underset{\substack{[Tns/Agr] \\ \uparrow \\ do}}{[NEGATION \textit{not} [_{VP} SPEC [_{V'} V \dots]]}}]]]]]$

The negation (head/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 inserted into the head of whichever projection is supposed to be the lowest (T^0 , Agr^0 , etc.), and then raises to the higher one, being inflected for both tense and agreement.

It makes sense intuitively that an intervening negation might act as a blocker. Yet stranding of Infl is also invoked as triggering *do*-insertion in cases other than negation, such as interrogatives and emphatic stressed affirmatives (Chomsky 1957:66, 113, 1989/1995; Ouhalla 1994; Rohrbacher 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. It is thus not at all obvious that Infl features are 'stranded' in questions and emphatic affirmatives. One might postulate an intervening *covert* head, but this runs the risk of circularity: Since auxiliary *do* is used, there has to be a blocker that strands Infl features, hence *do* must be inserted.

One such proposal is made by Rohrbacher (1994), who, in the spirit of Laka (1990), claims that by analogy with NegP in negations, a maximal projection, ΣP , intervenes between IP and VP in questions and emphatic affirmatives. Σ^0 contains a morphologically null interrogative or emphatic marker, $\emptyset_Q$ or $\emptyset_{EMP}$.⁹ According to Rohrbacher (1994:150), ΣP creates a barrier for Infl to lexically govern and assign nominative Case to the subject, and *do* must be inserted as a Last Resort salvage operation.¹⁰

⁹ Laka (1990) argues that sentential negation and emphatic affirmation belong to the same syntactic category because the two are in complementary distribution. For emphatic sentences, she proposes that Σ^0 is filled by a morpheme whose only phonological content is stress, as already suggested by Klima (1964:257).

¹⁰ Consider also Nash and Rouveret's Proxy Theory (1997:15), where a projection with a modal feature is assumed to intervene between TP and VP, forcing *do*-insertion.

When there is no intervening blocking element, such as in regular declaratives, *do* is not inserted, and the clause is derived by head-movement. In Chomsky's Standard Theory and in GB 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 covertly at Logical Form and checking off features then. Thus, Chomsky claims that a nonemphatic reading of *She does want that picture* is ruled out, because nonemphatic affirmative sentences such as *She wants that picture* can be derived in other ways. Implied is a prohibition on optional variants. According to Chomsky, the application of *do*-support in these sentences is excluded by the 'least effort' condition; in other words, the insertion of *do* is 'costly.'¹¹

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; see also Chomsky 1957; 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. Surely the processes of insertion and movement are both found cross-linguistically and are thus in line with UG. One might conjecture that the belief that *do*-support is specific to English has to do with the fact that generative research has largely ignored related phenomena in other languages.

There are also empirical problems if we view *do* to be an exception to be avoided. Dialects of English in fact do have nonemphatic *do* in affirmatives of the type *She does want that picture*: West Country English (e.g. Somerset), some Irish English (e.g. Barry 1982; Ihalainen 1991; Trudgill and Chambers 1991; Trudgill and Hannah 1985:93-94), South African Cape Flats English (Mesthrie 1994), Middle and Early Modern English (e.g. Denison 1993; Ellegård 1953; Lightfoot 1991; Stein 1990; Visser 1969). Periphrasis with nonemphatic *do*-type auxiliaries is also found in a wide range of continental Germanic languages and dialects. The existence of optional *do*-periphrasis, including in nonemphatic affirmatives, casts doubt on analyses of *do* as a unified phenomenon restricted to negation, emphasis and questions and as a salvage operation in cases of Infl-stranding by some (c)overt blocker.

2.2.2. Other accounts: *do* as the default

In contrast to Chomsky's (1957, 1989/1995) Last Resort *do*, Ross (1969, 1972) and Emonds (1970) suggest that *do* is in fact the norm, underlyingly present in all finite English

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*.

clauses.¹² A deletion transformation would then do away with *do* in those affirmative declarative clauses that do not contain another auxiliary.

Whilst nowadays transformation rules are out of fashion, Emonds' idea of an underlying *do* has made a surprising comeback, in the guise of 'Null *do*'. Under such a view, all verbs are periphrastic in English, with an auxiliary that can be covert, i.e. lacking a form at PF. Pollock (1989:404) and Wilder and Ćavar (1994:81-83) argue that there are no 'simple' tenses in English, but rather that *She* [$\emptyset_{DO}$] *wants that book* contains a Null *do*, equivalent to the overt *do* in *She* [*does*] *want that book*. The question then is what regulates the (c)overtness of *do*.

Pollock (1989) assumes *do* and Null *do* to be generated in Agr^o (his lower Infl-projection) and raised to T^o, and *do* on to C^o in questions. An overt *do* is obligatory for negation and for questions, because Null *do* would not be able to L-mark NegP or TP, respectively (Pollock 1989:406). In short, he claims that there is an inherent barrier or block, but this remains a stipulation, not unlike in the models discussed in Section 2.2.1. Note further that Pollock (1989) says nothing about why there is no *do* in simple affirmative declaratives.¹³

Wilder and Ćavar (1994) also argue that all English clauses contain a *do*, but they suggest it is generated not in Agr^o or T^o, but in a lower head of its own, V^o, an idea already advocated by Ross (1969). The auxiliary V^o-head takes as its complement another VP, which contains the thematic verb. *do* is regarded not as an expletive, but a genuine auxiliary, like *have* and *be*, whose insertion is automatic in periphrastic constructions. From V^o, *do* raises to I^o, as (13) illustrates (Wilder and Ćavar 1994:82).

- (13) [_{CP} [_{IP} SPEC [_I *do*_{I-I^o} [_{VP} SPEC [_V *t*_{I-V^o} [_{VP} SPEC [_V V ...]]]]]]]]]

For simple declaratives without any visible *do*, Wilder and Ćavar suggest 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. At first sight, it may be plausible to assume that Null *do* is a phonologically reduced variant of overt *do*. There are other auxiliaries, such as *have*, that phonologically reduce so that they can be phonologically null, as in (14c), at least in connected speech in colloquial registers.

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

¹³ Pollock states (1989:420, fn. 49): "So far I have not offered any account for the absence of nonemphatic *do* in Modern English. [...] Perhaps there is an 'Avoid *Do*' principle in the grammar of Modern English falling under some version of Chomsky's (1981) 'Avoid Pronoun' principle, itself conceivably the by-product of some more general 'least effort' principle." Note however that this is in contradiction to what Pollock's article is about – his claim is that *do* is always present.

- (14) a. *I have got that book.* *you have been running.*
 b. *I've got that book.* *you've been running.*
 c. *I _ got that book.* *you _ been running.*

But note that the phonologically reduced (14c) is not the only possibility; *have* is often overt (14a, b). But in simple, nonemphatic affirmative declaratives, there never is any overt *do*, though we would expect there to be so, by analogy with (14). Another fact that remains unexplained under Wilder and Cavar's (1994) hypothesis is that when there is no overt *do*, the thematic verb must be inflected (-s, -ed) for finiteness (*She wants/*want that book*), hardly a consequence of phonological reduction of *do*.

Watanabe (1994), too, wants to treat *do* on a par with other auxiliaries, but without assuming Null *do*. He suggests that *do*-insertion is less costly than overt verb raising. In contrast to Wilder and Cavar (1994), he does not group *do* with the other primary auxiliaries *have* and *be*, but with the modals. Recall from (8) and (9) that distributional and inflectional evidence does not make it clear whether one grouping is better than another. Watanabe (1994:161-162) argues that only languages that have the grammatical category Modal can have *do*-support, and English is such a language. He simultaneously argues that none of the other Germanic languages have a category Modal. According to his model, these languages are predicted not to have a *do*-type auxiliary either. (This, however, is not borne out by the data, as there is widespread auxiliary *tun* in German and *doen* in Dutch dialects.) According to Watanabe, modals cannot be used for "actual situations" or assertions, and for him, questions and negations – where *do* is used – "do not express the actual situation" (1994:161). He proposes that in English (a Modal language), modals, and thus, *do*, insert into T° by adjunction. To my mind, such an account raises several problems. Firstly, *do* is the only primary auxiliary that is 'modal' for Watanabe, on the basis that it is used for negation and questions. But 'nonmodal' *have* and *be* occur just as much in negation and questions as *do* does. Secondly, Watanabe's (1994:161) claim that *do* cannot be used to express actual situations is simply wrong: What does emphatic *do* do if not assert and express an actual situation? Thirdly, it remains unexplained under Watanabe's approach why *do* inflects but modals don't. And finally, note that Watanabe remains silent about why there is no *do* in simple affirmative declaratives, further than "because it is not required" (Watanabe 1994:172).

Hollebrandse and Roeper (1996) do not assume 'modal' *do*, but treat *do* as the default, i.e. the most economical representation of Tense, as the following quotation 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)

This claim is made on the basis of unquantified examples taken from young English-speaking and Dutch-speaking children, who occasionally overuse auxiliary *do*. Hollebrandse and Roeper (1996:266) claim 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. 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 (Dutch) or covertly at LF (English). They regard analytical representations as computationally more economical than synthetic ones. See Evers and van Kampen (1995:28-30) and van Kampen and Evers (1995:105) for a similar proposal.

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 Chomsky's Last Resort insertion (1957, 1989/1995). Both assumptions are equally stipulative. Yet both proposals are 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 and questions, and nontargetlike in affirmative declaratives (*She does want that picture*). 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.

On the other hand, under Chomsky's (1957, 1989) scenario, children should not start off with *do*-support, but rather omit *do* from obligatory contexts. They should not erroneously overextend *do* to affirmative declaratives, but rather inflect thematic verbs for tense. Children acquiring other languages with light verbs should not produce a kind of *do*-support, as this is specific to English. Below, I discuss these predictions and show that neither proposal entirely captures the actual child language data.

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. Tense can thus be equated with Infl.

3. No *do*-auxiliary in Icelandic

In contrast to English, there is no such thing as *do*-support in adult Icelandic. Icelandic makes use of many modal and auxiliary verbs otherwise and does have a thematic verb *gera* 'do.' But there is no *do*-type auxiliary in any Icelandic dialect.

Katla's English acquisition data, however, sport ample *do*, including unstressed *do* in affirmative declaratives (*She does want that picture*). Katla must have acquired this purely on the basis of exposure to her second language, English; there is no way it could have 'come from' her other language, Icelandic. This is important, because many researchers who report nontarget *do*-type auxiliaries have studied language combinations that are not the best choice regarding *do*-support, as we will see presently. Tracy (1994/1995:304-305) and Gawlitzek-Maiwald and Tracy (1996:914, 922 fn. 21), for instance, study two simultaneously bilingual English-German children and find nontarget *do* in their English and German affirmative declaratives, despite the fact that German is supposed to lack *do*-style support. It turns out, however, that these children grew up with regular exposure to Swabian, a German dialect with wide-spread auxiliary *tun* 'do' in affirmative declaratives. The 'nontarget' *tun* in the bilingual children's German is thus targetlike, and the occasional nontarget *do* in the children's English could be due to Swabian. Similar dialectal influence cannot be entirely ruled out for the studies of monolingual children acquiring German or Dutch in the literature and of bilingual children acquiring English-German or English-Dutch (e.g. Boser, Lust, Santelmann and Whitman 1992; Hollebrandse and Roeper 1996; de Houwer 1990; Schaerlaekens and Gillis 1987). There is no such confounding L1 factor in Katla's language combination of Icelandic and English.

In Icelandic, negations (15) and questions (16) with simple thematic verbs are formed without *do*. And for emphasis, the thematic verb carries the stress, as in (17).

Negation

- (15) a. *hún vill ekki þessa mynd.*
she want-3SG not that picture
'She doesn't want that picture.'
b. **hún ekki vill þessa mynd.*

Questions

- (16) a. *vill hún þessa mynd?*
want-3SG she that picture
'Does she want that picture?'
b. *hvað vill hún?*
what want-3SG she
'What does she want?'

Emphasis

- (17) *hún [vill!!!] þessa mynd.*
 she want-3SG that picture
 'She [does!!!] want that picture.'

The finite thematic verb occurs to the left of negation, typically represented in the generative literature as obligatory verb-raising from V° to I°, or in some models onwards to a higher functional head, C°. For questions, the thematic verb and subject invert, as in (16). Again, this is described syntactically as verb-raising, this time however clearly to a functional head higher than I°, because of the V-subject word order.

Icelandic appears to be the only Germanic language that never employs auxiliary *do*, unlike the other Scandinavian languages, where *do* is used at least for VP-topicalisations. All my Icelandic native speaker informants reject *gera* 'do' as an auxiliary, even for ellipsis (18a) and VP-topicalisation (19).¹⁵

Ellipsis

- (18) a. *Las hún bókina? —*Já, hún gerði.*
 read.3SG.PAST she book-the.FEM yes she do-3SG.PAST
 'Did she read the book? —Yes, she did.'
- b. *Las hún bókina? —Já, það gerði hún.*
 read.3SG.PAST she book-the.FEM yes it.NEU do-3SG.PAST she
 'Did she read the book? —Yes, she did that.'

Note the contrast between (18a) and (18b). (18b) is grammatical, but here *gera* is not at all used as an auxiliary, but as a substitute thematic verb with an overt object: *það gerði hún* 'that she did.'

VP-topicalisation

- (19) **Lesað bókina gerði hún ekki.*
 read-INF book-the.FEM do-3SG.PAST she not
 'Read the book she didn't.'

In sum, there is no evidence for a *do*-type auxiliary in Icelandic. Thus, Katla's L1 Icelandic cannot be a confounding factor when studying her acquisition of English *do*-support, and hence her data should make a good comparison to monolingual English children.

¹⁵ Arnar Árnason (p. c., 3 March 1997), Jóhanna Barðdal (p. c., 2 October 1997), Hulda Sveinsdóttir (p. c., 27 April 1997), Ásdis Thoroddsen (p. c., 10 July 1995).

4. The emergence of Katla's auxiliary *do*

4.1. *do* omissions, *do* in negations

Recall from Chapter 5 that Katla's first instances of isolated *don't* occur at 1;11,24 (S35) in shouted prohibitions and threats. *don't* in combination with a thematic verb appears for the first time at 2;0,00 (S36), clause-initial in targetlike subjectless negative imperatives (e.g. *don't do that!*), and clause-internally in negated declaratives (e.g. *I don't know.*). During the following months, clause-internal *don't* becomes more frequent, and at 2;4 the first *doesn't* appears.¹⁶ However, there are no instances of auxiliary *do* in contexts other than negation at the time. From 2;0-2;5, Katla consistently uses auxiliary *do* for clausal negation: *don't/doesn't* is provided in 85% (73/86) of obligatory contexts, the remaining cases consisting of nontargetlike *no/not*-initial negations. This early high percentage is not much different from Katla's provision of *do*-support for negation after 2;5: 93% (41/44) *do* provision for negation during 2;6-2;11, 98% (196/199) during 3;0-3;6, and overall 94% from 2;0-3;6, see Tables 5.8.-5.10. in Chapter 5.

However, for a whole year, from 2;0 to 3;0, Katla uses auxiliary *do* exclusively for negation. Katla categorically omits *do* from all other obligatory contexts. Emphasis is conferred by shouting; yes/no-questions (YNQ) are simply formed by rising intonation; wh-questions have a preposed wh-word and question intonation. The lack of *do* in Katla's YNQ is not very telling, for two reasons. YNQs are rare in the early data, and mostly irrelevant here as they involve other auxiliaries, such as *be*, inverted targetlike. The few YNQs that should feature *do*-support are formed by intonation only, or are clipped questions, such as *want to take it?* at 2;4,27 (S47), short for *do you want to take it?*. The lack of *do* in such YNQ is acceptable. However, wh-questions with thematic verbs do constitute obligatory contexts for auxiliary *do*, and here *do* is conspicuously absent, as shown in the following examples.

¹⁶ One might speculate that *don't* and *doesn't* are just unanalysed negative chunks, and thus not instances of real *do*. This is certainly a possibility. But recall that *doesn't* is restricted to third person singular target contexts, and does not occur in other contexts. *don't/doesn't* are not across-the-board negative markers for Katla, because if they were, we should expect *don't* as a negator of auxiliaries (e.g. **I don't be*, **it doesn't be*, **I don't can*, **I don't will...*). No such examples are attested; as shown in Chapter 5, Katla negates auxiliaries targetlike. Katla never combines *do* with any auxiliary or copula, but only uses *don't/doesn't* with thematic verbs. This shows that she knows the difference between English auxiliaries, which raise, and thematic verbs, which don't.

do omission from wh-questions

- (20) Katla 2;0,00 (S36)
%com: Ute and Katla are making a toy horse and cow 'drink' milk and water.
*KAT: *what you doing there the wa(ter)?*
*UTE: *I don't understand.*
*KAT: *milk.*
*KAT: [wɒt ju "du:]?
%com: *what _ you [do!!]?*
%com: rising question intonation, Aux *do* omission, T: what do/did you do?
- (21) Katla 2;1,16 (S40)
%com: Ute and Katla are drawing a picture of Katla.
*KAT: *where _ the eyes go?*
%com: rising question intonation, Aux *do* omission, T: where do the eyes go?
- (22) Katla 2;11,27 (S58)
%com: Ute and Katla playing with puppets, K asks the puppet policeman:
*KAT: *what _ you do?*
%com: target: what do/did you do?
- (23) Katla 3;0,14 (S60)
%com: Dad, Ute and Katla are playing with a 'town' of lego bricks.
*KAT: *what _ my daddy do?*
%com: target: what does my daddy do?
- (24) Katla 3;0,29 (S62)
%com: Ute shows Katla a spinning top and explains how they work.
*UTE: *you turn them and then they roll.*
*UTE: *they spin on the floor.*
*KAT: *why _ they roll?*
%com: target: why do they roll?

emphatic *do* omission

- (25) Katla 1;11,24 (S35)
*KAT: [luk].
%com: *look!*
*UTE: *there's the [cat!!].*
*KAT: [jɛ ʔai "si: ðə gad].
%com: *yeah, I [see!!] the cat.*
%com: K stresses "see" to indicate that she does see; T: I [do!!] see the cat.

(26) Katla 3;0,29 (S62)

- %com: Katla had asked for some pudding, but when she got it, she 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?*
%com: K sets U right:
*KAT: *I [finish!!] my banana.*
%com: past reference, K stresses "finish" to indicate that she [did!!] finish.
*UTE: *no, look # here is some # still on the table.*
*UTE: *you just finished the first part, and then I cut off + ... you know #
the black stuff, and then + ... that's left.*
*UTE: *you're gonna have that?*
*KAT: *yeah.*

Note that auxiliary *do* is the only auxiliary that Katla categorically omits over the one-year period 2;0-3;0.¹⁷ The other auxiliaries, *be*, *have*, copula *be*, and modals, frequently occur in contexts obligatory in the target language: negation, questions, affirmative declaratives, tags, ellipsis, and emphasis. We have seen evidence for the early but optional provision of the copula and the progressive auxiliary *be* in Chapters 2 and 3, and of auxiliaries and modals in general in Chapter 5. Moreover, already at 1;6, Katla produces some questions with overt auxiliaries, including ones with unambiguous targetlike subject-Aux inversion, e.g. *where is de [teddy!!]?*, *where # is the teddy?* (1;6,15 (S19)), *where's de ball?* (1;6,24 (S22)), and regularly certainly by age 2;0. This is not to say that Katla's auxiliary *have*, *be*, copula and modals are all targetlike; we also find omission errors and a handful of form errors.¹⁸ Importantly however, from 2;0 to 3;0, *have* and *be* often *are* overt in obligatory contexts, between 50-85%, depending on the sample, but auxiliary *do* never is, except for negations.

¹⁷ There are two exceptions to this categorical omission, namely two instances of *do* at 2;10,15, one an emphatically stressed, one an elliptic response, as illustrated in (i).

- (i) %com: Mum and Katla play with puppets. M (monkey) wants to eat bread.
*MUM: *ég vil ekki kornflex, ég vil brauð.*
%eng: I want not cornflakes (= 'I don't want cornflakes'), I want bread.
%com: K force-feeds the monkey and insists on cornflakes.
*KAT: *you [do!!] have cornflakes.*
%com: stressed emphatic *do*, odd Aux choice, T: '[will!!]' or '[are!!] going to'
%com: M pretends to cry.
*MUM: *af hverju á ég a(ð) borða kornflex?*
%eng: why shall I to eat-INF cornflakes = 'Why do I have to eat cornflakes?'
*KAT: *you [do!!].*

¹⁸ Some examples from 1;11,24 (S34) are: *we're going to bed.* vs. *you _ going to lie down.*; *where's the brush?* vs. *where _ brush?*; from 2;0,00 (S35): *is she going to bed?* vs. *you _ going out.*

The contrast between the near-targetlike provision of auxiliary *do* for negation and the omission of *do* in other contexts is striking. For one year, Katla restricts auxiliary *do* to one function: negation.

In fact, the delay of *do* in areas other than negation is not peculiar to Katla. Many monolingual English children also show a time-lag between the acquisition of auxiliary *do* for one function and the acquisition for another, though this appears to be less well-known.

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 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 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). Early provision of *do* for negation, but omission from questions and emphasis has also been observed for two bilingual English-German children, Hildegard (Leopold 1949) and Hannah, though the data are not quantified (Gawlitze-Maiwald and Tracy 1996, Ira Gawlitze-Maiwald p.c. May 1997). Finally, de Houwer, in her study of bilingual English-Dutch Kate, found a marked increase in Kate's auxiliary *do* and an extension of *do*-support from negation to other obligatory contexts after age 3;0 (1990: 224-225, Appendix).

Whilst there appears to be some individual variation, auxiliary *do* in negation is typically acquired first by monolingual children. Consider the following quotation.

In interrogatives, the question is signalled by question words or by a rising pitch, and *do* is typically not present until months after it appears in negatives or in ellipsis.

(Ervin-Tripp 1973:403)

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, or apply only to a subset of contexts in the grammars of language learners. This in itself is noteworthy because it clashes with a basic assumption of the generative models discussed in Section 2.2., namely that *do*-support is a unitary phenomenon. Recall that the proposed reason for *do*-insertion 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 pointed out, the only overt evidence for such a blocker, if any, can be found in negated clauses. Perhaps, then, *do*-support in negation, questions and emphasis is not quite so unitary, nor need it be acquired by children at one go.

4.2. *do* in contexts other than negation

There is a dramatic change in Katla's data after age 3;0. Figures for auxiliary *do* increase substantially. For quantification, see the tables below. From 3;0-3;6, *do* continues to be supplied targetlike in negations (99%), but *do* is now also provided in most other obligatory contexts in elliptic responses (100%), questions (78%), and emphatic affirmatives (94%). Contrastive, stressed *do* is illustrated in (27) to (28), *do*-support in questions in (29) to (31).

- (27) *UTE: *what're you doing?*
*KAT: *I, I weewee, I poo.*
%com: K is pretending to make her toy horse (= a broom) defecate.
*UTE: *you?*
*KAT: *sit my +...*
*UTE: *you weewee and poo? no!*
*KAT: *I will.*
*KAT: *I [do!!] weewee and poo.*
*KAT: *I [do!!].* (Katla 3;0;14 (S60))
- (28) %com: Ute and Katla discuss whether mum likes chips.
*UTE: *or maybe she doesn't eat chips.*
*KAT: *she [does!!] eat chips.*
*UTE: *oh she does, oh right.* (Katla 3;3,02 (S68))
- (29) %com: Katla and Ute are colouring, K offers U a pen.
*KAT: *do you want a pen, Ute?*
*UTE: *hm?*
*KAT: *do you want a pen?* (Katla 3;2,28 (S67))
- (30) %com: Katla has a conversation with her dolls.
*KAT: *who do you want to play with?* (Katla 3;3,11 (S69))
- (31) %com: Katla asks puppet Mr Punch (= Ute) about his shopping.
*KAT: *what shoes did you buy?*
*UTE: *I bought pink ones.* (Katla 3;3,11 (S69))

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 like Katla's other auxiliaries *have* and *be*: Most of the time she provides them targetlike, but some omissions occur. In one respect, auxiliary *do* is however different from the auxiliaries *have* and *be*. The latter are virtually always inflected correctly for tense and agreement, but with *do*, there are some nontarget forms, mostly uninflected *do*. From Chapter 5 we already know that for negation (3;0-3;6), *doesn't*, *didn't*, *don't* are used targetlike, with a handful of *don'ts* being overused in 3SG and past tense contexts. In question, ellipsis and emphatic affirmative contexts during the same time period *does* and *did* are also used correctly when they are provided. However, *do*

occasionally appears nontargetlike in third person singular or past tense contexts. The percentage of such uninflected *do* in questions, ellipsis and emphatic affirmatives is 9%, oscillating between 0% and 18% in the samples 3;0-3;6.

At the same time when *do* suddenly *increases* in obligatory contexts, something else is happening: The percentage of targetlike *do* auxiliaries *decreases* (see Table 7.1.).

Table 7.1. Katla's auxiliary *do*

	Target <i>do</i> , out of all <i>do</i> , raw numbers	Target <i>do</i> , out of all <i>do</i> , percentages
2;10,15-3;0,29 (S55-S62)	58/81	72%
3;1,10-3;3,11 (S63-S69)	136/274	50%
3;4,07-3;6,07 (S70-S76)	103/109	95%

There is a clear dip in targetlikeness of *do* in the middle period (3;1-3;3), down from 72% to 50% and then a steep rise to 95% targetlikeness. Interestingly, the errors in the middle period are no longer because *do* is omitted, but because incorrect overt *do* forms are produced. There is a development from absence to overuse: Katla *adds* unstressed *do* to the thematic verb in affirmative nonemphatic declaratives, where target English has a simple finite thematic verb only. Some examples are given in (32) to (43).¹⁹ These additions only occur with *do*; Katla does *not* add unstressed nontargetlike auxiliary *have*, *be*, copulas or modals to her declarative clauses.

- (32) %com: K has been trying to write with Ute's pen, at first without success.
 *KAT: *it does work*.
 %com: target: it works/it's working. (Katla 3;0,07 (S59))
- (33) %com: Ute and Katla are discussing the uses of an umbrella.
 *UTE: *and what d'you do when the sun shines?*
 *KAT: *carry it, # xxx # you do walk*.
 %com: target: [...] you walk.
 *UTE: *you walk?* (Katla 3;0,14 (S60))
- (34) %com: Katla and Ute are looking at jumbled up pictures of characters.
 *KAT: *that does fit Lion King*.
 %com: target: that fits the lion.
 %com: K means that a certain piece fits the picture of the lion.
 *UTE: *you think so?*
 *UTE: *I wouldn't have said so*. (Katla 3;1,10 (S63))

¹⁹ The increase in nontarget *do* is not a sampling artefact, 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.

- (35) %com: Ute and Katla are talking about chickens.
 *UTE: *where do you think they live?*
 *KAT: *they live in the farmer.*
 %com: farmer = farm-house
 *UTE: *huh?*
 *KAT: *they do live in the farmer.*
 %com: target: they live on the farm. (Katla 3;2,28 (S67))
- (36) *UTE: *what's happening?*
 %com: Katla points to the back of the head of a girl in her colouring-book.
 *KAT: *she does want eyes on her back.*
 %com: *want* may be lexical transfer from Ice. *vanta* = 'lack'
 %com: target: she wants/lacks/needs eyes on her back. (Katla 3;2,28 (S67))
- (37) %com: Ute and Katla are drawing pictures. Ute's crayon breaks off.
 *KAT: *you did broke it.*
 %com: target: you broke it.
 *UTE: *oh dear.*
 *UTE: *it just happened.*
 *KAT: *you did pull it.*
 %com: target: you pulled it.
 *UTE: *huh?*
 *KAT: *you did pull it.*
 %com: K repeats herself and uses oversupplied *did* again, which shows that her earlier utterance wasn't just a speech error. Target: you pulled it.
 *UTE: *I didn't pull it, I actually just + ... I was just drawing with it.*
 *UTE: *sorry.*
 *KAT: *it did fall off.*
 %com: target: it fell off.
 *UTE: *it fell off, yeah.* (Katla 3;3;02 (S68))
- (38) %com: Ute is telling Katla about a pub lunch she had earlier in the day.
 *UTE: *do you know what I had?*
 *KAT: *mhm.*
 *UTE: *guess!*
 *KAT: *you # [w] + ...*
 *KAT: *you talk to me what did you have.*
 %com: talk to me = tell me, embedded whQ with direct whQ word order.
 *UTE: *sorry?*
 *KAT: *what did you do have.*
 %com: 2 Aux *do*, 'did' for question formation, 'do' oversupplied. (Katla 3;3;02 (S68))

- (39) *UTE: *as you're supposed to wear your pyjamas.*
 *KAT: *I do want this book.*
 %com: I want that book.
 *UTE: *I know you want that, but you have to put on your pyjamas, otherwise you're gonna get cold.*
 *KAT: *I do want it.*
 %com: target: I want it. (Katla 3;3;02 (S68))
- (40) *Ute: *bumm.*
 %com: Katla has just let herself fall down on the floor and falls on her bottom.
 *UTE: *what happened?*
 *KAT: *I do bump on my bottom.*
 %com: tense error, past reference
 %com: target: I bumped (on) my bottom. (Katla 3;3;11 (S69))
- (41) *KAT: *whoop.*
 *UTE: *what?*
 *KAT: *that do fell off.*
 %com: tense/agreement error, target: that fell off.
 *UTE: *sorry, I didn't hear.*
 *KAT: *that did fell off.*
 %com: target: that fell off. (Katla 3;3;11 (S69))
- (42) %com: With much concentration, Katla jumps up and down. Pleased, she says:
 *KAT: *I did jump.*
 *UTE: *what?*
 *KAT: *I did jump.*
 *UTE: *you jumped, yeah.*
 *KAT: *yeah, I [do!!] did jump.*
 %com: double Aux do, 'do' is stressed (for emphasis?), 'did' is oversupplied.
 target: yeah, I jumped. or: yeah, I [did!!] jump. (Katla 3;3;11 (S69))
- (43) %com: Katla wants to know why Ute has a plaster on her finger.
 *UTE: *it's a plaster because I cut myself on my finger.*
 *KAT: *because you do hurt yourself there.*
 %com: tense error, past reference, target: because you hurt yourself there.²⁰
 (Katla 3;3;11 (S69))

²⁰ Jóhanna Barðdal (p.c.) points out that Katla may be using *do hurt yourself* 'injured yourself' here in the sense of *hurt/feel pain*, influenced by Ice. *meiða sig hurt-INF REFL* 'hurt/injure oneself', 'hurt/feel pain'. If so, *do hurt yourself* would not be a tense error (where present tense is used instead of past). However, *do* would still be superfluous.

This kind of auxiliary *do* is nontargetlike; it 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*, see (42)). The oversupplied unstressed *dos* are simply an alternative to simplex thematic verbs for Katla. These *dos* are errors of commission, and thus a type of error that is generally assumed to be vanishingly rare in acquisition, the typical error being omissions, not additions.

Katla occasionally receives negative evidence, when adults correct or rephrase her nontargetlike utterances with oversupplied *do* to an utterance with a simplex verb e.g. (33, 42). Notice, however, that Katla is oblivious to such corrections.

The most striking fact about the nontarget *dos* is that Katla produces them only for a short period. Oversupplied *do* occurs at 3;0,07 (S59) for the first time (see (32)), but is rare (10%) until 3;0,29 (S62). However, from 3;1,10 (S63) it becomes common, making up 42% of all auxiliary *do*. From 3;4,07 (S70) to 3;6,07 (S76) oversupplied *do* is substantially less common (6%) and then it dies away completely. This is shown in Table 7.2., where samples are grouped into ranges for maximum effect.

Table 7.2. Katla's oversupplied *do* in relation to all auxiliary *do*

	Oversupplied <i>do</i> raw numbers, out of all auxiliary <i>do</i> + V	Percentage of oversupplied <i>do</i>
1;6,00-1;11,24 (S14-S34)	not applicable: no auxiliary <i>do</i>	-
2;0,00-2;9,14 (S35-S54)	(3)/96	(3%) ²¹
2;10,15-3;0,29 (S55-S62)	8/81	10%
3;1,10-3;3,11 (S63-S69)	115/274	42%
3;4,07-3;6,07 (S70-S76)	6/106	6%
3;7,01-4;7,04	0	0%

When I speak of Katla's use of *do* being nontarget, oversupplied or spare, these descriptions of course only make sense in comparison with the use of *do* in adult English. For Katla herself, 'oversupplied' *do* is not oversupplied; she is not making errors but following a *different* system than that of adult English. In the remainder of this chapter, I will investigate the details of Katla's different grammar.

²¹ The three instances of early oversupplied *do* are partial imitations, induced by adult lead questions, e.g. *UTE: *what are you doing?* → *KAT: *I'm doing put water.* (2;5,04 (S48)). In contrast, later cases of oversupplied *do* hardly ever occur in response to lead questions.

5. Oversupplied *do* in monolingual children

In contrast to Katla, monolingual English-speaking children are 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 acquisition 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 somewhat premature. Even though little may have been known about the frequency of *do* addition errors at the time of Pinker’s writing, this should not induce us to simply dismiss them as not to be taken seriously. And importantly, the 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) musters stronger ammunition against the existence of oversupplied *do* in the speech of monolingual children. She 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). She 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*-support. However, she could not spot oversupplied *dos* in the CHILDES data, and claimed that the handful she did find were speech errors only. Consider the following quotation.

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 thematic verb.
(Stromswold 1990:54)

I believe that despite her admirably large-scale study Stromswold is not entitled to conclude that oversupplied *do* does not exist in English child language. I will take issue with her conclusion on four fronts. Firstly, apart from the above quote, Stromswold (1990) does not provide the actual search counts for *do* + *uninflected* thematic verb, but only on double inflections like *I didn’t broke them* or *did you broke them*. This is fine as long as she is concerned with double tensing and inflection mismatching. However, oversupplied *do* is neither a double inflection nor an inflection 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, however, include enough commentary from which to infer contrast or absence of contrast in an utterance. And importantly, the CHILDES 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 to count *do* in an affirmative declarative as stressed/emphatic and thus correct, or as nonemphatic and thus as nontargetlike oversupplied *do*. To disambiguate, one would have to *listen* to the original recordings of the child; computer searches and 'judging from context' are simply insufficient 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 by contrast searched for instances of *do* in 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 speech error – for a child for some time.

Fourthly, in contrast to Stromswold (1990), it is not uncommon to find reports of oversupplied *do* in the literature, but unfortunately typically unquantified or anecdotal examples (e.g. Denison 1993:284; Erreich, Valian and Winzemer 1980; Fletcher 1979; Hollebrandse and Roeper 1996, who cite examples of oversupplied *do* for Tim from 2;11,20-3;0,9; Maratsos and Kuczaj 1978; Mayer, Erreich and Valian 1978; Menyuk 1969; Miller and Ervin-Tripp 1973; de Villiers and de Villiers 1985:79).

Allen (1995) and Zukowski (1996) carried out quantitative analyses on data from the CHILDES database. They found clusterings of *do* in affirmative declaratives in the speech of certain children, and interestingly, these *do* clustered 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 collected the data originally, Zukowski (1996) obtained crucial information about context and intonation. It turned out that Ross' *dos* in question were not stressed, and the context in which they occurred did not suggest contrastive or emphatic use. In short, the *dos* were not targetlike, but 'spare' (thanks to Andrea Zukowski, p. c. 7 May 1996). In contrast to Stromswold (1990) then, I think that certain monolinguals do go through a phase of oversupplied auxiliary *do*.

Clearly, what is needed here is more detailed research, and 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 recordings at the relevant time. Bearing this in mind, it seems that what Katla is doing may not be so very different from some of 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: Monolingual Ross and bilingual Katla do eventually acquire adult-like *do*-support. Let's now take a closer look at Katla's *do*.

6. The distribution of Katla's oversupplied *do*

Recall from Table 7.2. that Katla's oversupplied *do* is short-lived: There are 129 instances from 3;0 to 3;6, but the bulk of them, 89% (115/129), occurs within two months (3;1-3;3). One might wonder whether oversupplied *do* is limited to a particular discourse context. For instance, adult lead questions might have caused Katla to produce oversupplied *do* in her answer. This may have been the case in some instances, as in (44) or (45).

- (44) %com: U and K talking about what they saw on a walk to the playground
 *UTE: *what did you see there?*
 *KAT: *we did see a, a poopoo.* (Katla 3;3,11 (S69))
- (45) *UTE: *what did you do there?*
 *KAT: *we do walk back home.* (Katla 3;3,11 (S69))

But note that only 12% of Katla's oversupplied *do* might arguably be copied from or in some way conditioned by the adult lead question. It cannot be the explanation for the remaining 88% of oversupplied *do*, because in these cases, the lead question either does not feature any *do* or there is no lead question at all:

- (46) *UTE: *what happens?*
 *KAT: *did get two on my head.* (Katla 3;3,11 (S69))
 %com: null 1SG subject.
- (47) *UTE: *what have you coloured so far?*
 *KAT: *I did colour this # this # this.* (Katla 3;3,11 (S69))
- (48) %com: Ute and Katla find small black beetles inside a flower.
 Katla shakes them out into her palm.
 *KAT: *do put it on my hand.* (Katla 3;3,11 (S69))
 %com: null 1SG subject

Furthermore, there are hundreds of adult 'lead' questions with *do*-support that do *not* induce Katla to produce any *do*, consider (49-51). I conclude that we can disregard 'lead' questions as a cause of Katla's *do*.

- (49) *UTE: *but what do they say at the nursery?*
 *KAT: *they say Katla.*
 [not: *they do say Katla.*] (Katla 3;3,02 (S68))
- (50) *UTE: *what did we do with the flowers?*
 *KAT: *we put some beetles.*
 [not: *we did/do put some beetles.*] (Katla 3;3,02 (S68))
- (51) *UTE: *and then what do you have?*
 *KAT: *I have again dinner, another dinner.*
 [not: *I do have again dinner.*] (Katla 3;3,02 (S68))

One might suppose that oversupplied *do* is concentrated – or obligatory – with certain types of verbs, subjects, or tenses (see next section). The data however indicate that this is not the case. *do* occurs with subjects of all numbers and persons, pronominal and lexical subjects; compare the examples in (32)-(43) above. *I* is the most common subject, but this is not surprising, as *I* is the most common subject in Katla's data generally at age 3, as it is in most children's data at that age. Furthermore, there are lots of *I* subjects without *do*.

Oversupplied *do* can occur with any kind of verb, 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/progressive, perfective, habitual, etc.). I mention this because for those dialects of English that allow optional *do*-support in nonemphatic affirmative declaratives, it has been claimed that there are such restrictions for *do*.²² In Katla's data however, the *same* verb occurs both as a targetlike simplex and nontargetlike with *do*, even in one and the same sample, as shown in (52) to (54). There do not seem to be any distribution restrictions, and there is no difference in meaning between the simplex and the *do* utterances.

- (52) a. *KAT: *I want a bread.*
 b. *KAT: *I do want this book.* (both from Katla 3;3,02 (S68))

²² For instance, *do* in West Country and Irish English has been said to occur only with habitual and generic states or actions (Ihalainen 1991:150-158 and references cited therein; Visser 1969:1495, 1507; Trudgill and Hannah 1985:93-94); *do* in Cape Flats English has been said to mark perfectivity (Mesthrie 1994); *do* in Middle and Early Modern English has been claimed to occur mainly with agentive, transitive verbs (Denison 1985; Kroch, Myhill and Pintzuk 1982) or as some aspectual marker (Roberts 1993). However, in dialectology and diachronic syntax it is disputed whether *do* in these dialects really is restricted to these proposed valency and aspectual types (see Bohnacker 1996, Erb 1995).

- (53) a. *KAT: *I do fall on my bottom.*
 b. *KAT: *you lie, and, and I walk on your toes, and, and I fall on my bottom.*
 (both from Katla 3;3,02 (S68))
- (54) a. *KAT: *we did go in the park.*
 b. *KAT: *I did frighten it and he did go.*
 c. *KAT: *and when people get ill # then they do go to the doctor.*
 d. *KAT: *(u)p we go.*
 e. *KAT: *you go with spider.*
 f. *KAT: *and this goes up.*
 g. *KAT: *who went?* (all from Katla 3;3,11(S69))

In summary, oversupplied *do* has nothing to do with verb type, valency or aspect. But one may wonder – what about *do* and Tense? This is investigated in the following section.

7. *do* and Tense

Katla's oversupplied *do* is not restricted to a certain tense, but occurs roughly equally for present and past, as shown in Table 7.3., 41% taking the form *do*, 11% *does*, and 44% *did* + thematic verb.²³

Table 7.3. Forms of Katla's oversupplied *do*

	Raw numbers, out of all oversupplied <i>do</i>	Percentage, out of all oversupplied <i>do</i>
<i>do</i> + thematic verb	53/129	41%
<i>does</i> + thematic verb	14/129	11%
<i>did</i> + thematic verb	57/129	44%
other	5/129	4%

89% (115/129) of the thematic verbs following *do* are uninflected and can thus be considered infinitives. 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

²³ The remainder appear to be nonfinite, combining a finite auxiliary (e.g. *what did you do have*; *I'll do get your bag*; *the cat doing watching*, *the cat is*).

problems with.²⁴ 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)). Thus, the thematic verb in the oversupplied *do* construction is mostly an infinitive. 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* + thematic verb *instead* of a finite simplex verb. Katla knows that only one verb per clause can carry tense marking, either the thematic verb or the auxiliary. The following Table 7.4. shows how often Katla oversupplies *do* in contexts that obligatorily call for a simple finite thematic verb.

Table 7.4.

Oversupplied *do* in relation to obligatory contexts for finite simplex thematic verbs

	Oversupplied <i>do</i> , raw numbers, out of all obligatory contexts for a simplex thematic verb	Percentage of oversupplied <i>do</i>
2;0,00-2;9,14 (S35-S54)	3	<1%
2;10,15-3;0,29 (S55-S62)	8/245	3%
3;1,10-3;3,11 (S63-S69)	115/456	25%
3;4,07-3;6,07 (S70-S76)	6/274	2%
3;7,01-4;7,04	0	0%

In the two months from 3;1 to 3;3, Katla substitutes nontarget auxiliary *do* + thematic verb for a finite simplex thematic verb 25% of the time (115/456), fluctuating between 9% and 33% from sample to sample. This is a substantial percentage, but it also shows that Katla's *do* is not in any way obligatory in nonemphatic affirmative declaratives.

²⁴ 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 constructions other than *do*-support. Consider *fall* and *fell* for Katla at 3;3,02:

- (i) *you shall walk on your knee and I fell on my bottom.*
- (ii) *if I walk on your leg, I would fall # fell on my bottom.*
- (iii) *if I stand on it, I would fell on my bottom, wouldn't I?*
- (iv) *I do fell much.*
- (v) *and this do fall off, didn't he?*
- (vi) *and you fall down on your butt!*
- (vii) *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 attested for most monolingual English children in the literature (Stromswold 1990).

In fact, the optionality of *do* in affirmatives in Katla's grammar is highly reminiscent of the system of Early Modern English (ca. 1575-1700), now well documented in the literature.²⁵ Early Modern English *do* optionally occurred in nonemphatic affirmative declaratives, without any particular 'function' (such as encoding aspect, etc.). Moreover, *do* was used for negation, emphasis and question formation, and this became increasingly more common and eventually obligatory, whilst *do* in affirmatives decreased and vanished. This development is similar to Katla's. As we will see, there is one important difference between Katla's system and that of 17th century English (thanks to Joe Emonds, p.c., January 1998): Tense and agreement inflection is obligatory in Early Modern English, but not obligatory for Katla.

The large majority of Katla's oversupplied *do/does/did* (81%, 104/129) are inflected correctly for tense and for agreement with the subject over the whole 6-month period during which oversupplied *do* occur. This is the case also during the 2-month peak period at 3;1-3;3 (81%, 93/115), vacillating between 0% and 35% from sample to sample.²⁶

²⁵ For references, see e.g. Denison (1985, 1993), Ellegård (1953), Kroch, Myhill and Pintzuk (1982), Poussa (1982), Rissanen (1988), Roberts (1993), Rohrbacher (1994), Schäufele (1994), Stein (1990), Tieken (1987), Traugott (1972), Trnka (1930), Visser (1969), Wright (1987, 1988). Unstressed affirmative *do* is the oldest type of auxiliary *do* in English, attested first in writings from the beginning of the 13th century (rhyming verse from the Southwest of England; Denison 1993:264). To pin down the 'meaning' and function of such *do* has been virtually impossible. It appears that *do* in affirmatives declaratives has varied in its functions across time, including being a marker of discourse foregrounding; being used as a device for achieving iambic metre in poetry and prose; serving as a tool for imitating Latin and French high-register stylistic ideals; having a progressive reading, etc. Many other 'functions' of *do* have been hypothesised, such as *do* being a marker of perfective or habitual aspect, or a past tense marker of otherwise zero-marked pasts (e.g. *did put*). However, corpus analyses (Stein 1990, Visser 1969) have shown that these proposals have no empirical foundation whatsoever. Eventually, *do* became grammaticalised in questions, negation and emphatic use in Early Modern English, roughly between 1575 and 1700. English allowed *do*-support (e.g. *do you live here?*) and optional thematic verb raising (e.g. *live you here?*) at the same time, before modern *do* usage won out. *do*-support in questions, negations and emphasis became (near-)obligatory, while the occasional use of *do* in nonemphatic affirmatives continued. In the 18th and 19th centuries, affirmative *do* passed out of use in Standard English, and is now restricted to archaisms, such as religious or legal formulas (e.g. *I do solemnly declare ...*).

²⁶ Aspect marking is not always correct: Katla sometimes uses oversupplied *do* + thematic verb instead of progressive auxiliary *be* + *ing* to refer to durative actions. For instance, in (32), Katla's *it does work* may correspond to adult *it works*, but the context it occurs in suggests the target *it's working*. (Native speakers disagree however as to which form is more idiomatic (Marcel den Dikken, p.c., Roger Maylor, p.c., Bonnie Schwartz, p.c.). Similarly, in (53), *I do fall*, uttered when Katla is letting herself fall on the floor, does not correspond to habitual or generic *I fall*, but to ongoing *I'm falling*. Katla's oversupplied *do* can thus occasionally be interpreted as progressive. It is of interest here that some 17th century English *do* + INF also allow a progressive reading. As discussed in Chapter 3, some

In particular, 95% (54/57) of Katla's oversupplied *did* correctly refer to an event in the past, 100% (14/14) of her *does* have correct present time reference (and third person singular reference), and 66% (35/53) of her *do* have present time reference. The difference between *does/did* and *do* is interesting: Katla 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 context (8%, 4/53). For examples, consider again (40) and (41).

(40) *UTE: *bumm, what happened?*

*KAT: *I do bump on my bottom.*

%com: tense error, past reference

%com: target: I bumped (on) my bottom.

(Katla 3;3,11 (S69))

(41) *KAT: *whoop.*

*UTE: *what?*

*KAT: *that do fell off.*

%com: tense/agreement error, target: that fell off.

*UTE: *sorry, I didn't hear.*

*KAT: *that did fell off.*

%com: target: that fell off.

(Katla 3;3,11 (S69))

With regard to tense and agreement, oversupplied *do* is similar to 'legitimate' *do* (in questions, ellipsis and emphasis), where *does* and *did* are used correctly, and uninflected *do* is overused, though overused at lower levels. Uninflected oversupplied *do* is also similar to uninflected thematic verb forms which are overextended to past and 3SG present contexts, i.e. nontarget root infinitives. As we shall see, Katla continues to produce RIs during her spare-*do* period. Potential relations between oversupplied *do* and root infinitives are explored in Sections 8 and 9.

It is surprising that there are cases of uninflected nontarget auxiliary *do* at all, both in legitimate and oversupplied contexts. It is generally claimed that there are no RI auxiliaries in language acquisition (e.g. de Haan 1986 and de Haan and Tuijnman 1988 for Dutch, Wexler 1994 for English). Indeed, the literature typically describes the acquisition of auxiliary inflection for tense and agreement as error-free. In monolingual English child language, nonfinite auxiliaries, e.g. *I be walking* instead of target *I'm walking*, or *have he eaten?* instead of *has he eaten?*, are only extremely rarely attested (e.g. Stromswold 1990:50-53, 72-73). In fact, Katla's auxiliary *have*, *be* and copula *be* match these monolingual findings in every sense: The percentage of her auxiliary tense or agreement errors is minimal with these auxiliaries, and the percentage of uninflected infinitival *have* and

of Katla's simplex thematic verbs also have a durative reading that is not quite targetlike, e.g. *I fall* meaning *I'm falling*. In this regard, Katla may be different from English-speaking monolinguals, presumably due to influence from her other language, Icelandic, where also the simple tenses can denote durative events.

these Table/Figures I have only considered contexts that require an *overt* finite inflection on the simplex main/thematic verb in adult English: Third person singular present *-s*, e.g. *walks*, regular *-ed* past, e.g. *walked*, and overtly marked pasts such as *made*. Zero-marked pasts (e.g. *hurt*, *put*) and ablaut-only marked pasts (e.g. *fell*, *came*) are not included because of their ambiguous status. It will be noticed that the raw figures of obligatory contexts for overt inflection are quite small. This is not due to small sample size; in fact, Katla produces a great many verbs in virtually every sample. Unfortunately, most are irrelevant here, being largely copulas, periphrastic verbs with a finite auxiliary, imperatives, or, very frequently, ambiguous zero-marked thematic verbs in declaratives, such as *I want chocolate*.

Table 7.5. and Figure 7.1. show Katla's production of overt finiteness inflections on thematic verbs in raw figures sample by sample. In order to read Figure 7.1., compare the bars with the colour-matched dotted curves for each sampling point. A black dot indicates the total number of obligatory contexts for third person present *-s* (raw figures) in each sample; compare this with the black bar representing the number of such *-s* actually provided in this sample. A grey cross indicates the number of obligatory contexts for past tense *-ed* in each sample; this should be compared with the grey bar for the same sample, representing the number of past *-ed* actually provided.

Averaging over 1;11-3;6, *-s* is provided in 50% (45/101) of obligatory contexts, and past tense *-ed* marking in 78% (130/167) of obligatory contexts (Table 7.5.). Does this gross averaging over a period one year and half hide quantitative changes over time? Take a look at Table 7.5. where percentages are given for each sample, and at Figure 7.2., where samples have been grouped into 5 age ranges of roughly three to four months, the fourth age range corresponding to Katla's *spare-do* period.

As mentioned before, third person *-s* is categorically omitted before 2;3, and there are no contexts to investigate *-ed*. From 2;3, overt finite inflections are increasingly provided where required: At 2;3-2;6, 23% *-s* and 57% overt past tense, at 2;7-2;11, 44% *-s* and 77% overt past tense. However, there is no neat gradual increase over time. It isn't really the case that in the early samples inflections are massively omitted and always provided targetlike in the later samples. Instead there are enormous fluctuations from sample to sample, plus a slight trend with age to better provide obligatory *-s* and overt past. This is best visible in Figure 7.2., after an initial increase from 23% to 44%, *-s* stays level at around 50% (with a 44%-55% range (Figure 7.2.), and 0%-100% in individual samples (Table 7.5.)). As mentioned above, overt past tense inflection appears later, but, interestingly, is provided better than third person *-s* inflection, namely around 70%, with a 57%-87% range (Figure 7.2.) and 0%-100% in individual samples (Table 7.5.).

Table 7.5. Katla's overt inflections of simplex thematic verbs in English.

	-s provided, raw numbers, out of all obligatory contexts	Percentage of -s provided	Overt past -ed inflection provided, raw numbers, out of all obligatory contexts	Percentage of past -ed inflection provided
1;11,24 (S34)	0/1	0%	0/0	
2;0,00 (S35)	0/4	0%	0/0	
2;0,12 (S36)	0/0		0/0	
2;0,16 (S37)	0/0		0/0	
2;0,20 (S38)	0/0		0/0	
2;0,25 (S39)	0/0		0/0	
2;1,16 (S40)	0/0		0/0	
2;3,15 (S42)	3/11	27%	0/0	
2;3,26 (S43)	0/1	0%	0/0	
2;4,02 (S44)	1/1	100%	0/2	0%
2;4,09 (S45)	0/1	0%	0/0	
2;4,23 (S46)	0/0		0/0	
2;4,27 (S47)	1/6	17%	8/10	80%
2;5,04 (S48)	0/1	0%	0/0	
2;6,17 (S49)	0/0		0/2	0%
2;7,09 (S50)	4/5	80%	0/0	
2;8,21 (S52)	0/1	0%	5/5	100%
2;9,09 (S53)	0/0		0/0	
2;10,02 (S54)	0/0		0/0	
2;10,15 (S55)	4/10	40%	0/0	
2;11,15 (S56)	0/0		0/0	
2;11,21 (S57)	0/0		0/3	0%
2;11,27 (S58)	0/2	0%	5/5	100%
3;0,07 (S59)	0/1	0%	1/1	100%
3;0,14 (S60)	4/8	50%	8/15	53%
3;0,17 (S61)	0/0		0/1	0%
3;0,29 (S62)	2/5	40%	5/13	38%
3;1,10 (S63)	5/7	71%	11/17	65%
3;1,20 (S64)	1/1	100%	1/1	100%
3;2,10 (S65)	0/0		0/0	
3;2,11 (S66)	2/2	100%	3/3	100%
3;2,28 (S67)	2/7	29%	9/11	82%
3;3,02 (S68)	7/7	100%	11/15	73%
3;3,11 (S69)	4/9	44%	14/19	74%

	-s provided, raw numbers, out of all obligatory contexts	Percentage of -s provided	Overt past -ed inflection provided, raw numbers, out of all obligatory contexts	Percentage of past -ed inflection provided
3;4,07 (S70)	0/0		6/6	100%
3;4,18 (S71)	0/1	0%	5/5	100%
3;4,20 (S72)	2/2	100%	5/6	83%
3;5,10 (S73)	0/0		2/2	100%
3;5,19 (S74)	0/0		0/0	
3;5,23 (S75)	0/0		1/1	100%
3;6,07 (S76)	3/7	43%	20/24	83%
Total	45/101	50%	130/167	78%

How does this relate to Katla’s acquisition of auxiliary *do*? When *do* becomes productive for negation at 2;0, there is no sign of any overt finite inflection on thematic verbs, though copulas and other auxiliaries are clearly inflected for agreement and tense inflection at this point (Chapter 5). From 2;3 onwards, Katla optionally inflects thematic verbs for finiteness overtly (and targetlike). However, at the same time she *categorically* omits *do* from all obligatory contexts but negation, and she does so for a long time.

When Katla finally extends *do* to contexts other than negation at 3;0, the provision of overt finite inflection on simplex verbs does not change. Nor does simplex verb inflection change when oversupplied nontarget *do* appears (3;0,07-3;3,11, i.e. at the fourth stage in Figure 7.2.). During Katla’s spare *do* stage, finite simplex thematic verb inflections are still optional: In third person present tense contexts, 53% simplex verbs are inflected targetlike with -s, and in contexts for overt simple past tense, 65% are inflected with -ed (including 6% overregularisations). And when oversupplied *do* is on the wane (3;4,07-3;6,07), simplex thematic verb inflections are still optional, though the fluctuations from sample to sample have become smaller (cf. Table 7.5., Figure 7.1.). To summarise, Katla produces nontargetlike uninflected simplex verbs (root infinitives) over a long time period, and there is nothing to suggest any correlation between overt *do* and the acquisition of overt targetlike simplex verb inflection. As I will show now, these findings are puzzling under the aforementioned approaches to *do*-support and auxiliary acquisition.

9. Competing accounts

Harris and Wexler (1996) and Wexler (1994) expressly want to link the acquisition of auxiliary *do* with the acquisition of finite thematic verb inflection. The reason for this is that they regard both *do* and overt simplex verb inflections as indicative of the functional category Tense being present in an utterance. The flip-side for them is that *do*-omissions and finite verb inflection omissions signal absent (or deficient) Tense; it follows that both types of omissions are instances of Root Infinitives, and Harris and Wexler (1996:13, 20-22, 38, fn. 15) predict that optional *do*-omissions and optional verb inflection omissions co-occur in child English. Future research will show whether there is such a correlation for monolinguals; for Katla, it is certainly true that we find *do*-omissions and verb inflection omissions which coincide before 3;0.

Yet the following facts cast severe doubt on Harris and Wexler's (1996) account: During Katla's 'RI stage,' i.e. when thematic verb inflections are optionally omitted, *do* for negation is *not* omitted. Recall from Section 4.1. (this chapter) and Chapter 5 that *do* for purposes of negation is in fact provided 94% of the time. But *do* is *categorically* omitted from questions, ellipsis, emphasis. Any such difference in the provision of *do* dependent on context remains mysterious under a deficient-Tense approach.

Then, from 3;0, Katla suddenly provides *do* in most obligatory contexts, and even oversupplies it in the wrong contexts, namely nonemphatic declaratives. If anything, this should signal the end of the RI Stage under Harris and Wexler's (1996) proposal. But nothing changes with regard to simplex thematic verb inflections – the RIs there do *not* disappear (cf. Table 7.5., Figures 7.1.-7.2.). If anything, during the peak spare *do* period, the simplex thematic past tense inflections decrease slightly (from 77% to 65%), which means more RIs. There does not appear to be any correlation whatsoever between 'more *dos*' and 'less RIs', as predicted by Harris and Wexler (1996).

Then there is the issue of Katla's uninflected *do* auxiliaries. Recall that *do* are mostly inflected correctly, though some take the form of a bare *do* without the required agreement and tense inflection. There are very few of these uninflected *dos* (9%) in legitimate contexts, but there is a substantial number of uninflected oversupplied *dos*: 19% (25/129) for *do/does/did*, but 42% (22/53) for *do* only (18 *do* instead of *did*, 4 *do* instead of *does*). In fact, these bare *do* look like root infinitive auxiliaries. This would be unexpected for Harris and Wexler (1996), as *do* signals targetlike Tense in their model.

Things are equally problematic under Hollebrandse and Roeper's (1996) scenario. Recall that they regard *do* as the most economical, First Resort way to spell-out Tense and predict that children should overuse *do*. Indeed, Katla oversupplies *do* in nonemphatic affirmative declaratives. But none of Hollebrandse and Roeper's other predictions are met. Auxiliary *do*

occurs neither early nor profusely; instead, there is an extensive period of categorical *do*-omissions (except for negation) before 3;0. Oversupplied *do* appears late, long *after* simplex thematic verb inflections (i.e. Hollebrandse and Roeper's uneconomical way of spelling out Tense) have become productive. Even at its peak at 3;3;11, Katla uses oversupplied *do* only in 33% of finite thematic verb contexts. Note also that if *do* were the First Resort spell-out of Tense, most, if not all, English-speaking children should be expected to oversupply *do*. It appears though that only some do, but we don't know for certain, simply because it has not been looked for.

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, i.e. oversupplied *do* (*did*) in T *and* past tense *-ed* marking on the verb in V, i.e. *did walked* instead of *walked*. Double tensing occurs because the "child makes a T-chain visible" according to Hollebrandse and Roeper (1996:269). Only as a third step or stage does the child stop spelling out Tense by *do*-insertion and reaches the adult-like 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 clearly no such three-stage development (nontarget *did walk* $\Rightarrow$ nontarget *did walked* $\Rightarrow$ target *walked*).

The Last Resort approaches to *do* (Chomsky 1957, 1989/1995; Ouhalla 1994; Rohrbacher 1994) say little about any relation between auxiliary *do* and thematic verb inflections; and the two phenomena may well be quite unrelated in acquisition. But as they assume that LF-raising is 'cheaper', and Last Resort *do* insertion is 'costly', the prediction follows that *do* should be avoided whenever possible. Children evidently do avoid it; both Katla and her English monolingual peers omit *do* from obligatory contexts (Ervin-Tripp 1973; Harris and Wexler 1996; Stromswold 1990). However, it is unexpected that *do*-support in negation becomes productive and virtually targetlike for Katla and many monolinguals before *do* makes its first appearance in the other obligatory contexts, such as questions (Ervin-Tripp 1973; Fletcher 1979, 1985; Miller and Ervin-Tripp 1973; Miller 1973). Of course one might speculate that *do* comes in earlier for negation because the blocker that separates the features in Infl from V is more 'salient' for negation. But recall that there is nothing principled in Chomsky's or Rohrbacher's models to suggest this; rather, *do*-insertion is assumed to be a *unitary* phenomenon (Chomsky 1957:66; Rohrbacher 1994:150). But for children it apparently need not be unitary at all.

The most pressing problem with Last Resort insertion of *do*, however, is that *do* in nonemphatic affirmative declaratives is oversupplied by Katla, and, pending further research, also by monolingual children, definitely at least by Ross. Supposing that *do* is the most costly way to spell out Infl, Katla should never overuse it – particularly as there is no

do in nonemphatic affirmatives in the input. One possibility would be to assume that there exists some covert blocker in certain declaratives which forces *do*-insertion. But apart from being an ad hoc stipulation, this is quite unlikely. In Section 6, I argued that the oversupplied *do* cases are not contrastive, not emphatic, and not different in meaning from targetlike simplex thematic verbs. Oversupplied *do* exists in child language, and auxiliary *do* is grammatical in nonemphatic affirmative declaratives in languages and dialects other than Standard Modern English. This suggests that the ‘costly’ language-specific Last Resort insertion approach is disputable.

10. Overextension

I regard *do*-support as being neither an exceptional spell-out of Infl (Last Resort) nor as the default (First Resort), but simply as one other auxiliary. Like *have*, *be* and the modals, *do* admits inversion, such as in questions, negations and exclamations. Like the other auxiliaries, *do* can carry nuclear stress for contrastive or other emphatic reasons. Like the other auxiliaries, *do* can be used in elliptic responses, where the thematic VP is null. And in all of these periphrastic expressions, consisting of an auxiliary + thematic verb, the auxiliary is the inflected element. Thus *does*, *did* and *do*, both in legitimate and in oversupplied contexts, are simply bearers of agreement and tense inflections.

At 2;0, Katla begins to use *do* in negation and provides it most of the time (85%). Having stopped to produce Icelandic-style *not*-initial imperatives, after age 2;5, Katla uses *do*-support in negation (*don't*, *doesn't*, *didn't*) in nearly all obligatory contexts (93%-98%). The reason *do* appears so early and reliably in negation is that clitic *n't* is defined as occurring on an Infl-element, so the negation *n't* cannot be used without Infl being overt.

At age 3;0, Katla begins to use *do* in non-negated contexts (questions, ellipsis, and stressed emphasis). But at that point she does not realise yet that the Modern English system of *do*-support has a gap, as shown in Table 7.6. (thanks to Roger Maylor for extensive discussions on this issue).

Table 7.6. The distribution of *do*-support in Modern Standard English

Environment	Obligatory <i>do</i>	Obligatory <i>do</i> when emphasised/stressed
Negations	√	√
Elliptic responses	√	√
Questions	√	√
Affirmative declaratives		√

In negation, ellipsis and questions, unstressed *do*-support is the default case. In fact, *unstressed do* is obligatory, and stressed *do* is also possible for contrast. In affirmative declaratives, however, unstressed *do* is ungrammatical; it cannot even be used as a marked construction. Thus the system is not regular, symmetric or parallel. For a short period, Katla fills this gap by overextension, resulting in *do* + V in nonemphatic affirmatives. She thus considers [_I *do* + TENSE] + V as equivalent to V + TENSE.

Now, a central issue is, why is [*do* + TENSE] + V not equivalent to V + TENSE in the target? Economy of Derivation seems to have been invented for this; V + TENSE may be more economical (cf. Chomsky's (1957, 1989/1995) and Rohrbacher's (1994) Last Resort proposals: "LF raising is cheaper than *do*-insertion."; Emonds' (1994:162) Economy of Derivation proposal: "The most economic realization of a given deep structure minimizes insertion of free morphemes. ('Use as few words as possible.').")

But then, why does Katla not obey Economy of Derivation? Perhaps, [*do* + TENSE] + V and V + TENSE are not quite equivalent and *do* + V has some special 'meaning'? But, as I have shown, this is *not* the case. *do* + V is not restricted to particular verbs, discourse contexts or aspectual interpretations. Minimal pairs of *do* + V and V + TENSE with the same thematic verb are produced by Katla in the same sample, without any difference in meaning. Perhaps, Economy of Derivation is not operative for Katla because it has not matured, and once it matures, *do* + V in affirmatives goes away (as suggested by Joe Emonds, p. c., 7 January 1998)? If this were so, we should expect to find reflexes of this proposed maturation at 3;3 throughout Katla's language systems. I am not sure what these reflexes would be; Emonds suggests that 'unneeded' double marking (e.g. *more nicer* instead of *nicer*; P + DP_{CASE} instead of DP_{CASE}), disappears with Katla's spare *dos*. But there are no such 'uneconomical' double markings; the only 'uneconomical' phenomenon is *do* + V. I severely doubt that maturation has anything to do with the disappearance of *do* + V (note also that we should find reflexes of such maturation in other children); in fact, I doubt that Economy of Derivation has much explanatory value with regard to auxiliary *do* in general. I suspect that the ungrammaticality of unstressed *do* in nonemphatic affirmatives in Standard Modern English has little to do with economy, but is more of a historical accident. UG allows variation across languages with regard to how tense and agreement are realised, and *within*-language variation is possible too: 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 English dialects today, as well as most German dialects, have exactly such *do*. And Katla's overextended, optional *dos* pattern with these. I am aware that in syntactic theory today, optionality and the possibility that two constructions with the same meaning and function coexist in one language are frequently disputed and decried. The empirical facts, however, are otherwise: Adult and child grammars do allow optionality.

Some questions remain: How does a child unlearn oversupplied *do*, and what sort of element is *do*, i.e. where is it generated? Many generative models assume *do* to originate in I^0 , Agr^0 or T^0 (e.g. Chomsky 1989; Harris and Wexler 1996; Hollebrandse and Roeper 1996; Pollock 1989; Watanabe 1994; Wexler 1994). Others generate *do* instead in a V-projection of its own (e.g. Ross 1969; Wilder and Cavar 1994). In adult English, auxiliary *do* is always finite, and in Katla's data it mostly is too, which perhaps points to it being an element generated in an Infl-related functional projection. But then there are also those instances of *do* without the required overt agreement and tense inflection. It is problematic to consider these bare *dos* (i.e. possible RIs) generated in Infl; they are perhaps more likely to be in a lower V^0 , remaining unraised – or in Infl, but uninflected.

Finally there is the question of how Katla unlearns nontarget *do*. I have rejected a maturational explanation, and I have rejected negative evidence as an explanation, as Katla seems oblivious to the occasional corrections and rephrasings given by me and other adults at the time. Katla's oversupplied *do* follows a bell curve, with a sharpish peak at 3;2-3;3 (Tables 7.2. and 7.3.). From the input, Katla knows and has known that English either inflects the thematic verb for tense and agreement, or it inflects the auxiliary. That is why she has been producing utterances with inflected auxiliaries as well as utterances with inflected thematic verbs. She continues to do so also during the peak period for oversupplied *do*. And she continues to do so in the face of direct negative evidence. What seems to take her a while is to evaluate the input closely enough and 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 all unstressed *do* from nonemphatic affirmatives. It is currently unfashionable in generative acquisition theory (with the exceptions of Henry 1997 and Valian 1990:117-121) to assume that language learners compare the existence or non-existence of a construction in different contexts, and thus *evaluate* their input (indirect negative evidence). Nevertheless, I think this is what Katla needs to do in order to work out the target distribution of auxiliary *do*, and this takes her several months. We know too little about monolingual English children to be able to compare; future research will tell. Perhaps, it is also Katla's bilingual upbringing that makes her oversupplied *do* more drawn-out over time and thus more prominent than in certain monolingual children. Recall that from age 2;11, 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 every weekday. She receives a lot of input, but it is significantly less than what her monolingual peers receive. And this arguably prolongs her figuring out the precise distribution of Modern English *do*, following instead a system very similar to Early Modern English for a couple of months.

11. Conclusion

In this chapter I have investigated Katla's acquisition of auxiliary *do* from her first uses of *do* for negation at 2;0,00 until she reaches targetlike *do*-support at 3;6. Katla acquires auxiliary *do* in a manner not dissimilar from monolingual English children, with no transfer effects from her first language Icelandic. Katla's development can be summarised as consisting of four periods:

- (i) At first (1;6 to 1;11), she does not use *do* at all, except for isolated *don't* for threats and prohibitions.
- (ii) From 2;0 to 3;0, *do* is used productively for negation in 85%-93% of obligatory contexts, but categorically omitted anywhere else.
- (iii) From 3;1, *do* is extended to other obligatory contexts than negation (questions, elliptic responses, emphatic stressed declaratives) and regularly provided (78%-100%). Simultaneously, Katla produces *do* in nontarget contexts, namely in nonemphatic affirmative declaratives. These oversupplied *do* are short-lived (six months), and 89% occur within a 2-month period, from 3;1-3;3. Never obligatory (maximally used in 17-33% contexts), oversupplied *dos* nevertheless constitute a real alternative to finite simplex thematic verbs in Katla's grammar at this point.
- (iv) Then, oversupplied *dos* quickly disappear and Katla restricts *do*-support to targetlike contexts.

The forms and contexts that Katla's *do* occur in were investigated in detail. I found no difference in meaning between her utterances with simplex verbs and those with added *do*. Nor were there any restrictions discernible with regard to its distribution. In short, the forms of oversupplied *do* are remarkably similar to those of legitimate *do* at 3;0-3;6: *do/does/did* is generally the sole bearer of inflection, and the thematic verb is uninflected. Tense and agreement inflection is 81% correct, but uninflected 'do' is overused in past tense and 3SG contexts.

I then compared Katla's acquisition of *do* to that of monolingual children in the literature. The emergence of *do* first in negation, and the delay of *do* in other contexts appears to be replicated by monolingual English-speaking peers, but the literature is sparse as regards in-depth longitudinal studies with quantified data. Oversupplied *do*, though frequently mentioned anecdotally for monolinguals, is not documented in Stromswold's (1990) large-scale study of CHILDES children. Yet other researchers who studied the same data (Allen 1995; Zukowski 1996) could isolate a short-lived stage where at least a few monolingual children do produce nontarget *do* in affirmative declaratives, similarly to Katla.

I explored the possibility of subsuming the acquisition of auxiliary *do*, and in particular *do*-omissions, under Root Infinitives and a model where the functional projection of Tense

is optionally absent, as proposed by Harris and Wexler (1996) and Wexler (1994). However, whilst Katla's *do*-omissions in contexts other than negation (2;0-3;0) coincide with optional omission of thematic verb inflection, there is no correlation between the acquisition of generalised overt *do* and overt finite thematic verb inflections. Katla continues to optionally omit third person present -s and overt past tense marking *after* auxiliary *do* has become targetlike. Harris and Wexler's (1996) proposal was thus found not to hold for Katla.

The findings were also incompatible with approaches such as Hollebrandse and Roeper's (1996) that treat auxiliary *do* as the most economical, First Resort, spell-out of Tense. And I questioned the validity of one of the most popular models of *do*-support, Chomsky's (1957, 1989/1995) English-specific Last Resort insertion, not least for empirical reasons, namely the fact that optional nonemphatic *do* in affirmative declaratives exists in child language, and in languages and dialects other than Standard English. Instead I suggested a more accurate middle path: *do* is simply one more regular auxiliary (alongside *have*, *be*), which gets inflected for tense and agreement in periphrastic auxiliary + thematic verb constructions.

Finally, I argued that Katla's oversupplied *do* in affirmatives are a consequence of temporary overextension, overregularisation, or eradication of the curious 'gap' in the distribution of *do* in adult Modern Standard English. Further research is needed to determine how rare or frequent oversupplied *do* actually is in monolinguals, but whatever the result, optional oversupplied *do* is a route children can take – and retract from.

Chapter 8. Conclusion

In this thesis, I have studied the longitudinal development of grammar in a successively bilingual child, Katla (Icelandic/English). I have given detailed qualitative and quantitative analyses of Katla's data from age 1;0 to 4;7, concentrating on the two-year period from 1;6 to 3;6. This case study is important empirically, as there has been very little systematic research on successive bilingualism and on bilingualism before age 2, on Icelandic child language, and none on the particular language combination of Icelandic and English.

The following areas of morphology and syntax have been looked at: Articles and word order in nominals; copula constructions; analytic progressive constructions; subjects, inflection and word order in imperatives; negation; verb placement; verb inflections; auxiliaries and periphrastic auxiliary constructions. I have discussed these topics on a descriptive level and documented Katla's acquisitional paths for Icelandic and English.

Moreover, I have compared Katla's longitudinal data with what is known about the language development of monolingual Icelandic-speaking and monolingual English-speaking children, and, of course, with the adult target languages. The comparison with Icelandic and Icelandic children proved difficult at times: Few areas of Icelandic grammar have been studied systematically for children (except question formation at age 2;0-3;1/3;7 (Sigurjónsdóttir 1991)). At the time of writing, there are no longitudinal data available on very young children (before 2;0) or on children beyond 3;1/3;7. Furthermore, certain aspects of adult Icelandic grammar have simply not been studied, and information is scanty on the properties of informal spoken Icelandic. I have endeavoured to remedy this by giving synopses of my own observations, and in particular by analysing the speech of Katla's parents (input samples).

Qualitative and quantitative analyses have proved crucial here: I have found that certain constructions are much more frequent in colloquial spoken registers than is standardly assumed for Icelandic, e.g. overt (postverbal) subjects in imperatives; subjectless 'sentence fragment' root infinitives; negation-initial infinitival imperatives. Moreover, certain constructions are highly frequent *for certain verbs*, but not for others (e.g. subjectless *-a* imperatives for WEAK CLASS 1 verbs, but for other verb classes stem-imperatives with obligatory postverbal subject). Furthermore, processes of connected speech are at work, such as copula and auxiliary *vera* 'be' reductions and elisions, and the elision of certain thematic verb inflection, which may render colloquial spoken Icelandic quite different from

textbook Icelandic. These facts are 'news' as regards the description of Icelandic, and they are indispensable when studying Icelandic child language and Katla's development. When analysing children's productions, we need to know what the input and thus the actual target is. It may turn out the child's utterances are not so different from the adults', and for Katla and her parents, this is certainly the case.

When comparing Katla's language with adult Icelandic and English, and with monolingual children acquiring these languages, there are many more similarities than differences. Some cross-language influences are also found; these are investigated for particular interest.

Like monolingual English-speaking children, Katla always places English determiners on the left periphery of nominal phrases, whilst in her Icelandic, there is no indefinite article, and definite articles are suffixed to the noun (Chapter 2). And like for monolingual children, articles are at first optional, but the nominal structure is correct from the start.

Like English-speaking children, Katla usually forms the progressive with thematic verb *-ing*, but often omits the finite auxiliary that goes with it in the adult language. Like for English-speaking monolinguals, Katla's provision of the progressive auxiliary substantially increases with age. In Icelandic, Katla forms the progressive with the thematic infinitive *-a*, but often omits the finite progressive auxiliary and *að* particle that go with it, though their provision increases with age (Chapter 3). We cannot compare Katla's longitudinal development to monolingual Icelandic children, but with increasing age, Katla approximates the progressives in her parents' productions. However, the formation of progressives is also one of the areas where there is evidence for cross-language influence. Katla goes through a protracted period where she produces two progressive constructions side by side in her English, English-style *-ing*, and Icelandic-style ([a]) + infinitive (see below). This is different from monolingual English child language.

In the domain of imperatives, Katla's English imperatives match those of English-speaking monolinguals (Chapter 4). In her Icelandic however, the development is different from that of monolinguals. For an extended period, Katla only produces nontargetlike infinitival *-a* imperatives, and when subjects are overt, they are preverbal *þú* 'you'. At 2;11 finally, the first targetlike stem-imperatives with postverbal subject (clitic) appear, but they do not oust the nontarget infinitival imperatives. Monolinguals on the other hand produce stem-imperatives with exclusively postverbal subject and much earlier than Katla does.

As regards negation, Katla's development matches that of monolinguals in both languages (Chapter 5). She acquires negation early and effortlessly. From the start, she differentiates the placement of finite verbs (to the left of negation) from that of nonfinite verbs (to the right of negation). Moreover, she differentiates English from Icelandic, and thematic verbs precede negation only in the latter, whereas *do*-support is used in English from age 1;11/2;0. There may possibly be some cross-language influence in her productions

of negation-initial subjectless clauses with an imperative interpretation. These are targetlike in Icelandic (and occur in Katla's input), but ungrammatical in adult English, though attested for some monolingual English-speaking children.

Root infinitives in Katla's Icelandic occur over an extremely protracted period from 1;6 to at least 4;4 (Chapter 6). Comparison with monolingual Icelandic children proves difficult because of the lack of data. However, a detailed comparison with Katla's parents shows that she mirrors their utterances in many ways, with one striking exception – Katla's nontargetlike imperative RIs with preverbal subject, a case of cross-language influence.

Like many monolingual English-speaking children, Katla acquires auxiliary *do* for negation early, but late for other functions (Chapters 5, 7). She does not exhibit any signs of transfer of the periphrastic *do*-construction to her other language, Icelandic. However, unlike most English-speaking children, she goes through a short period of periphrastic *do* in nonemphatic affirmatives. I have shown that although Katla's interim grammar of overextended *do* is different from adult English, it is similar to the grammar of at least one monolingual English-speaking child in the literature (Ross, CHILDES), and also to the grammar of Early Modern English and certain non-standard dialects of English.

The exploratory empirical investigation of Katla's English and Icelandic language development ends here. I have only touched upon Katla's acquisition of questions, Verb Second, and subjects, and I have not treated complementisers and embedded clauses, or morphological case. These and many other areas of morpho-syntax would be interesting to study, and I intend to do so in future work. In this thesis however, it was necessary to limit myself to the topics outlined above. I endeavoured to go beyond mere data description and comparison of child language and input, important though these are. I wanted to evaluate my empirical findings in detail in the light of current theories of language acquisition and generative approaches to syntax. In order to do so, I not only described Katla's data with traditional grammar terminology, but also in a generative framework, Government and Binding/Principles and Parameter Theory (Chomsky 1986a).

One of the current issues of language acquisition theory concerns the existence of *functional categories* in early child grammars. Functional categories, minimally those of Det, Infl and Comp and their corresponding projections, are used in generative models of syntax to describe the human mental representations of definiteness, temporality, subject-verb agreement and propositionality. Functional categories are part of the hierarchical structure of constituents and clauses; they are associated with lexical elements, including affixes; and X^0 and XP movements to the head or specifier of a functional category represent dependencies and logical relations in an utterance. In language acquisition theory, it has been suggested that in early child grammars, functional categories – and the mental

representations that go with them – are absent or in some way deficient (*No Functional Categories Hypothesis*, Discontinuity, Weak Continuity, e.g. Clahsen 1990/91; Radford 1990a; Vainikka 1993/94; Wexler 1994). Much of the empirical research carried out during the 1990s has been used to argue for or against this hypothesis. In this thesis, I have done the same, but for a successively bilingual child. I have concentrated on DP and IP here.

Katla's data up to age 2;0 show that she regularly makes use of the language-specific lexical elements associated with D and Infl, even though they are not obligatory yet. These functional lexical elements are definite and indefinite articles, finite forms of the copula and auxiliary *be* and *vera* 'be', as well as some other auxiliaries and modals (Chapters 2, 3, 5). Importantly, these elements occur in a range of constructions and are not simply unanalysed chunks. Articles and copulas are already productive at age 1;6 (Chapter 2).

Moreover, Katla has overt syntactic movement out of the VP into the IP domain, and possibly into the CP domain, already before age 2;0 (and possibly movement out of the NP into the DP domain for Icelandic definite nominals). Evidence for such movement comes from utterances where finite copulas and auxiliaries precede negation, or where finite copulas and auxiliaries precede the subject in V1 declaratives and in questions. On the basis of these data I have argued in favour of language acquisition theories that assume that functional categories and the mental representations associated with them *do* exist in Katla's early grammar(s), and in early child grammar more generally.

Furthermore, I have traced Katla's long-term development of temporality and subject-verb agreement via her acquisition of auxiliaries, thematic verb inflections and verb placement from age 1;6 to 3;6 and beyond (4;4). I found that although her utterances become more and more like those of her adult conversation partners, both for English and Icelandic, this is a *gradual* process. By the end of the observation period, Katla has still not reached adultlike provision ratios for progressive auxiliaries, finite thematic verb inflections, and obligatory verb raising in (Icelandic) imperatives. Proponents of No or Partial Functional Categories have hypothesised the following: Absent categories mature or get constructed by the child around age 2;0 (e.g. Clahsen, Eisenbeiß and Vainikka 1994; Radford 1990a). Alternatively, underspecified or deficient features in certain functional heads, such as Tense or Number, are specified and thus become adultlike at a certain age, at 2;5 (Harris and Wexler 1996; Meisel 1994a; Wexler 1994) or before 3;0 (Hyams 1996). These researchers therefore predict that after the aforesaid age, children should not produce nontargetlike utterances anymore, or at least not produce them in substantial numbers. Katla's longitudinal data do not confirm these predictions. Thus, maturational and constructionist accounts are not supported. Instead, I have argued that my findings support theories of language acquisition which assume that the underlying mental representations of children are adultlike (*Strong Continuity*, Full Competence, e.g. Hyams 1992; Santelmann 1995; Valian 1992).

Another theory of language acquisition that I have explored in this thesis concerns *bilingual acquisition*. Whether young bilingual children can or cannot separate their input languages has been the subject of a long dispute in the literature. Some researchers have argued in favour of an undifferentiated language system (*Single System*, e.g. Clark 1987; Volterra and Taeschner 1978), others in favour of two completely self-contained systems (*Separate Development*, e.g. Genesee 1989; de Houwer 1990). Katla's early production data directly bear on this issue. I have furnished evidence of early language separation by age 1;6 in the lexical, morphological and syntactic domains (Chapter 2), on the basis of translational equivalents (content word vocabulary), language-specific functional morphemes (articles; copulas) and language-specific word orders (determiner/noun placement). More evidence in favour of Separate Development comes from Katla's further morpho-syntactic development beyond age 1;6 (Chapters 3-7), where finite thematic verbs precede negation in Icelandic but not in English, finite thematic verbs precede the subject and occupy V1 or V2 positions in Icelandic but not in English, and *do*-periphrasis is used in English but not in Icelandic.

This brings us to a third topic in language acquisition theory, namely *transfer* and *cross-language influence*. This issue has been much debated and studied for adult second language acquisition, and is increasingly being studied for child second language too, where the child has acquired the essentials of her/his first language *before* being exposed to the second. However, we know very little about cross-language influence in successive childhood bilingualism. Katla's longitudinal morpho-syntactic development sheds light on this matters. To a large extent, she progresses along separate lines for Icelandic and English, though not entirely. I have argued that here we have a difference between simultaneous, 'balanced' exposure to two languages from birth on the one hand (e.g. de Houwer 1990) and successive bilingualism on the other, where one language may dominate and influence the other at certain points in the development. Unlike second language acquisition where transfer always goes in one direction, namely from L1 to L2 (e.g. Haznedar 1997a, 1997b; Schwartz and Sprouse 1996), Katla's successive bilingualism features cross-language influence both from 'L1' to 'L2' and vice versa. There is no fully-fledged L1 Icelandic system that can influence her English, since for Katla, exposure to L2 English started at 1;3, well before she began to produce word combinations.

Where then do we find cross-language influence in Katla's grammar? Interestingly, we do not find it where her two input languages vary substantially, namely in head parameter or movement parameter settings. Katla keeps to the N-D order of adult Icelandic in her Icelandic nominals, and to D-N in English (Chapter 2). She raises finite thematic verbs past negation in Icelandic but not in English, and raises thematic verbs past the subject in Icelandic (V1, non-subject-initial V2, questions) but not in English. Katla does produce

Icelandic thematic verbs to the right of negation, but these are all nonfinite, and subjectless Neg + INF is grammatical, with an imperative interpretation (Chapters 5-6).

The only area where there may be cross-linguistic influence of parameter settings concerns novel, nontarget positive *-a* imperatives with postverbal subject in Katla's Icelandic (*þú* + INF). These are nonfinite verbs in form and position (unraised) and at least partly modelled on the English imperative construction, partly on Icelandic infinitival VPs. However, *þú* + INF imperatives *co-occur* with imperatives that are finite in form and position (raised past the subject), which shows that if transfer is at work here, it is not wholesale transfer of the English [-] verb movement parameter setting. Rather, Katla's interim data are evidence of construction transfer and co-existence of two constructions that have the same function (imperative, command). She produces both for long periods of time. The reverse type of cross-language influence is found in Katla's idiosyncratic, nontarget English progressive forms (Chapter 3). Here, Katla transfers the *Icelandic* progressive construction to English: finite auxiliary 'be' + [a] 'að' + infinitive, which she produces alongside English *-ing* progressives over a period of two years.

These two constructions appear to have come about because in certain Icelandic and English constructions, linear order is so similar that transfer is compatible with both grammars. In such cases, transfer can take place either from the L1 to the L2 (as in the case of progressives, e.g. *he's a do it* 'He's doing it.') or from the L2 to the L1 (as in the case of imperatives, e.g. *þú les-a!* you read-INF 'You read!', target: *les-tu!* read.STEM/IMP~you.CL or *les þú!* read.STEM/IMP you). Once the slots are filled with the respective English or Icelandic lexical elements, the construction is quite compatible with the language the construction has been transferred into. In addition, Katla acquires the targetlike constructions in both languages, i.e. English *be* + *ing*, and Icelandic stem-imperative + postverbal subject (clitic).

The targetlike and the nontargetlike constructions co-exist, and they do so over long periods of time. This is interesting as such, since it goes against a wide-spread assumption in current syntactic theory, namely that a language does not permit optionality and co-existence of two constructions with the same meaning and function.

Moreover, it brings us to a fourth topic in language acquisition theory, namely *learnability* and *de-learnability*. There is another example of co-existing constructions in Katla's grammar, namely 'spare' auxiliary *do* (Chapter 7). From 3;0-3;6, but mainly during the two-month period of 3;1-3;0, Katla allows both finite simplex thematic verbs and periphrastic *do* + thematic infinitive side by side in non-emphatic affirmative declaratives, with no difference in meaning. The spare *dos* come about when Katla acquires *do*-support for questions, emphasis and ellipsis at age 3;0. They are a case of overextension, though one that is predicted not to exist by certain theories of learning (e.g. Pinker 1984; Stromswold 1990), note that they are also attested for some monolingual children, though rarely. I have

argued that Katla retracts from overextended *do* by making use of indirect negative evidence, i.e. comparing and evaluating the input, to spot the curious gap of Modern Standard English, which disallows *do* in the particular context of nonemphatic affirmative declaratives. This takes Katla a few months, but she delearns *do* very fast, as compared to the Icelandic-style progressives in her English and English-style imperatives in her Icelandic.

Why do these two constructions not get expunged? Note that they differ from Katla's periphrastic *do* in two ways. *do* comes from within the English system (overextension), and it comes in when the target, namely inflected simplex thematic verbs, has long been established in Katla's English grammar. The progressives and imperatives are cross-language transfer, and they are transferred at a time when Katla has *not yet acquired the targetlike construction*. She adds the adultlike progressive and imperative constructions later, needs to expunge the older and more established ones and instead settles for co-existence. Delearning is slow.

Our understanding of the way in which the human mind copes with one language, not to mention two, is still rudimentary today. In this thesis, I have demonstrated how data from a detailed longitudinal case study of a bilingual child can be used to test hypotheses about acquisition mechanisms and about the structural properties of (child) language. I have shown how important it is to investigate child language data both quantitatively and qualitatively, to look at the child's productions in context, and to evaluate them in the light of the input. This study makes a theoretical and an empirical contribution to our knowledge of early bilingualism and language acquisition, but, as is often the case, the answers will have to be provisional: We need more empirical research on the early stages and the long-term development of grammar in bilingual children, on other language combinations and types of language acquisition, and on monolingual child Icelandic.

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Appendix

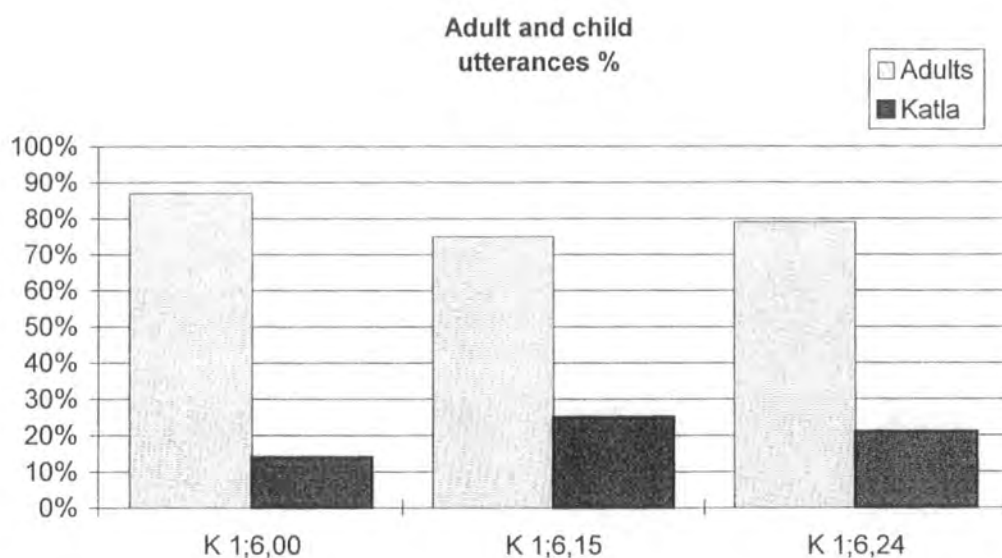


Fig. 2.1. Katla's early samples: distribution of adult vs. child utterances, percentages.

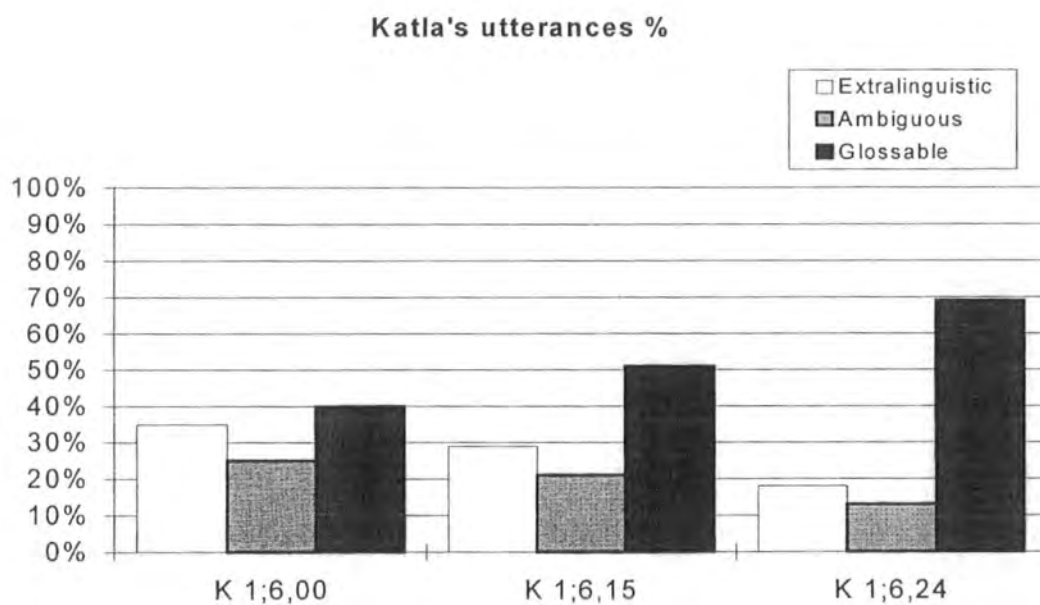


Fig. 2.2. Katla's early samples: extralinguistic vs. ambiguous vs. glossable utterances.

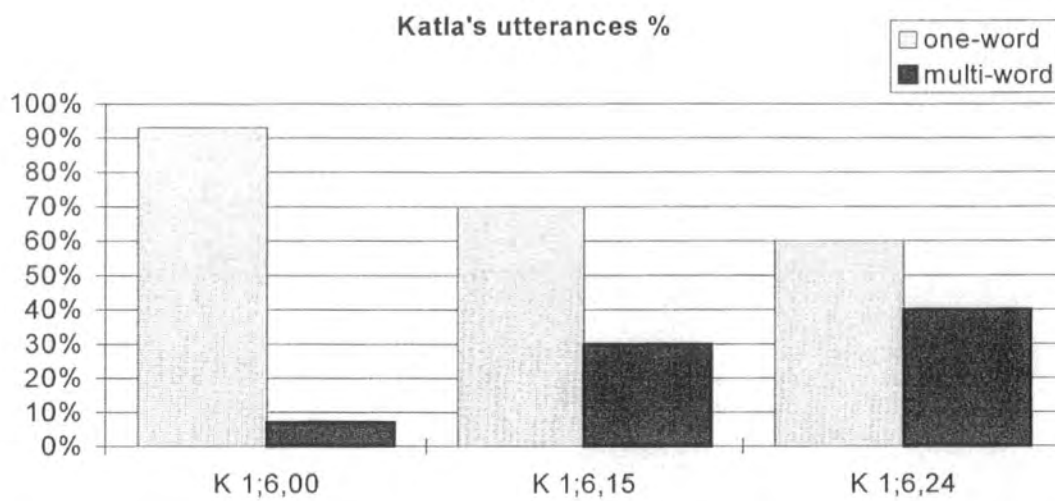


Fig. 2.3. Katla's early utterances: one-word vs. multi-word, percentages.

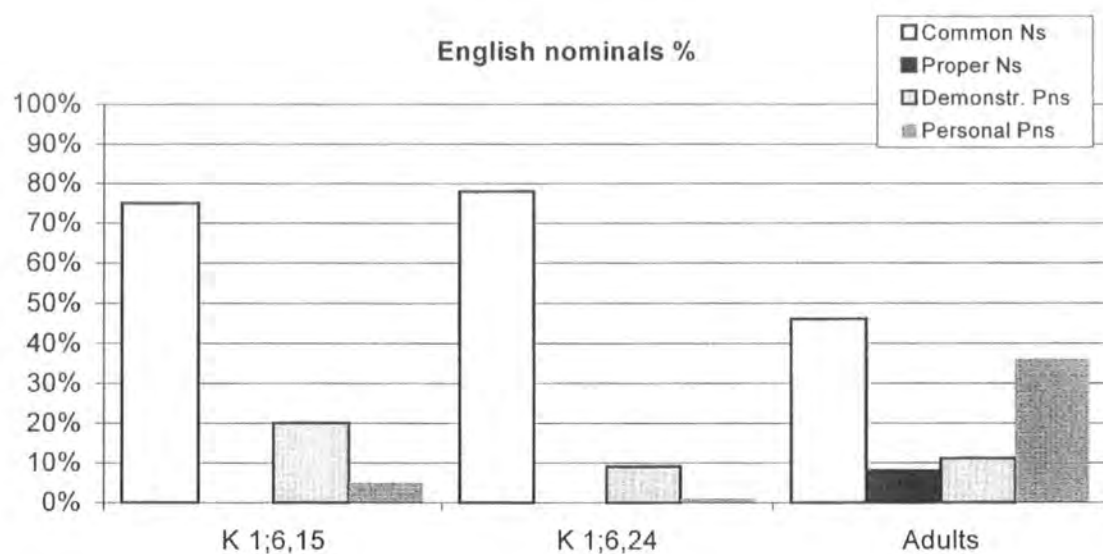


Fig. 2.4. English nominals: pronouns, proper nouns, common nouns. Katla vs. adults.

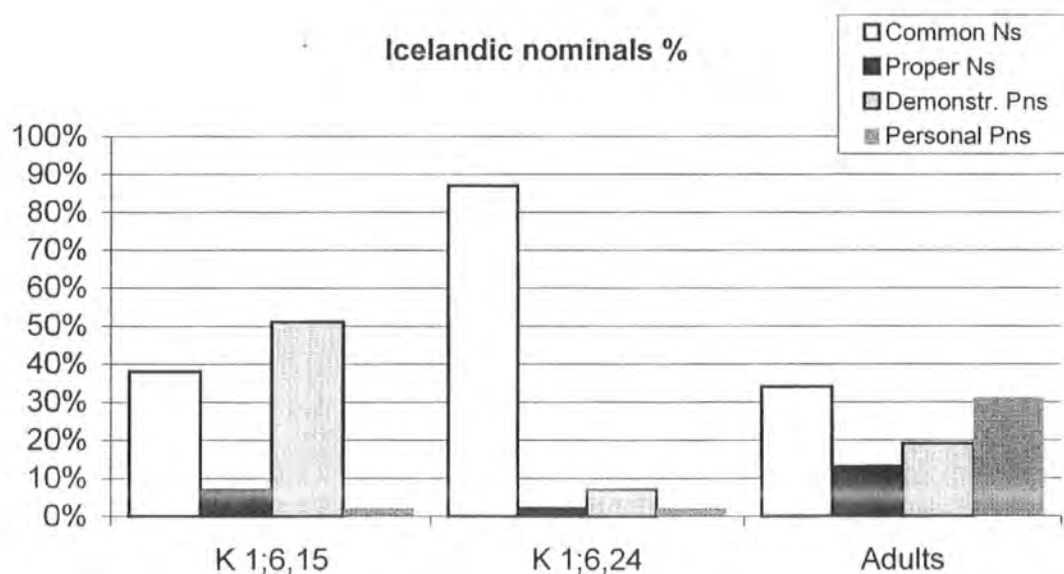


Fig. 2.5. Icelandic nominals: pronouns, proper nouns, common nouns. Katla vs. adults.

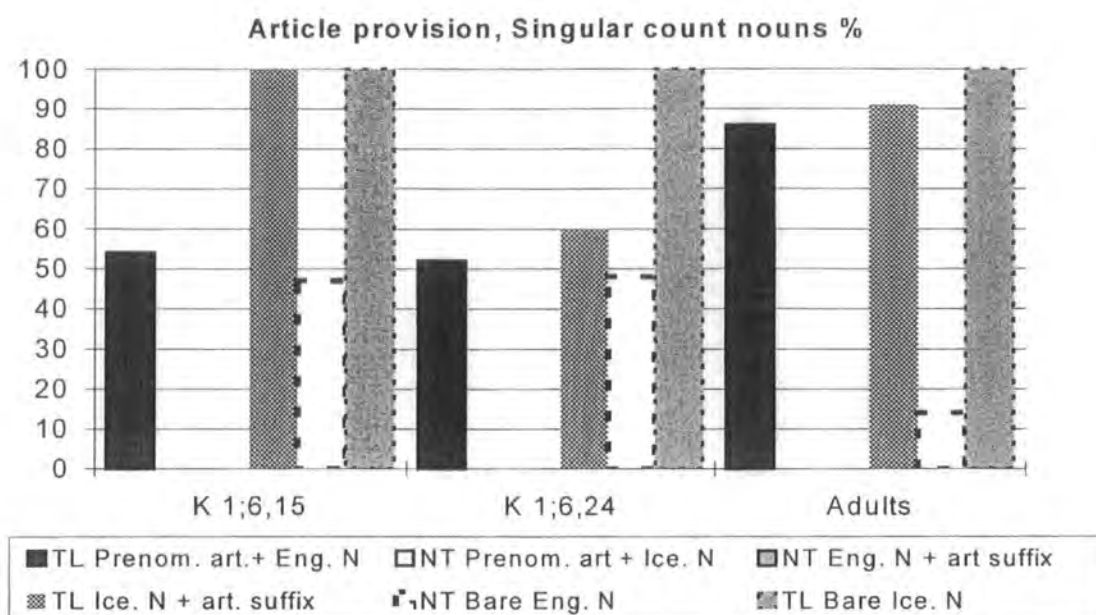


Fig. 2.6. Article provision for Katla's English and Icelandic singular count nouns vs. adult controls. Percentages.

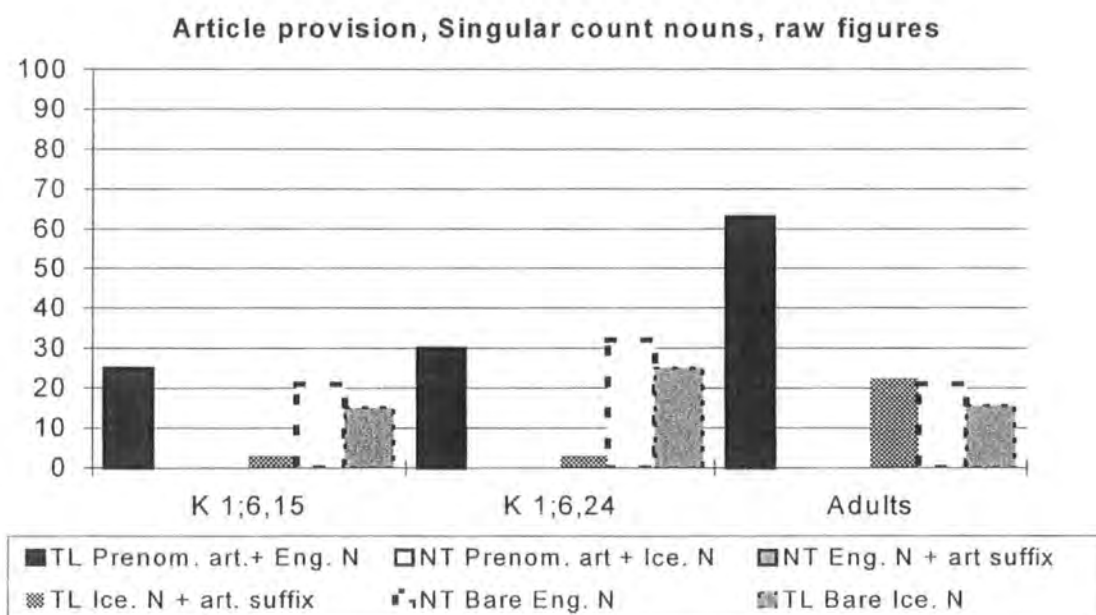


Fig. 2.7. Article provision for Katla's English and Icelandic singular count nouns vs. adult controls. Katla's 1;6,15 and 1;6,24 samples are shown by raw figures, whilst for the adults the combined raw figures of 1;6,15 and 1;6,24 were divided by four, for better comparison.

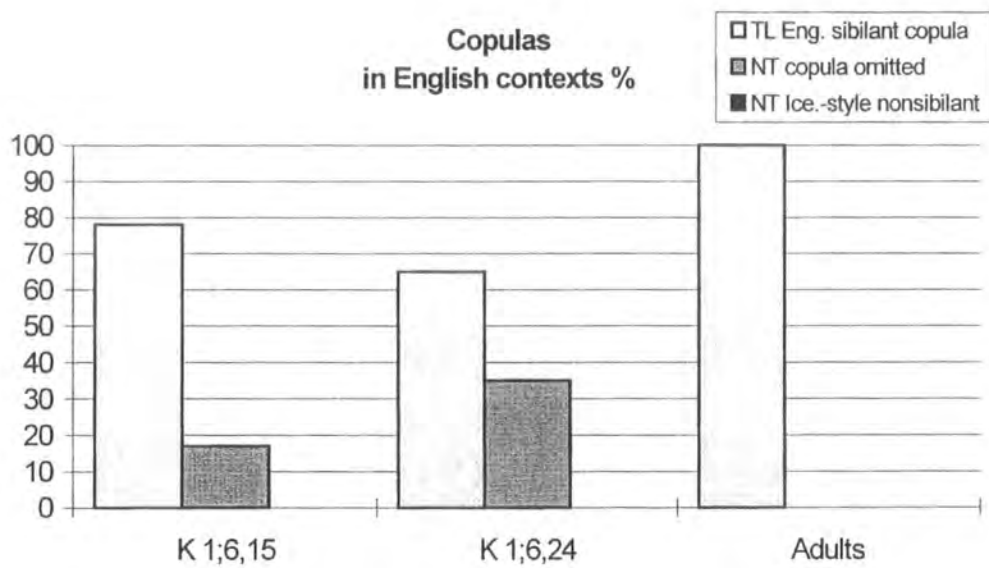


Fig. 2.8. Katla's copula provision in English contexts, percentages.

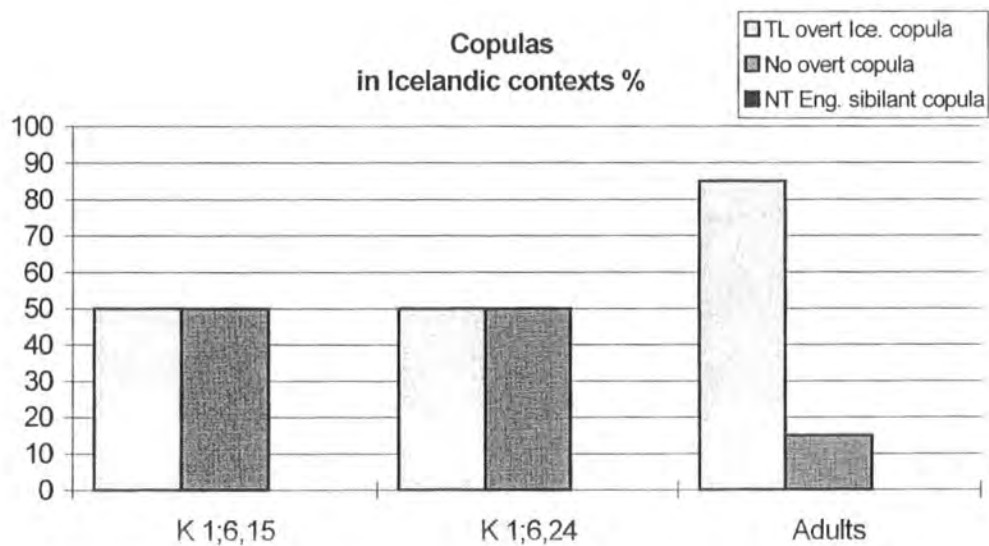


Fig. 2.9. Katla's copula provision in Icelandic contexts, percentages.

Icelandic progressives,
raw figures

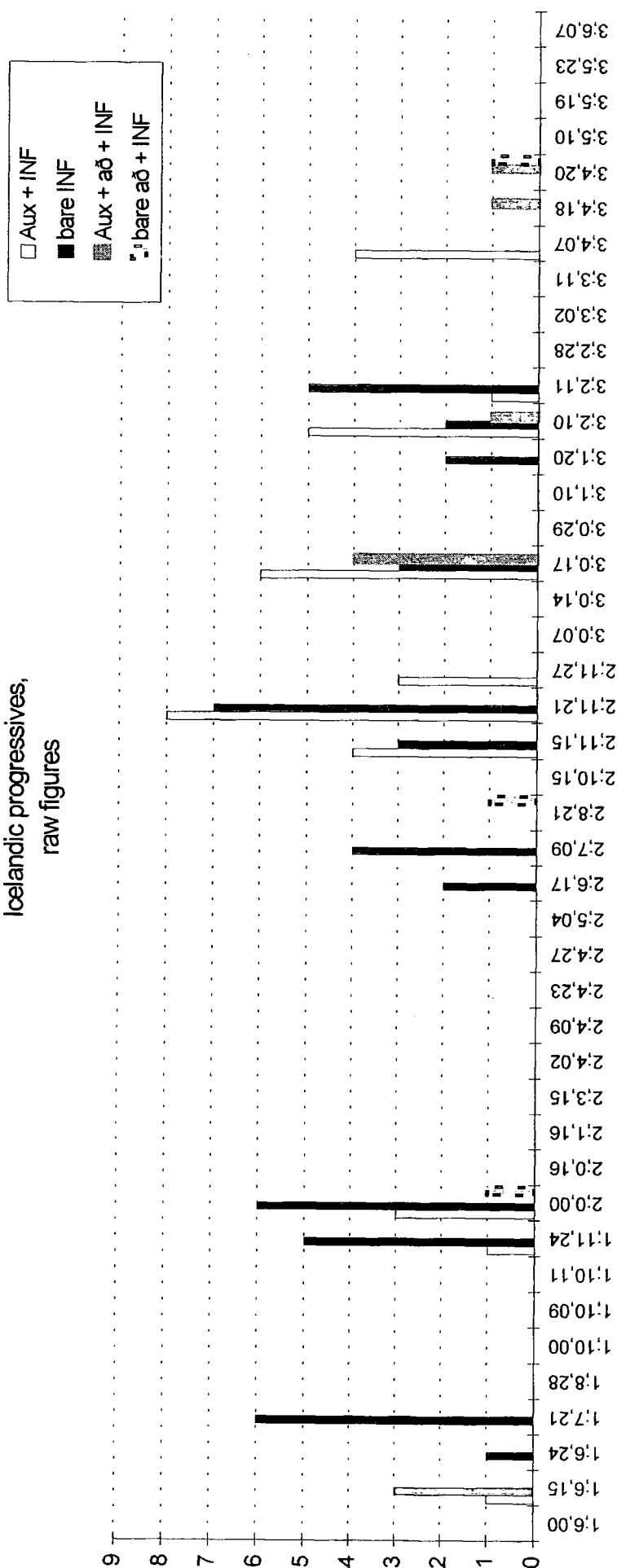


Fig. 3.1. Katla's Icelandic progressives, raw figures. Age (x-axis) plotted against raw figures of Icelandic progressives in each sample (y-axis). For each sample, there is a cluster of a maximum of 4 types of progressives (see legend).

Icelandic progressives, percentages

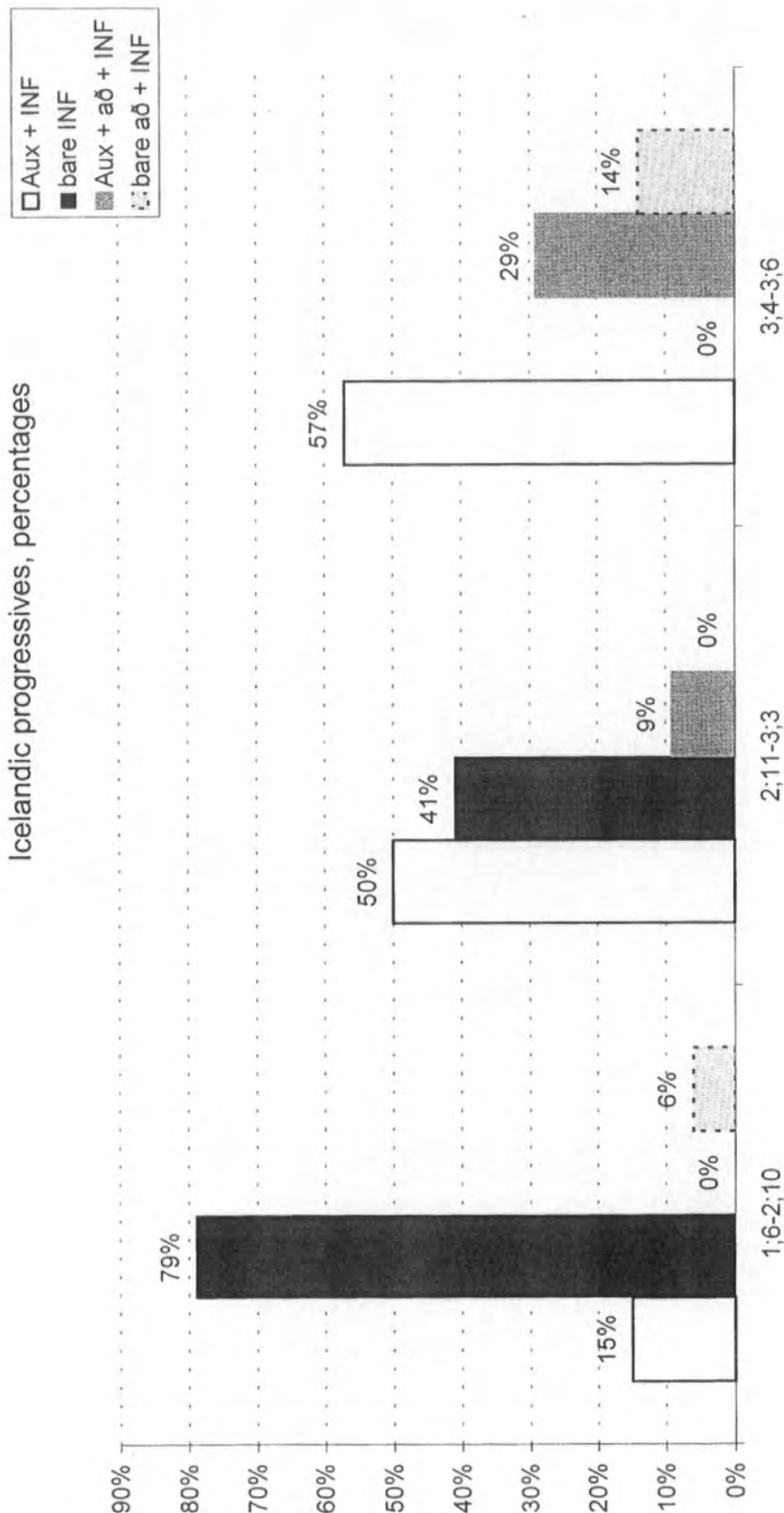


Fig. 3.2. Katla's Icelandic types of progressives, percentages. Age ranges (x-axis) plotted against percentages (y-axis). Samples are grouped into 3 age ranges (1;6-2;10 vs. 2;11-3;3 vs. 3;4-3;6) to reveal stages/distributional shifts over time. At each stage, the percentages make up 100%.

English progressives, raw figures

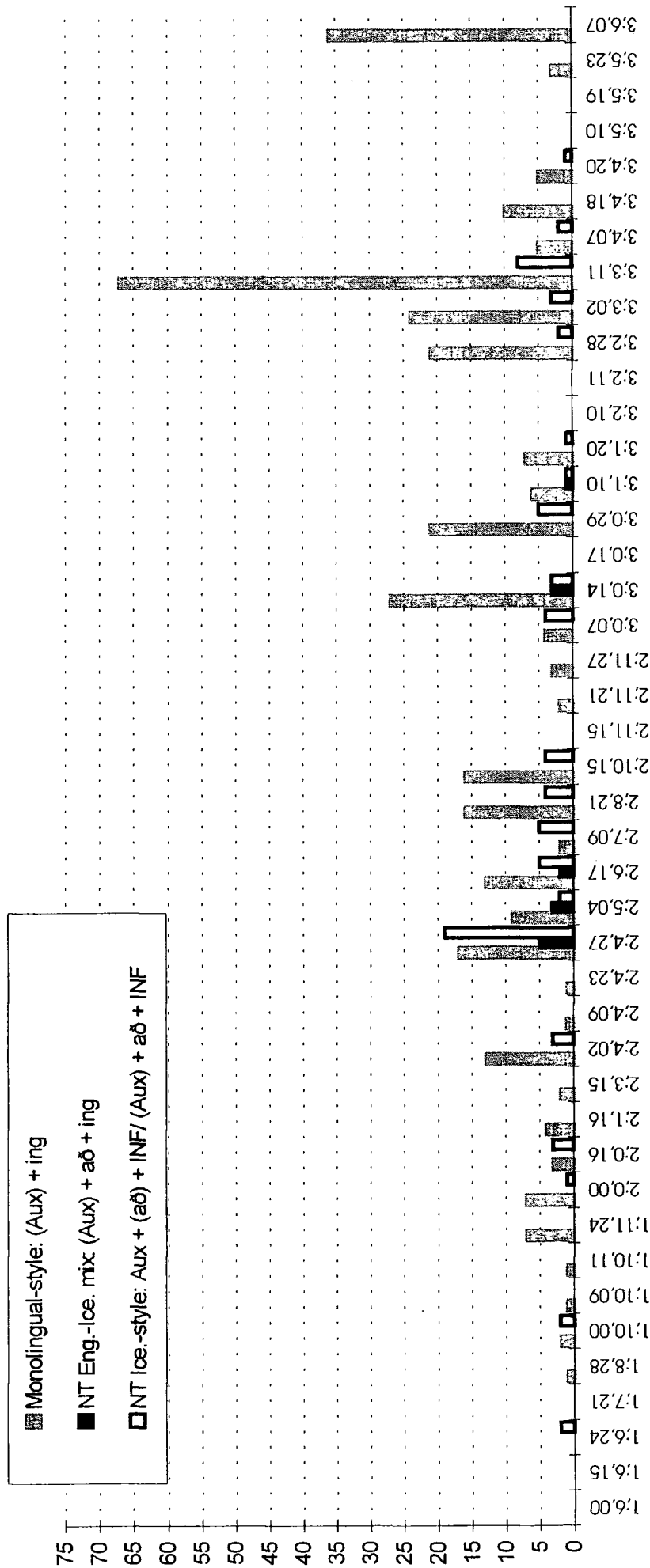


Fig. 3.3. Katla's English progressives, raw figures, according to a three-way typology of monolingual English-style vs. nontarget (NT) English-Icelandic mixes vs. nontarget Icelandic-style progressives. Age (x-axis) plotted against raw figures of progressives (y-axis). At each sample, there is a cluster of maximally 3 types of progressives.

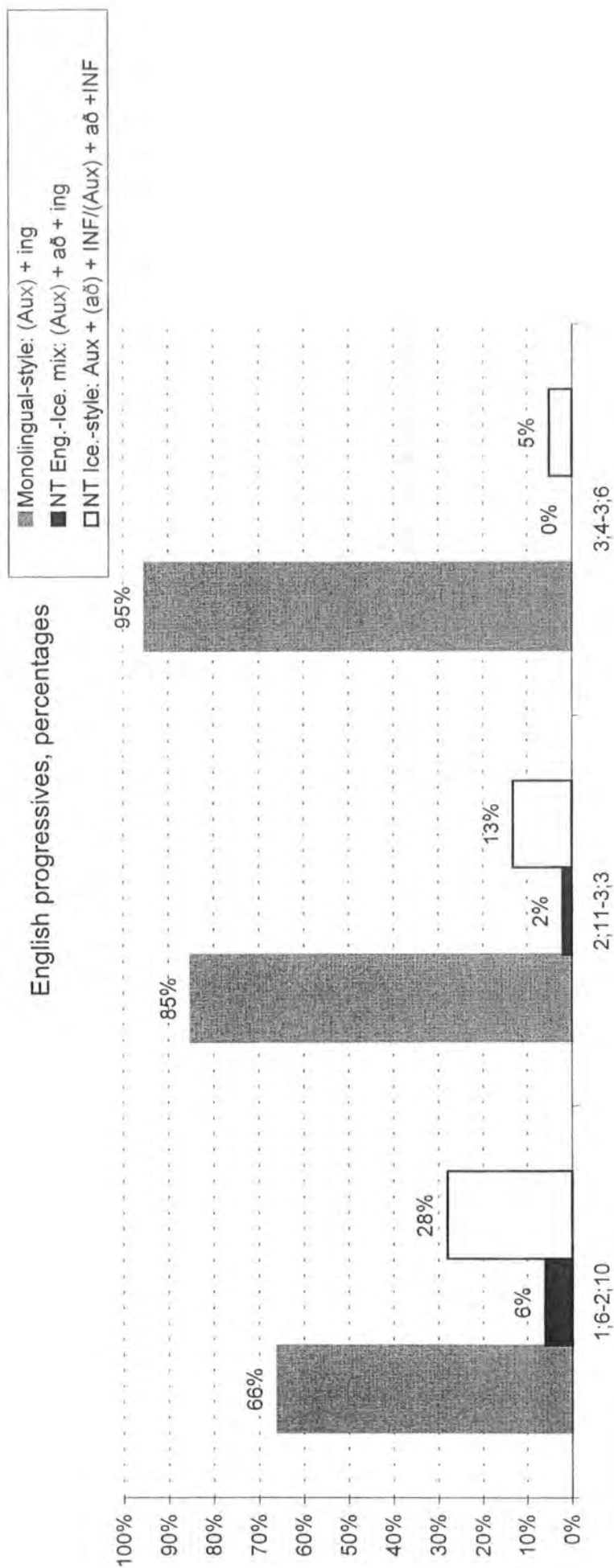


Fig. 3.4. Katla's English progressives, percentages, according to a three-way typology of monolingual-English-style vs. nontarget (NT) English-Icelandic mixes vs. nontarget Icelandic-style progressives. Age ranges (x-axis) plotted against percentages (y-axis). Samples are grouped into 3 age ranges (1;6-2;10 vs. 2;11-3;3 vs. 3;4-3;6) to reveal distributional shifts over time. At each stage, the percentages make up 100%.

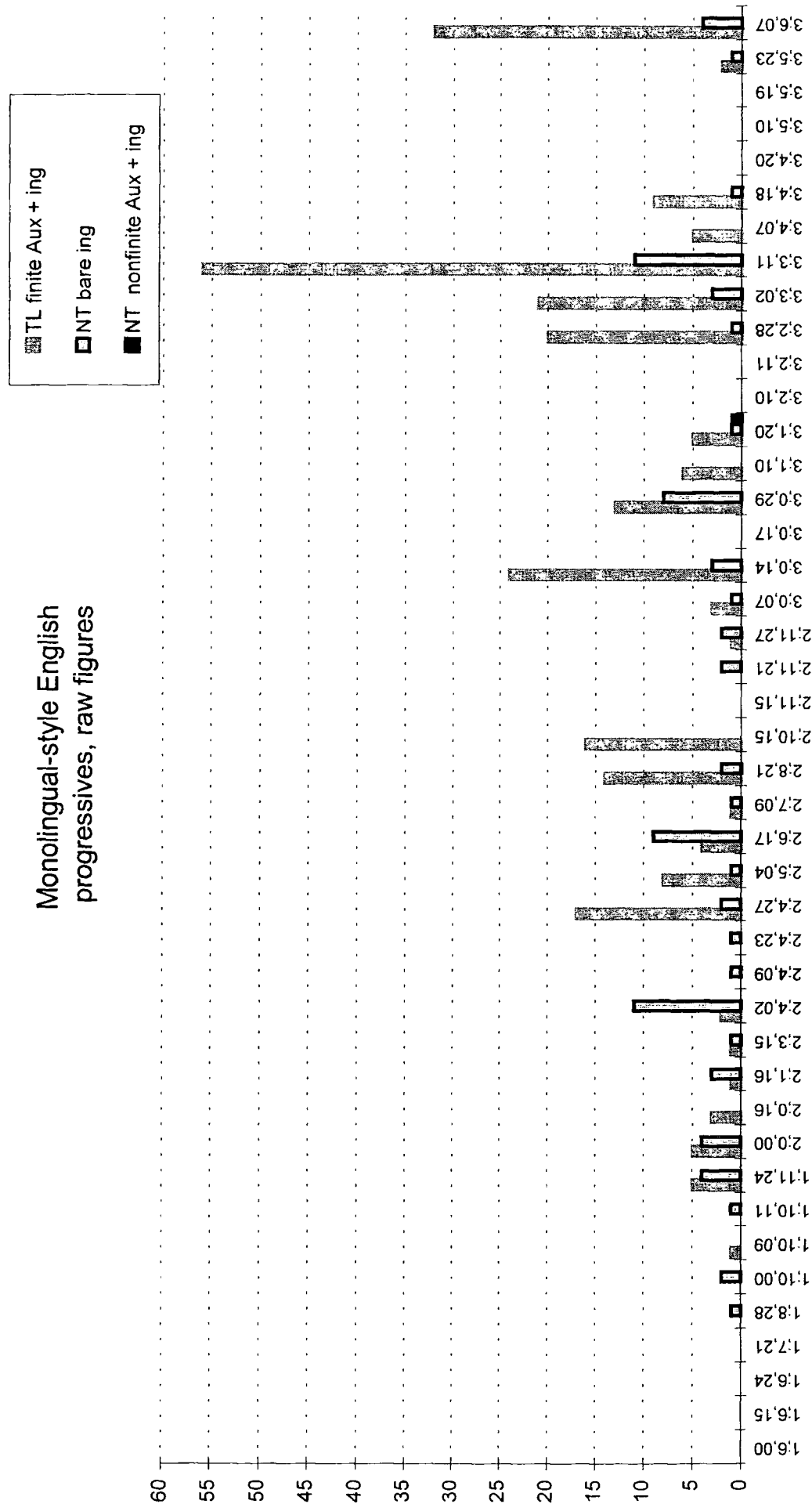


Fig. 3.5. Katla's monolingual-style English progressives, raw figures (i.e. a subset of her English progressives). Age (x-axis) plotted against raw figures of progressives (y-axis). At each sample, there is a cluster of maximally 3 types of progressives.

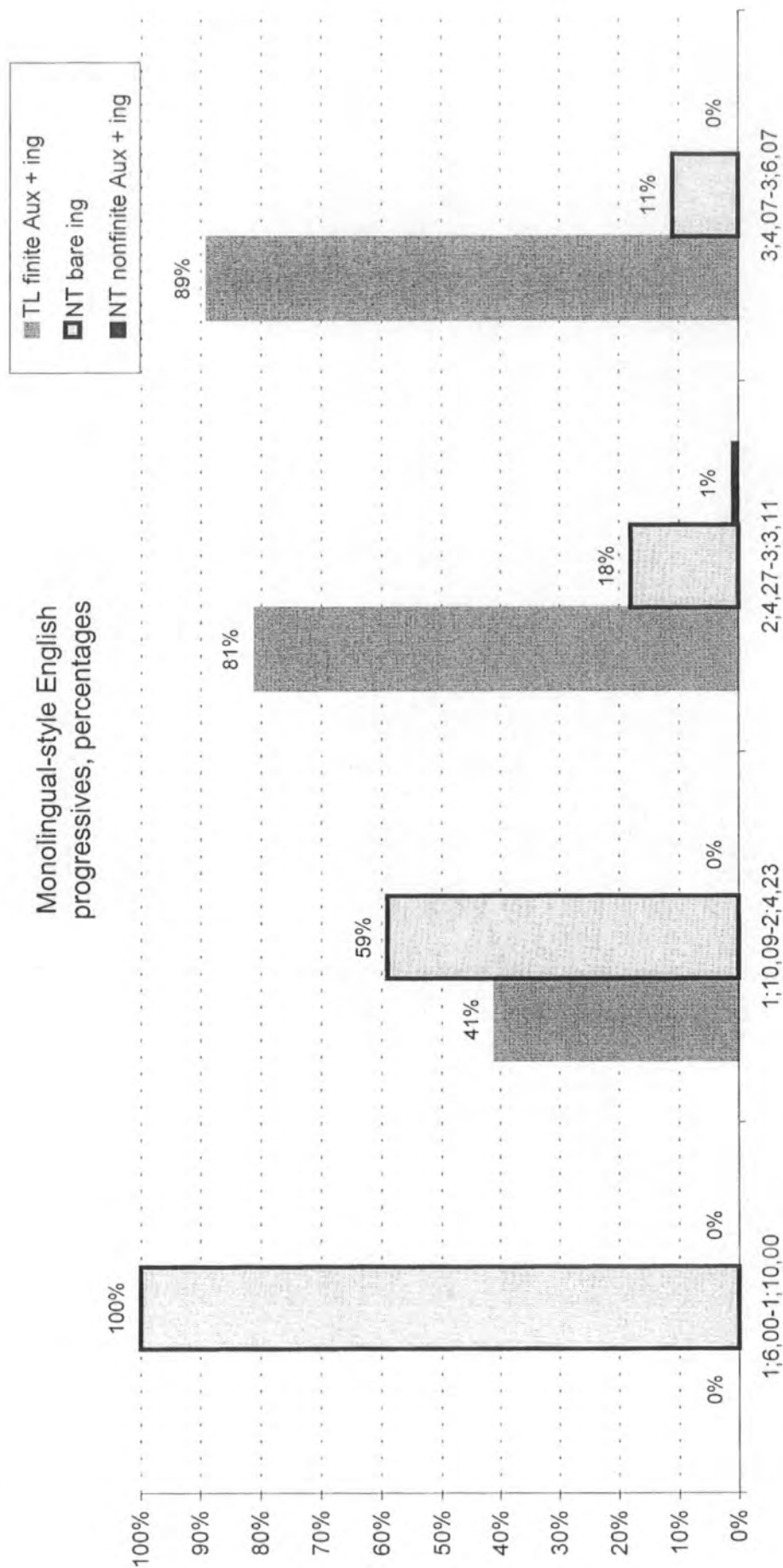


Fig. 3.6. Katla's monolingual-style English progressives, percentages (i.e. a subset of her English progressives). Age ranges (x-axis) plotted against percentages (y-axis). Samples are grouped into 4 age ranges (1;6-1;10 vs. 1;10-2;4 vs. 2;4-3;3 vs. 3;4-3;6) to reveal distributional shifts over time. At each stage, the percentages make up 100%.

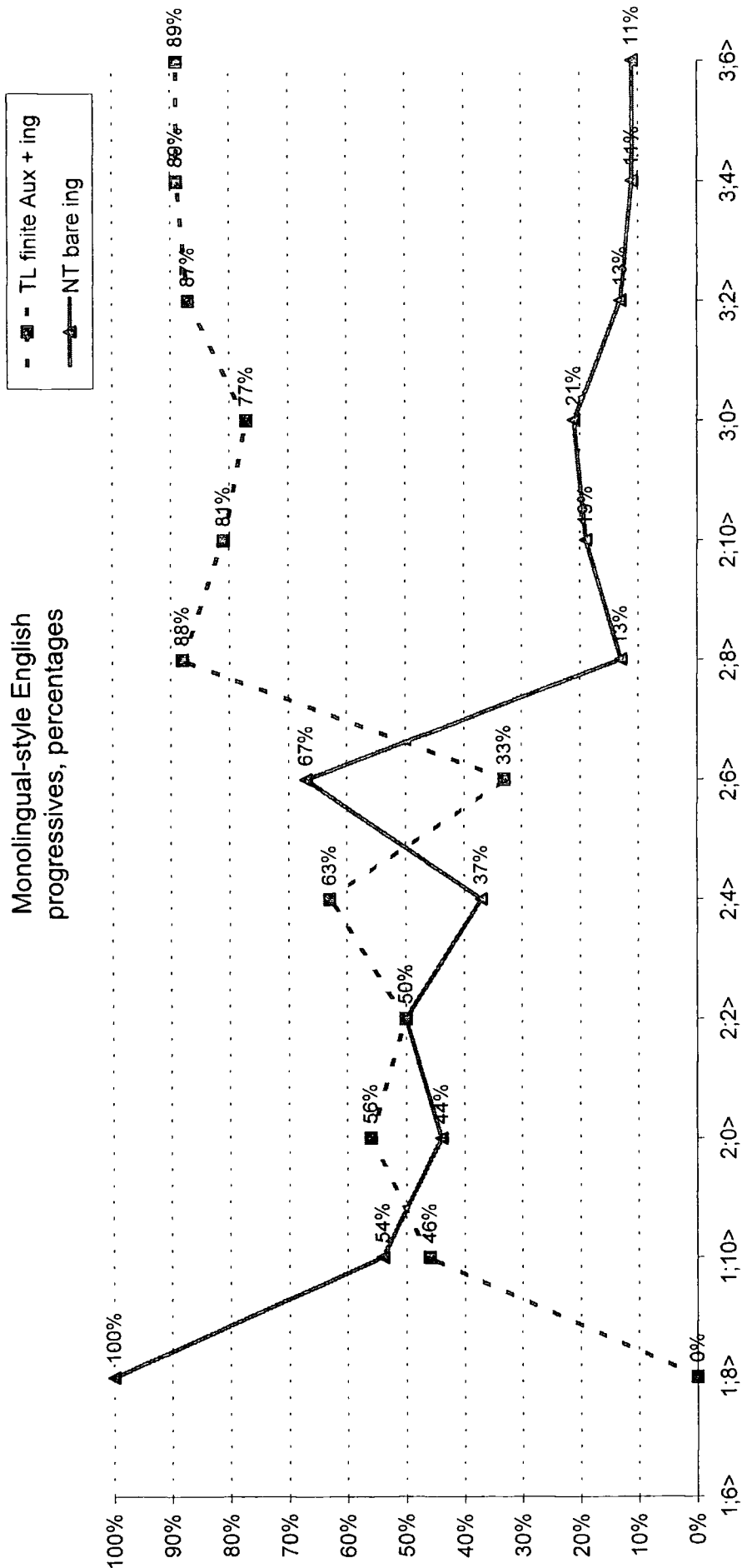


Fig. 3.7. Katla's monolingual-style English progressives, percentages (i.e. a subset of her English progressives). Age ranges (x-axis) plotted against percentages (y-axis). Samples are grouped into 13 age ranges comprising 2 months each. At each stage, the percentages make up 100%, except for at 3;0>, where they make 98% (the remaining 2% being one instance of nonfinite *be* + *-ing*, as shown in Fig. 3.5.). Concerning the rise-fall at 2;6-2;8, see Section 6.

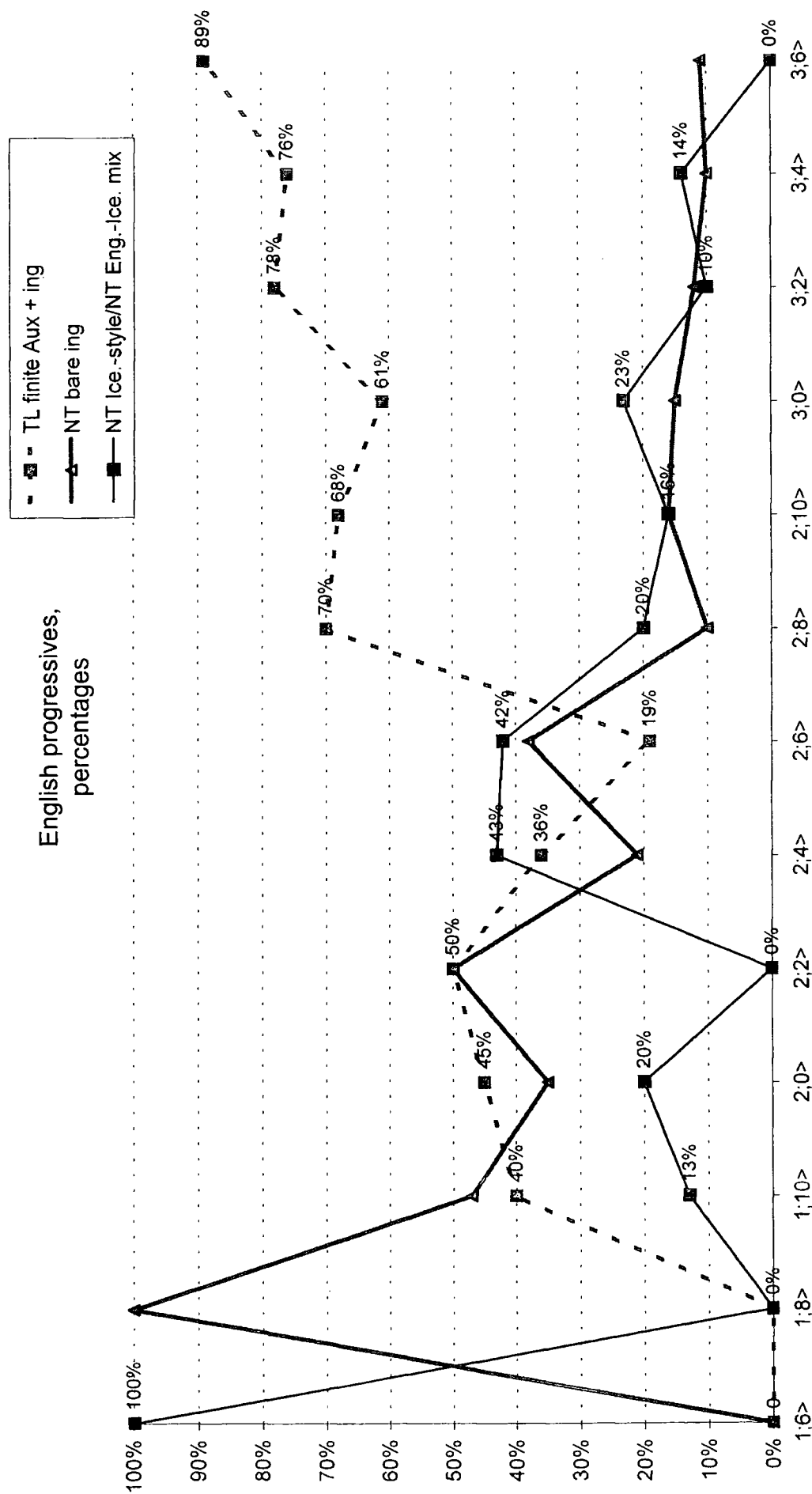


Fig. 3.8. Katla's English progressives, percentages. Age ranges (x-axis) plotted against percentages (y-axis). Targetlike Aux + *-ing* vs. nontarget bare *-ing* vs. Icelandic-influenced progressives. Samples are grouped into 13 age ranges comprising 2 months each. At each stage, the percentages make up 100%, except for at 3;0>, where they make 99% (the remaining 1% being one instance of nonfinite *be* + *ing*, as shown in Fig. 3.5.).

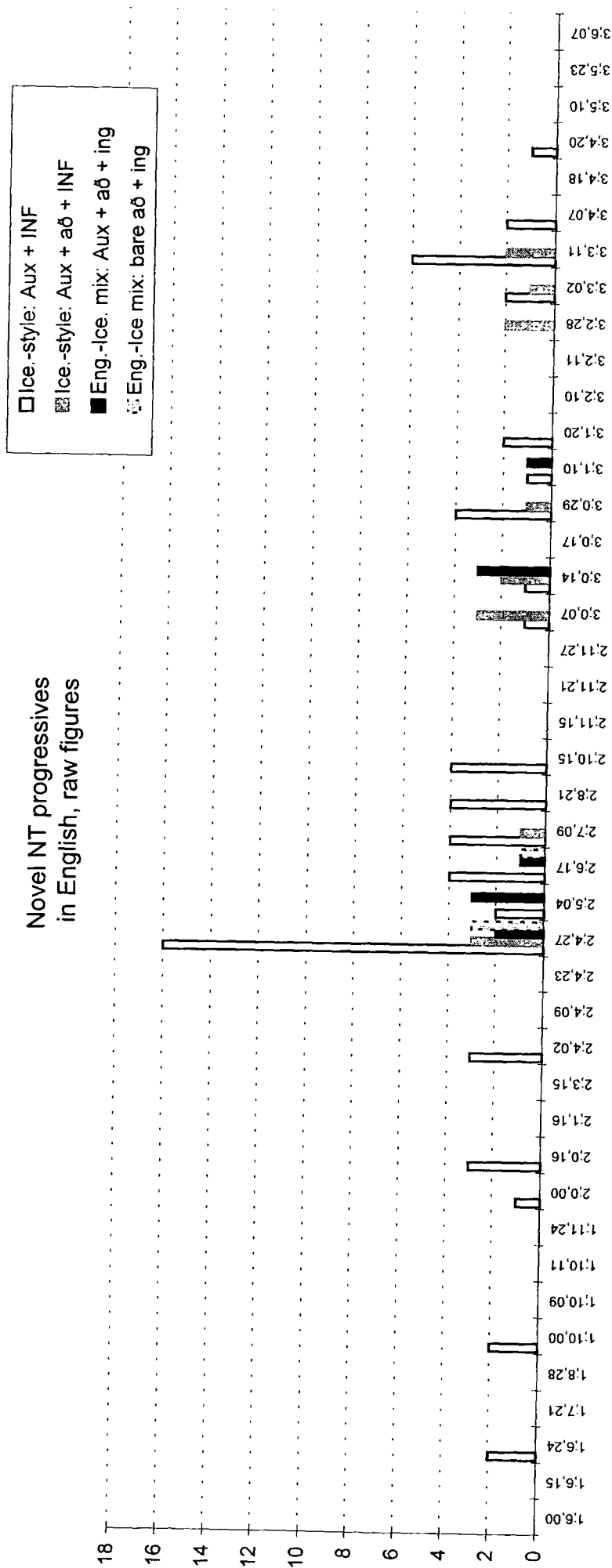


Fig. 3.9. Katla's novel nontarget English progressives, raw figures (i.e. a subset of her English progressives). Age (x-axis) plotted against raw figures of progressives (y-axis). At each sample, there is a cluster of maximally 4 types of progressives.

Katla: English imperatives

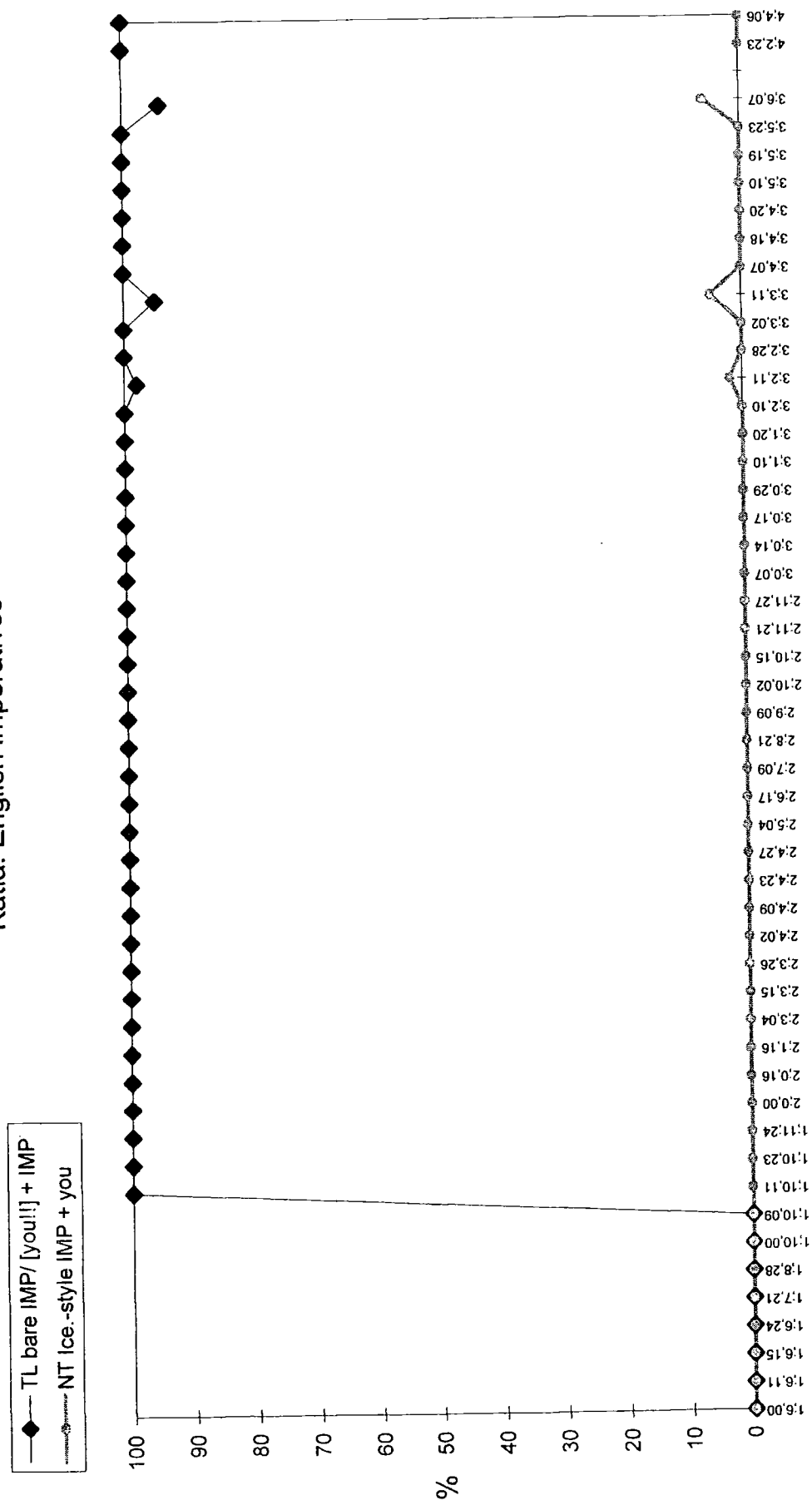


Fig. 4.1. Katla's English imperatives, percentages. Age (x-axis) plotted against percentages in each sample (y-axis).

Birna (monolingual):
Icelandic imperatives with overt subject

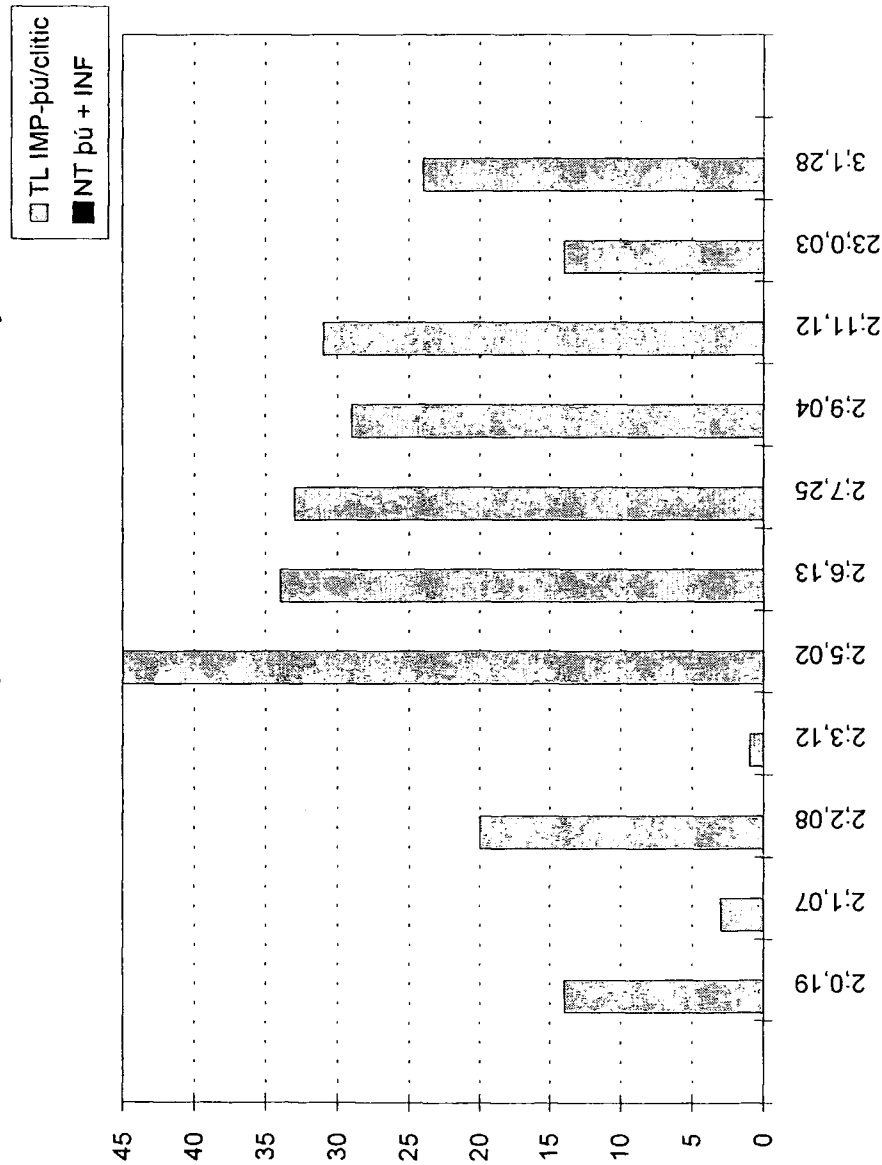


Fig. 4.2a. Monolingual Icelandic children’s imperatives with overt subject, raw figures: **Birna** (2;0,19-3;1,28). Age (x-axis) plotted against raw figures in each sample (y-axis). The diagram is based on data from Sigurjónsdóttir (1991:96, Tafla 18).

Ari (monolingual): Icelandic imperatives with overt subject

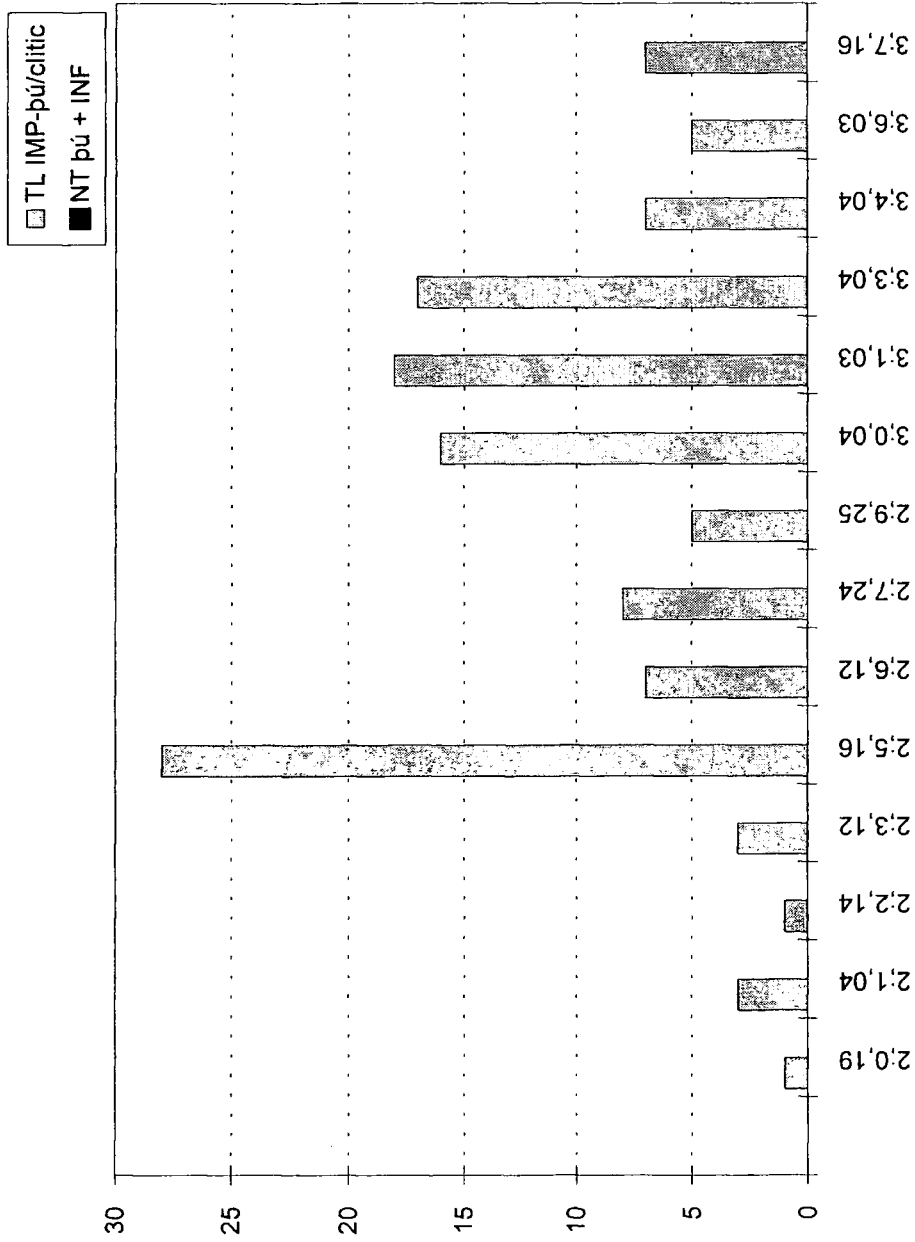


Fig. 4.2b. Monolingual Icelandic children’s imperatives with overt subject, raw figures: **Ari** (2;0,19-3;7,16). Age (x-axis) plotted against raw figures in each sample (y-axis). The diagram is based on data from Sigurjónsdóttir (1991:96, Tafla 19).

Adverb/Verb placement in Katla's Icelandic imperatives

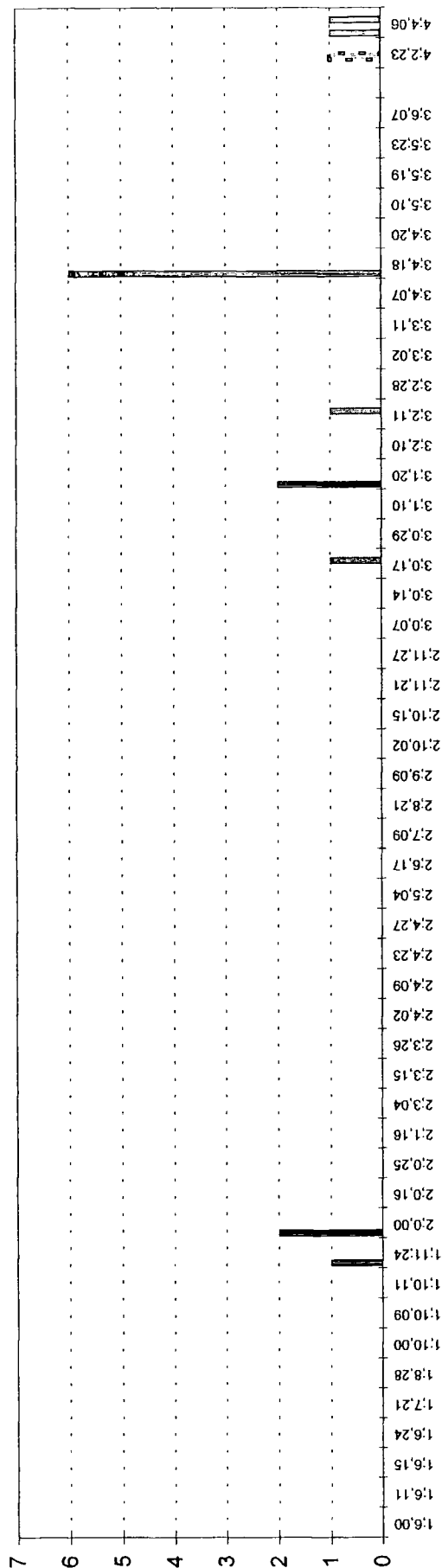
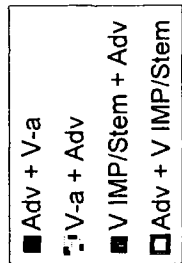


Fig. 4.3. Katla's Icelandic imperatives with adverb. Adverb/Verb placement and form of the verb are shown for each sample. Age (x-axis) plotted against raw figures in each sample (y-axis). Black bars represent nontargetlike Adverb + -a verb; bars with dotted black border represent -a verb + Adverb; grey bars represent stem imperative + Adverb; Adverb + stem imperative (white bars with a solid black border) do not occur.

Katla: Icelandic imperatives

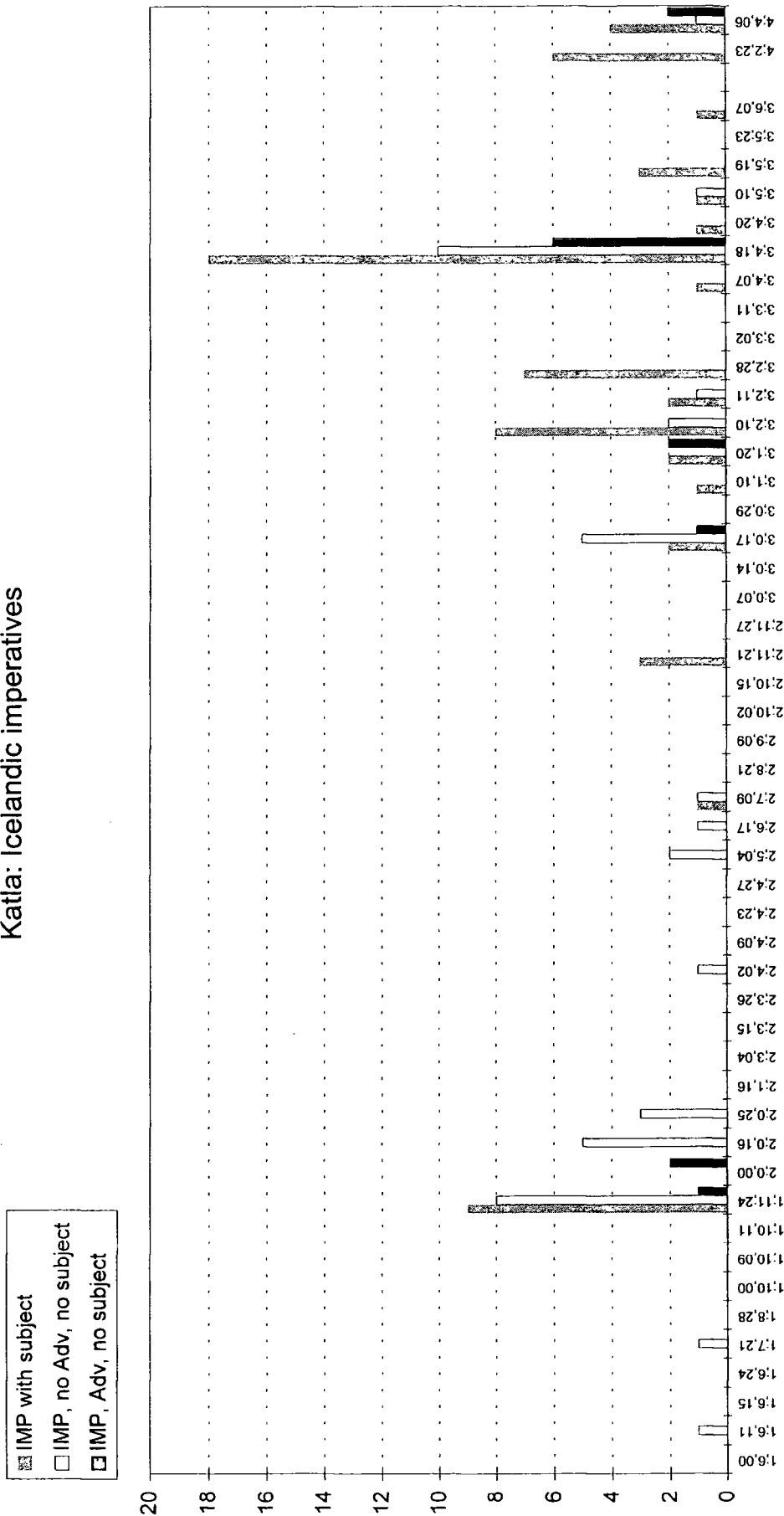


Fig. 4.4. Katla's Icelandic imperatives. Age (x-axis) plotted against raw figures in each sample (y-axis). For each sample, there are bars for imperatives with subject (preverbal or postverbal, grey bars), subjectless and adverbless imperatives (white bars), and subjectless imperatives with adverb (black bars). For word order and morphological form of these imperatives, see Chapter 4.

Katla: Icelandic imperatives with overt subject

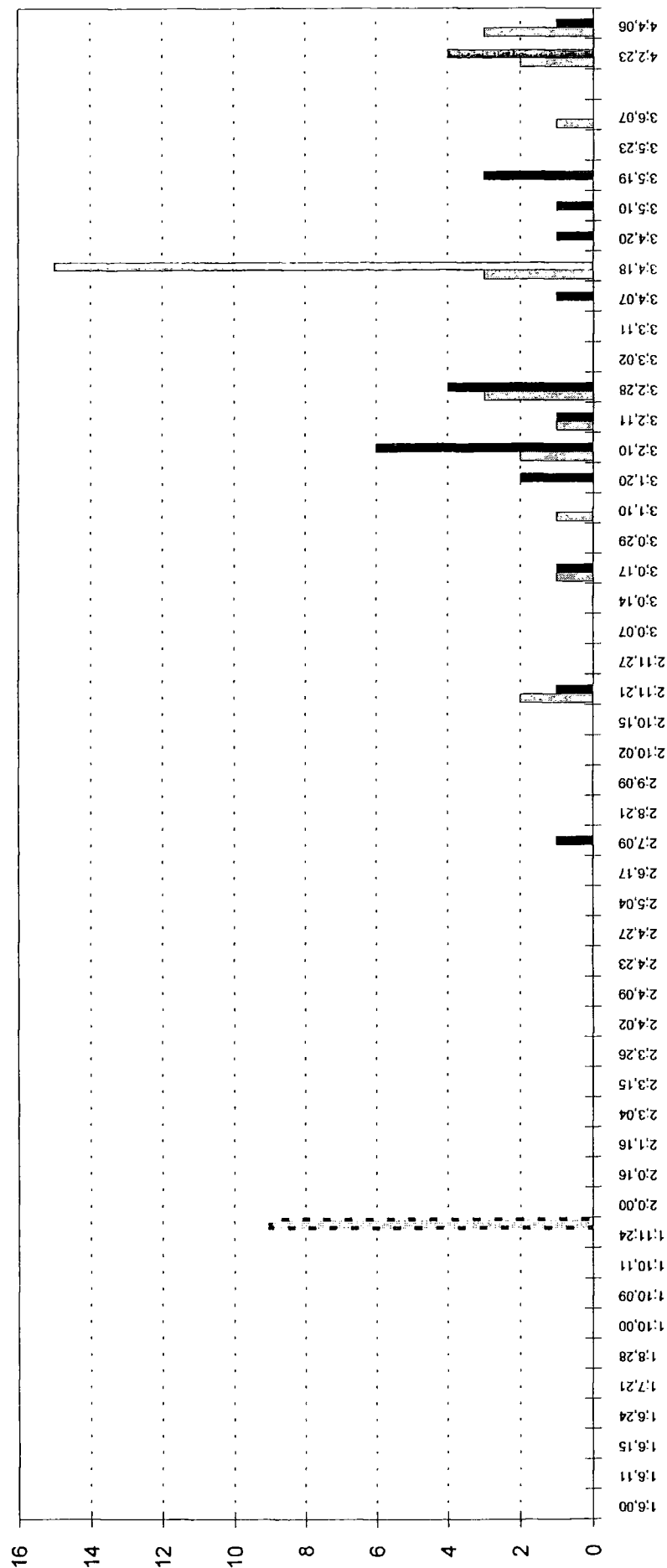
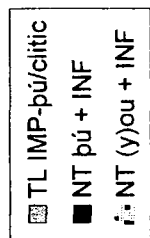


Fig. 4.5. Katla's Icelandic imperatives with overt subject, raw figures. Age (x-axis) plotted against raw figures in each sample (y-axis). For each sample, there are bars for targetlike imperative + postverbal subject clitic (grey bars), nontargetlike preverbal subject *pú* + infinitive (black bars) and nontargetlike preverbal English subject *you*/[u:] + infinitive (white bars).

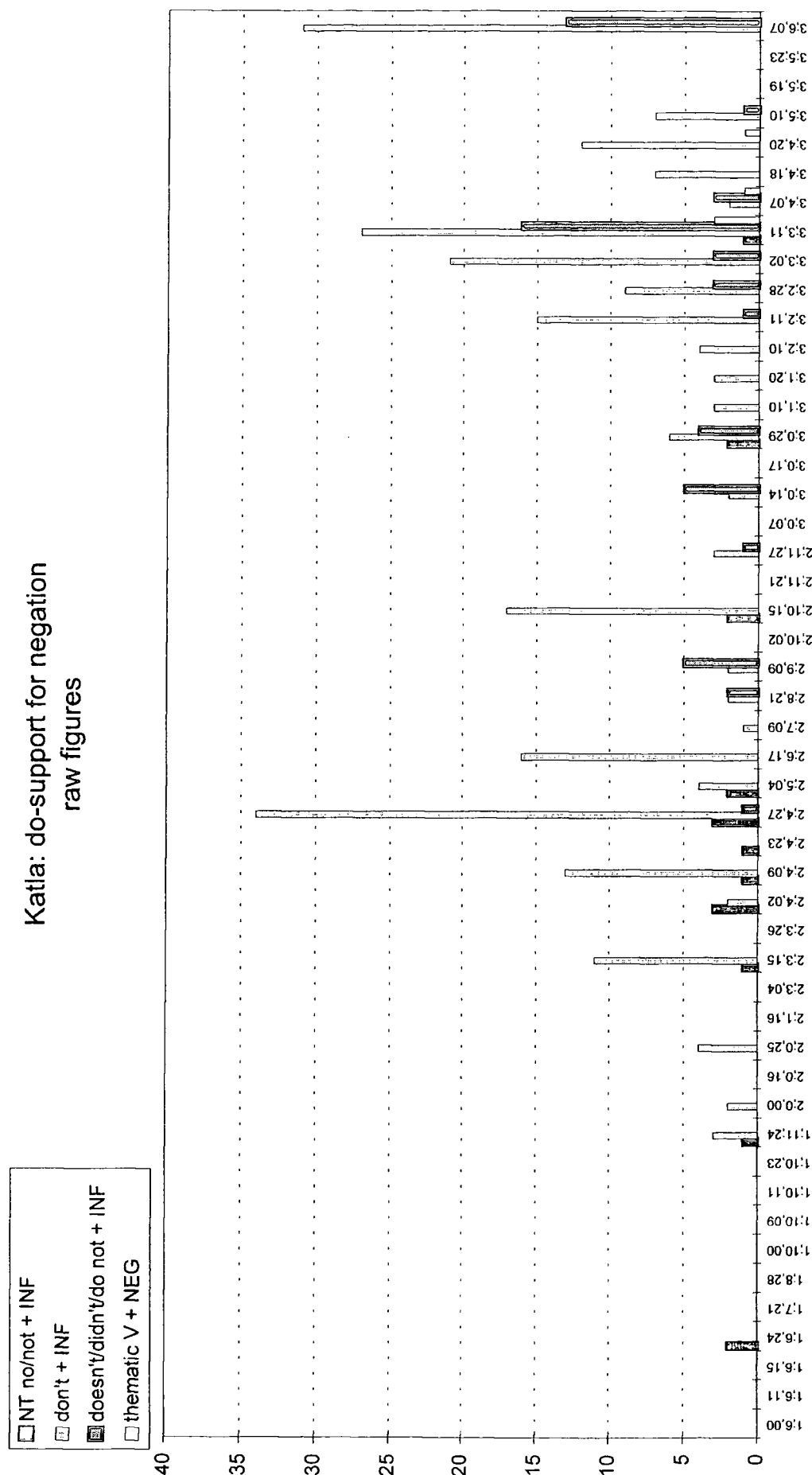


Figure 5.3. Katla's clausal negations that require *do*-support, i.e. negations of simplex thematic verbs. Age (x-axis) is plotted against raw figures (y-axis). At each sample, there is a cluster of maximally 4 negation types (see legend).

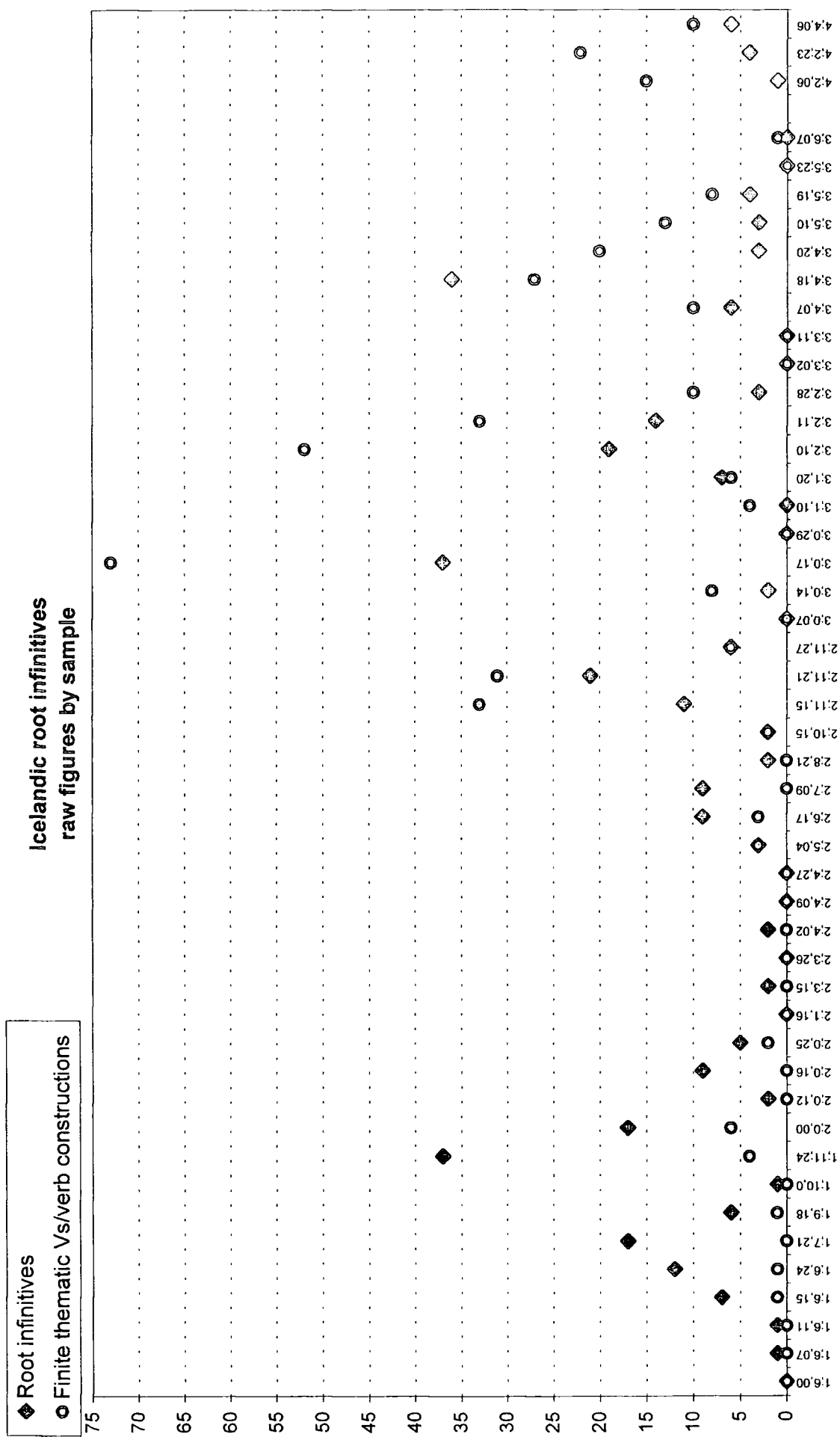


Fig. 6.1. Katla's Icelandic thematic verbs/verb constructions, raw figures. Age (x-axis) plotted against the raw figures in each sample (y-axis). Black diamonds denote root infinitives; grey circles with black border denote finite forms (simplex verbs with inflection or finite Aux + thematic infinitive).

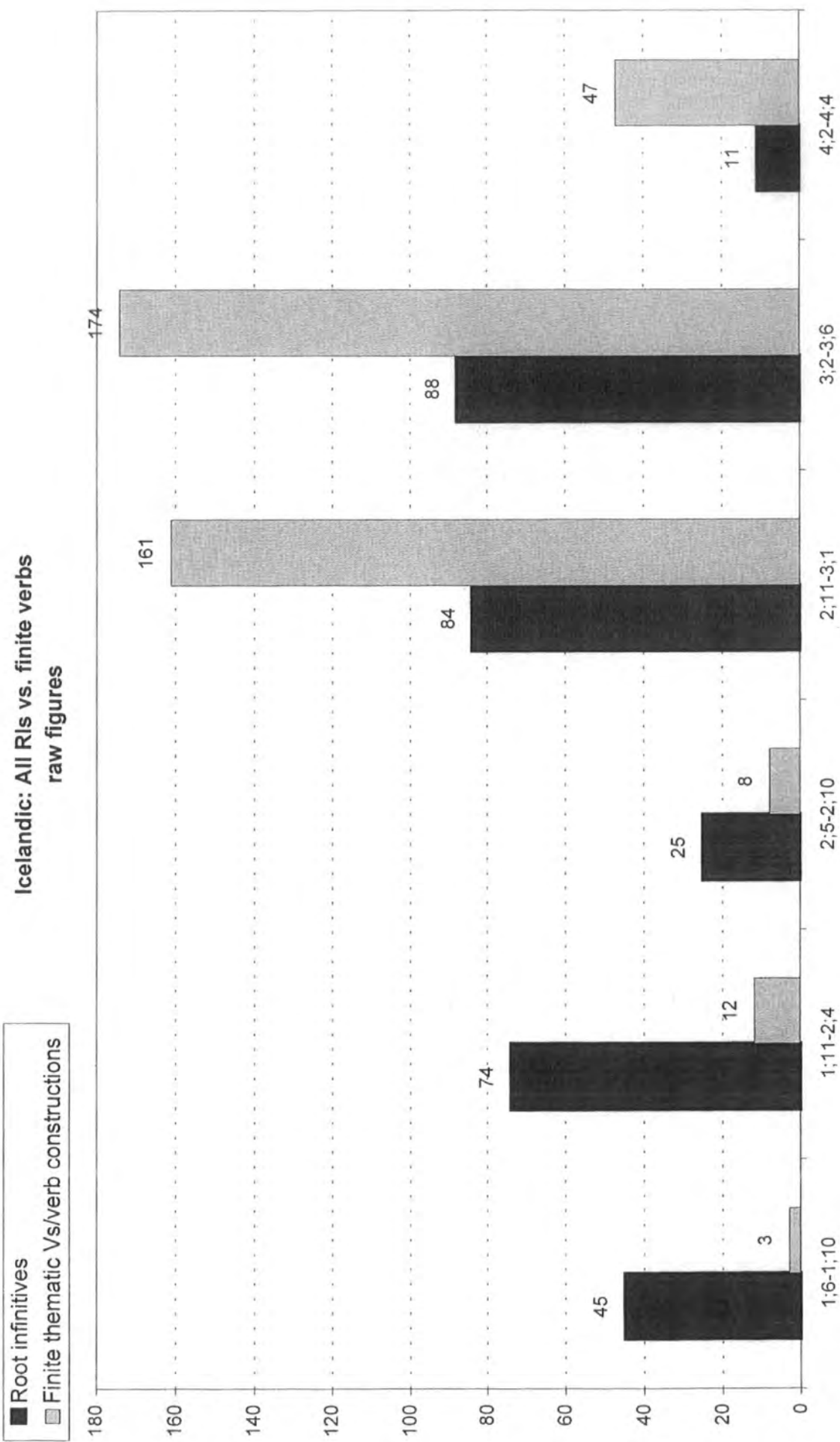


Fig. 6.2. Katla's Icelandic thematic verbs, raw figures. Age (x-axis) plotted against raw figures for each age range (y-axis). Black columns denote root infinitives, grey columns denote finite verbs/verb constructions.

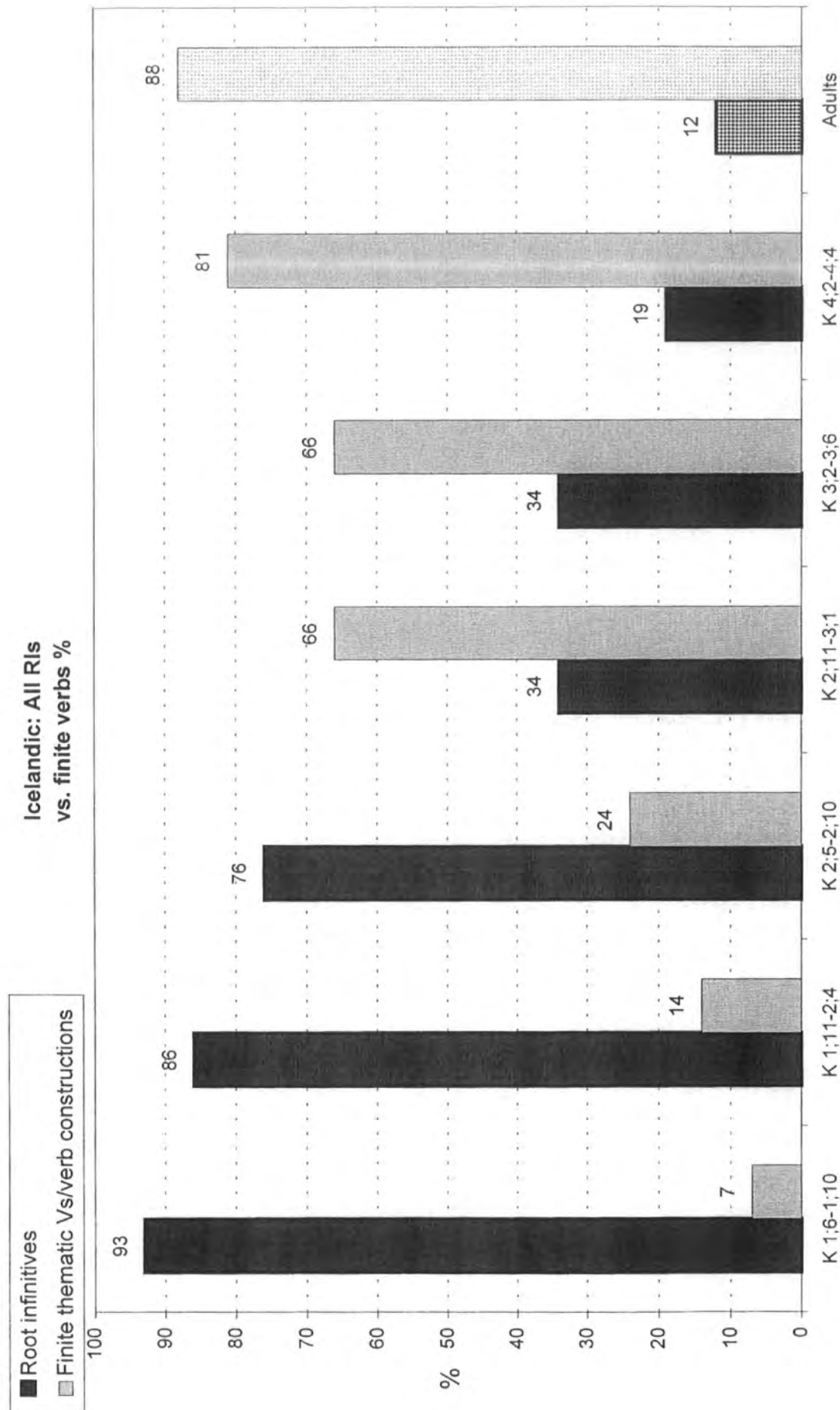


Fig. 6.3. Katla's Icelandic thematic verbs, percentages. Age (x-axis) plotted against percentages (y-axis). Black columns denote root infinitives, grey columns finite verbs/verb constructions. The checked columns show the proportion of RIs out of all thematic verbs in Katla's input (10 samples).

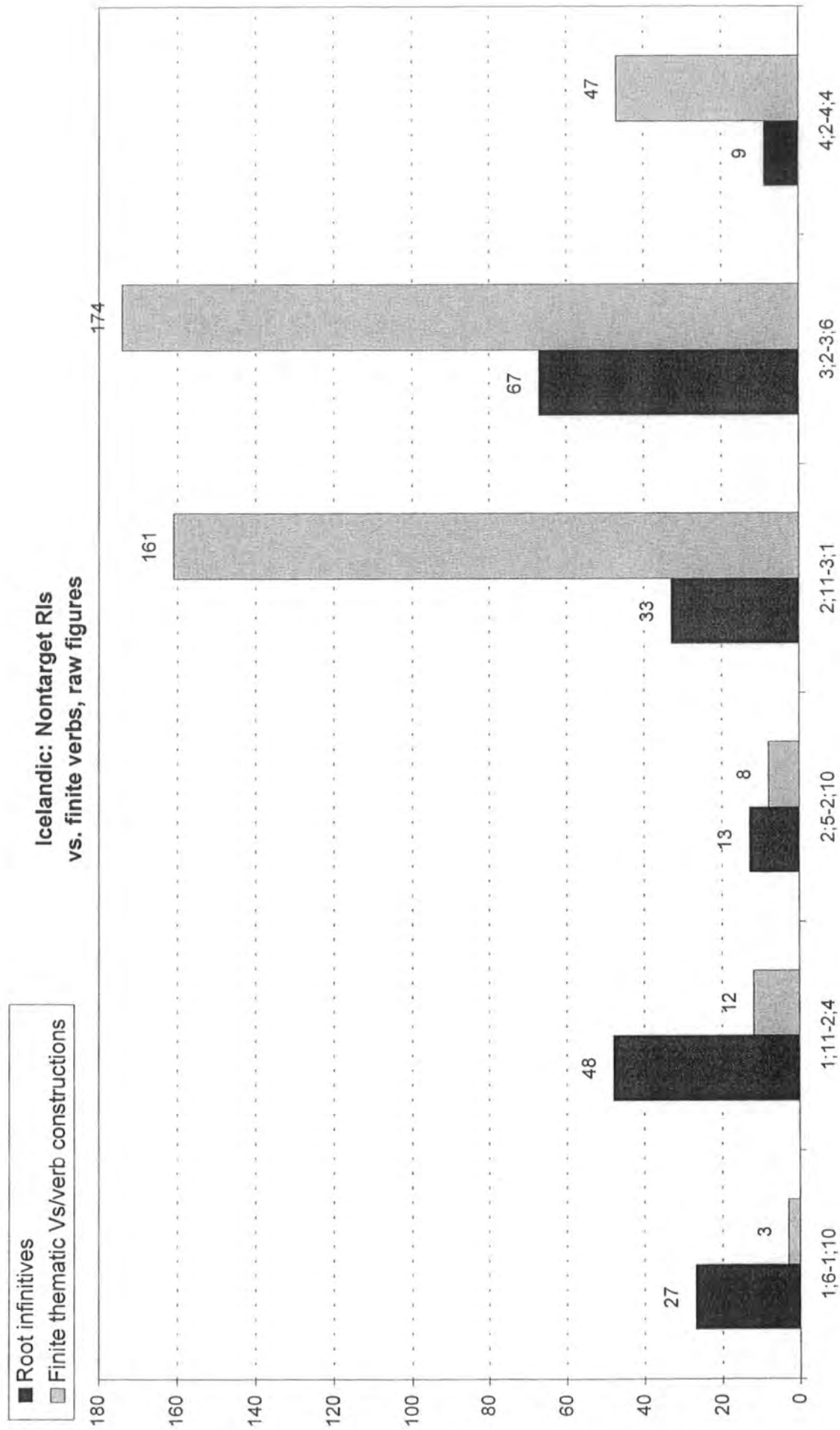


Fig. 6.4. Katla's Icelandic nontargetlike root infinitives (in contexts that require a finite verb/verb construction in the target), raw figures. Age (x-axis) plotted against raw figures for each age range (y-axis). Borderless dark grey columns denote root infinitives, light grey columns finite verbs.

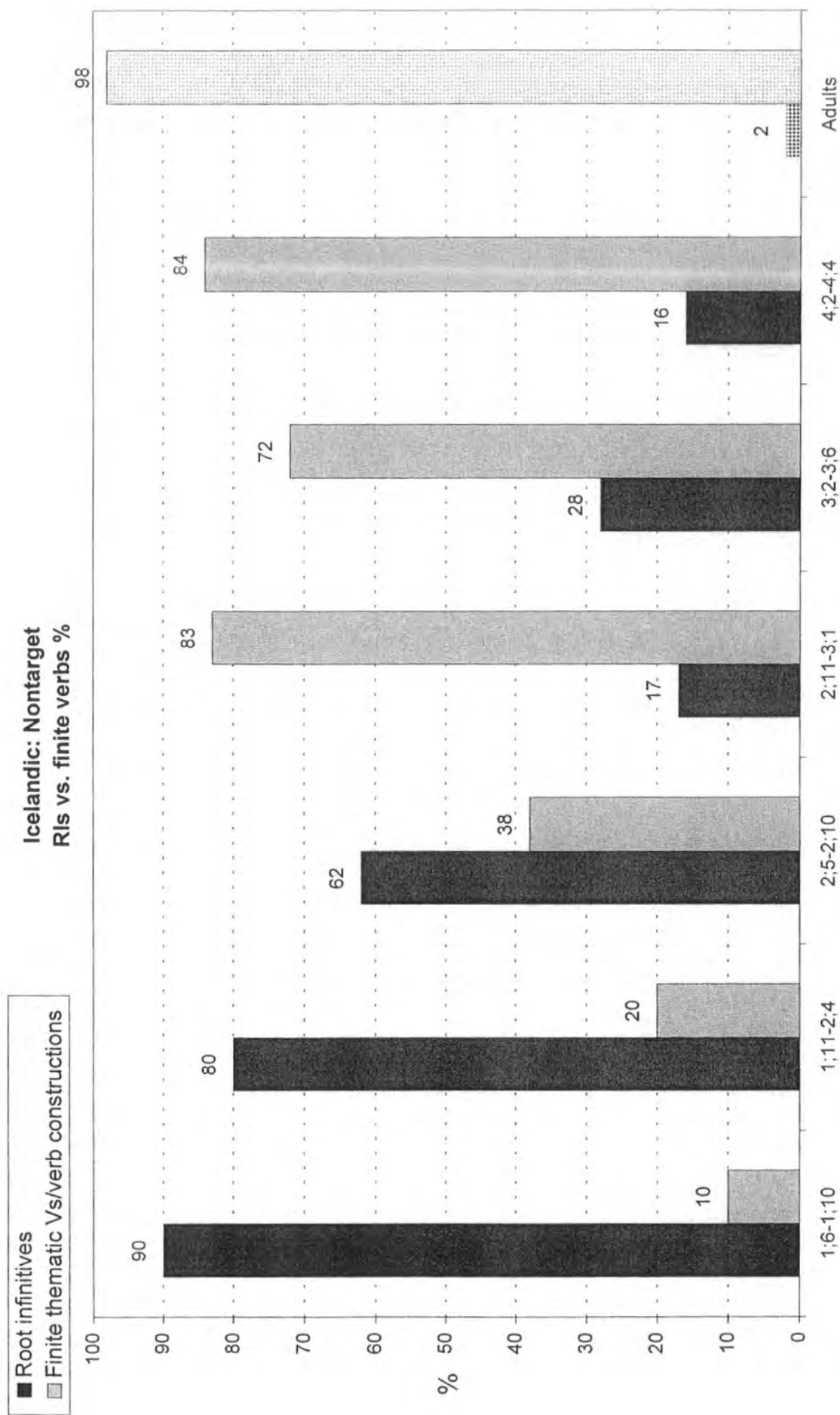


Fig. 6.5. Katla's Icelandic nontargetlike root infinitives (in contexts that require a finite verb/verb construction). Age (x-axis) plotted against percentages for each age range (y-axis). Borderless dark grey columns denote root infinitives, light grey columns finite verbs. Adults on the right.

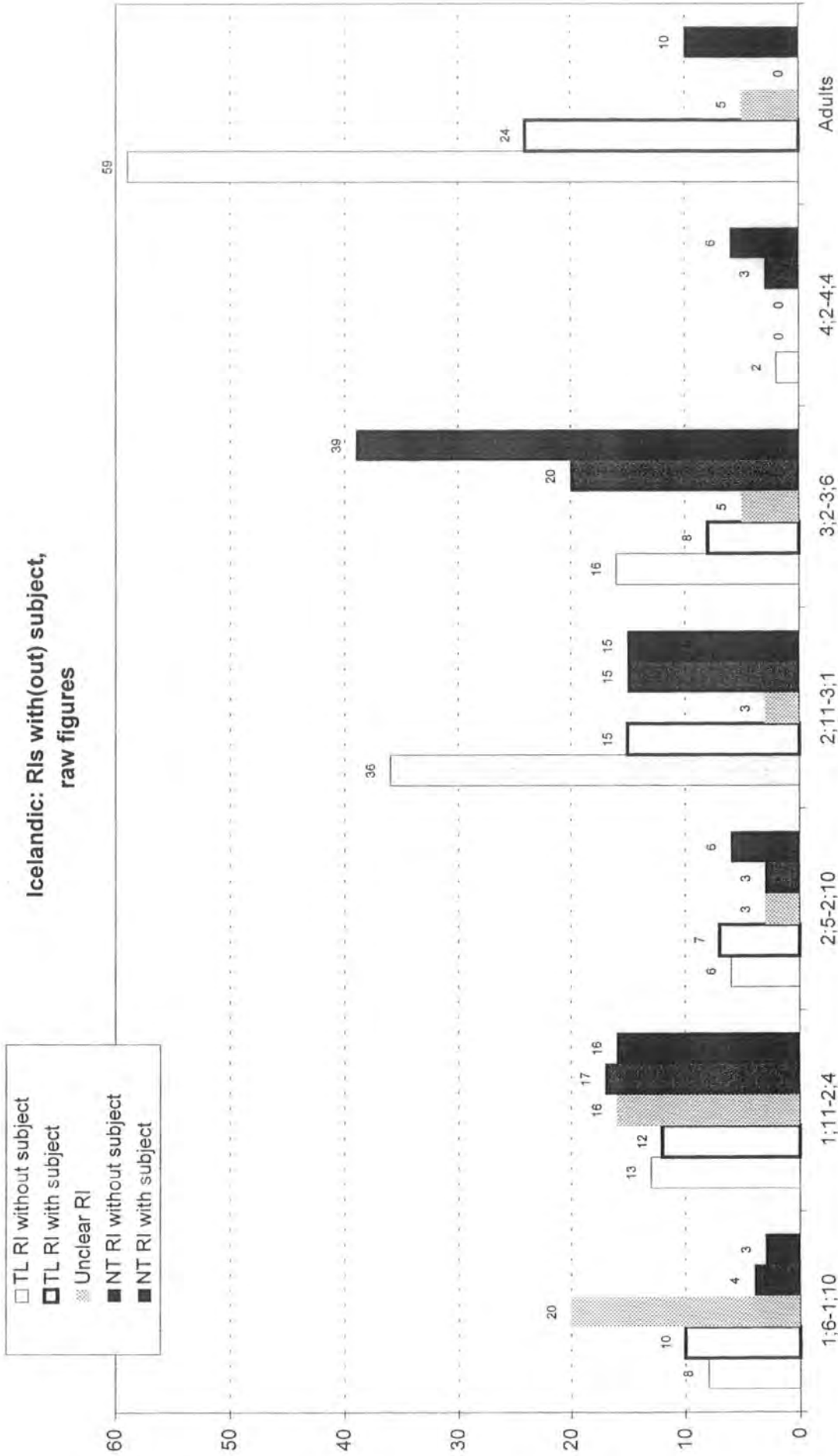


Fig. 6.6. Root infinitive types in Katla's Icelandic (raw figures) as compared to the adults' (raw figures from 10 samples, divided by half). Age ranges (x-axis) plotted against clusters of RI types: targetlike RIs without subject (Neg-initial 'imperatives'; sentence fragments); RIs with subject (progressive Aux omission); unclear RIs (mostly subjectless); nontargetlike RIs without subject and without subject (Aux or verb inflection omissions).

Icelandic:
RIs with(out) subject %

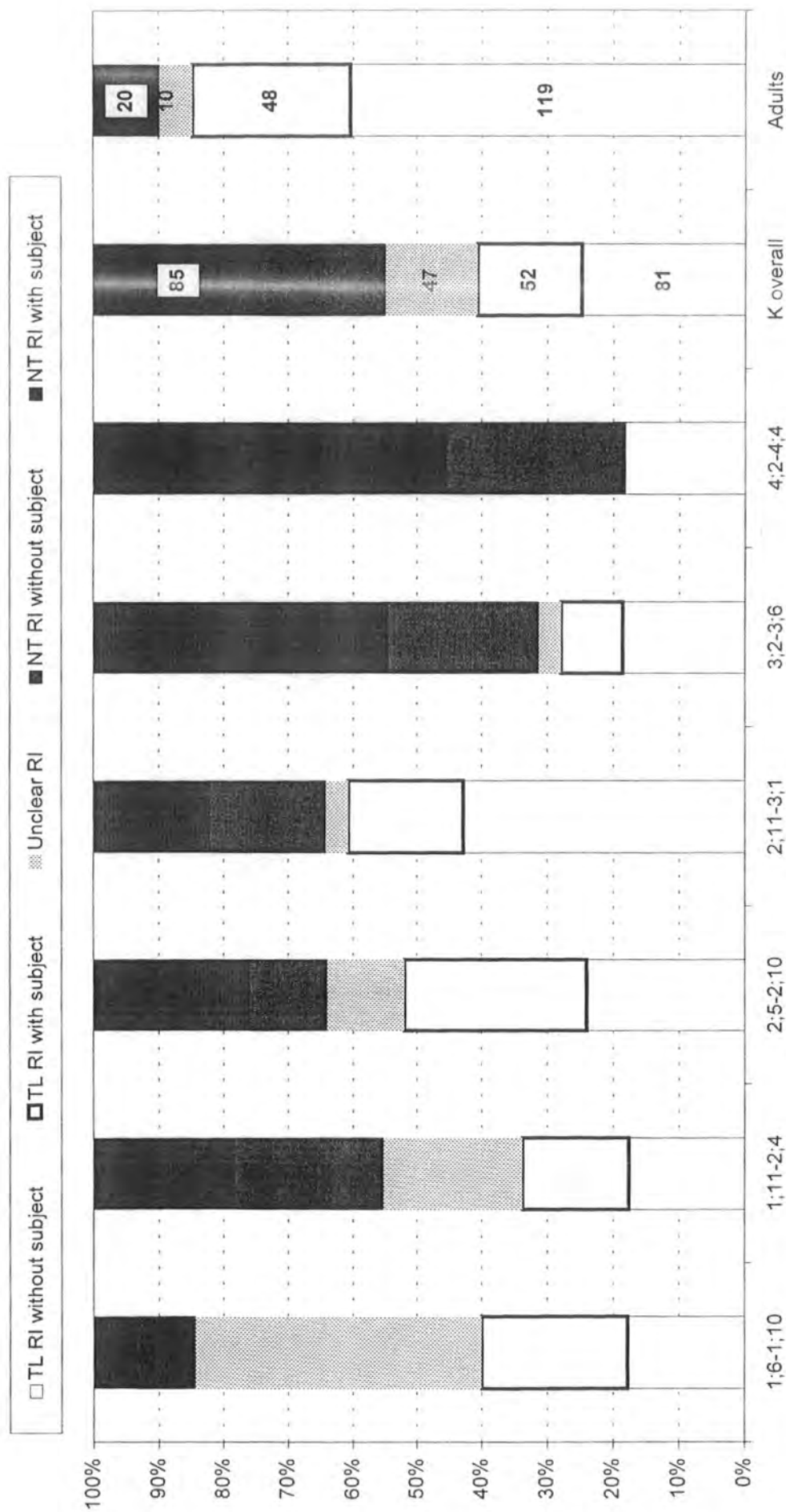


Fig. 6.7. Root infinitive types in Katla's Icelandic. Column *height* indicates the percentage of a particular RI type out of all RIs at an age range. On the right are *overall* proportions of RI types for Katla and the adults (10 samples); the data labels in these columns are for the corresponding *raw* figures.

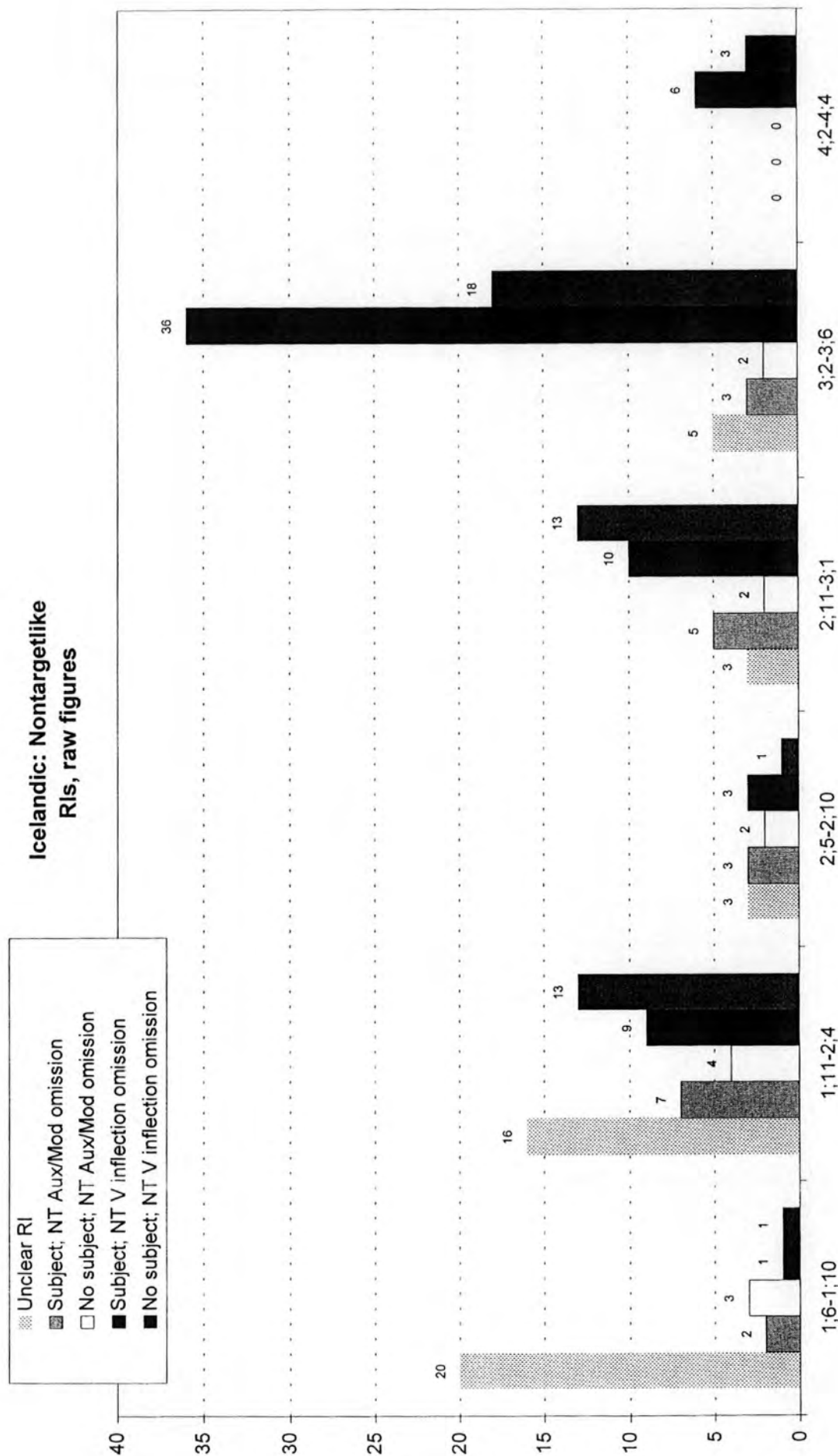


Fig. 6.8. *Nontarget* root infinitive types in Katla's Icelandic: Auxiliary omissions versus thematic verb inflection omissions. Age ranges (x-axis) plotted against clusters of RI types, raw figures (y-axis).

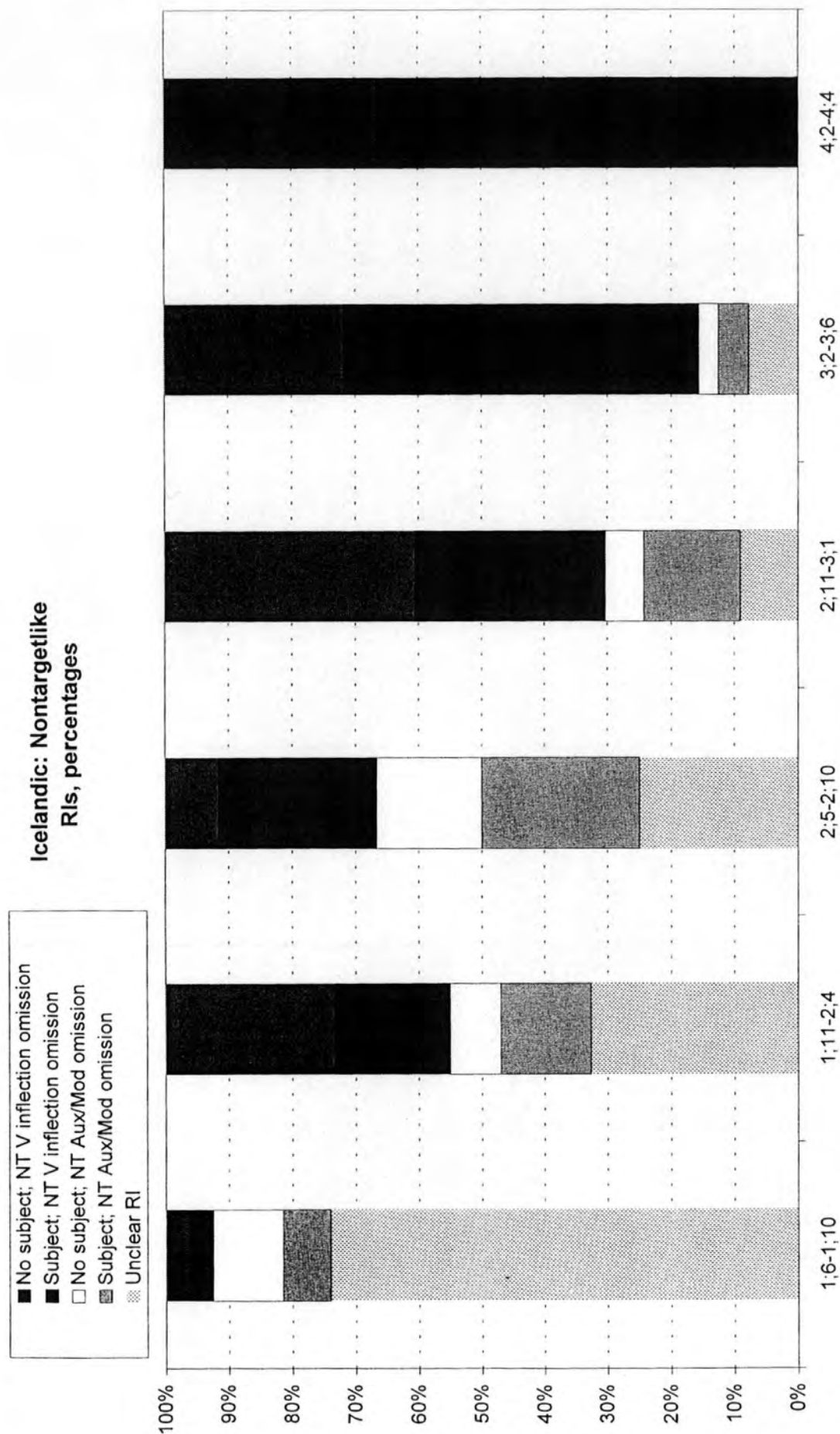


Fig. 6.9. Nontarget root infinitive types in Katla's Icelandic. Column height (y-axis) indicates the percentage of a particular RI type out of all nontarget/unclear RIs at that age range (x-axis).

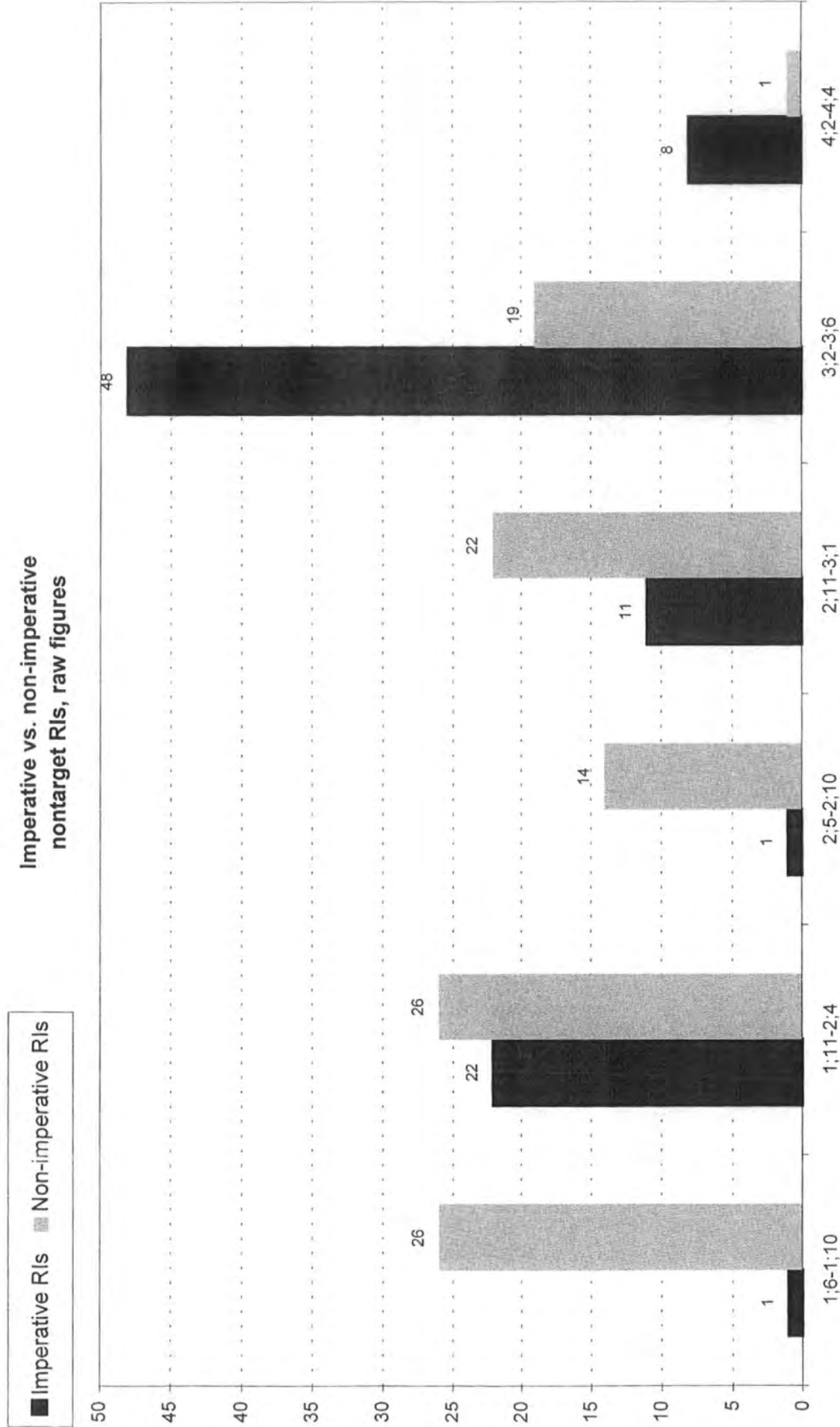


Fig. 6.10. Katla's Icelandic nontargetlike root infinitives, raw figures. Age (x-axis) plotted against raw figures for each age range (y-axis). Black columns denote nontarget imperative RIs; grey columns denote RIs that do not function as imperatives.

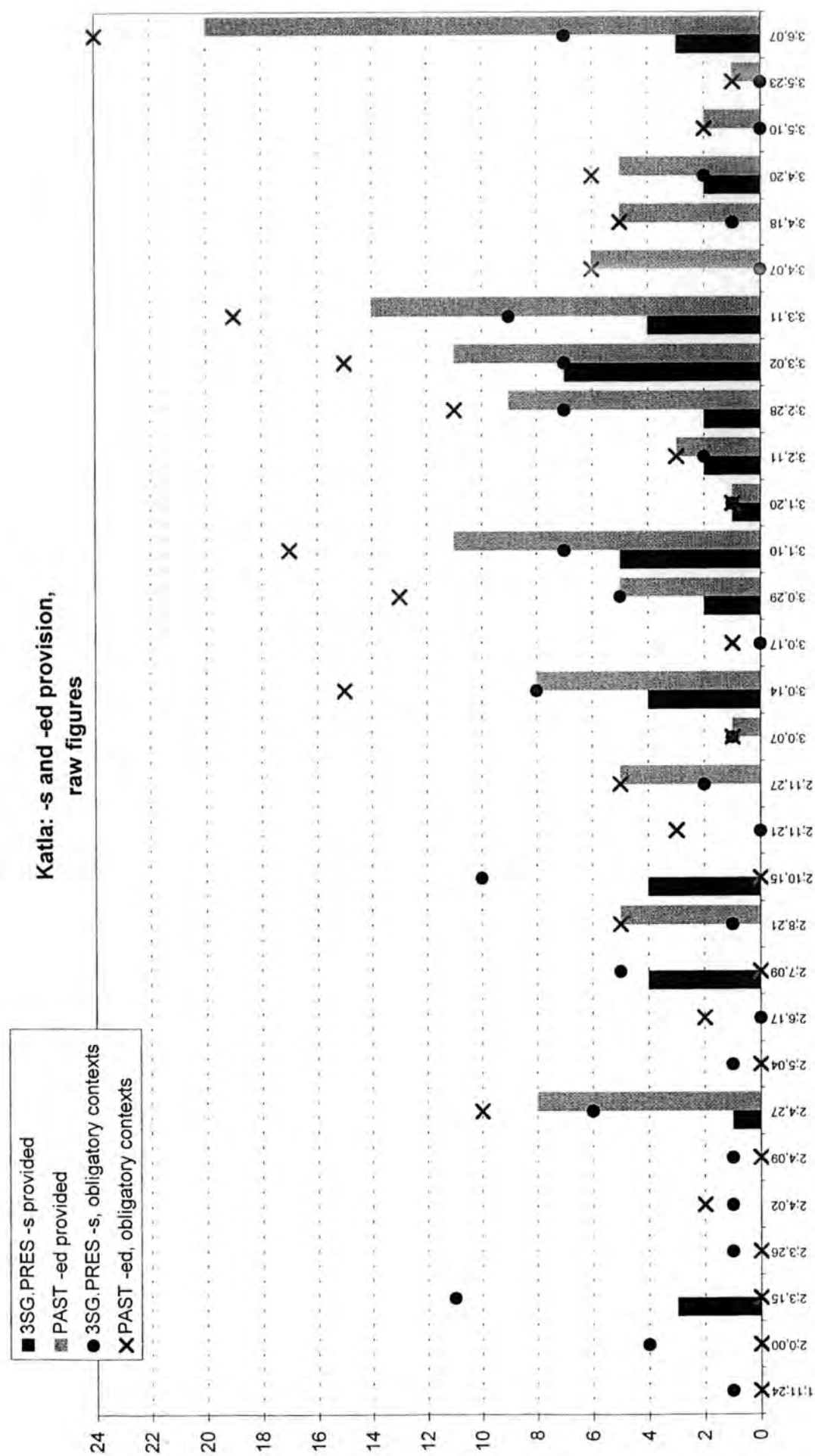


Figure 7.1. Katla's provision of overt finite inflection on English thematic verbs (3SG -s and past -ed) in relation to obligatory contexts. Age/Sample (x-axis) is plotted against raw figures (y-axis). Compare black bars (productions of -s) with black dots (contexts for -s); grey bars (productions of -ed) with grey crosses (contexts for -ed). Only samples in which there actually are contexts for such inflections are shown.

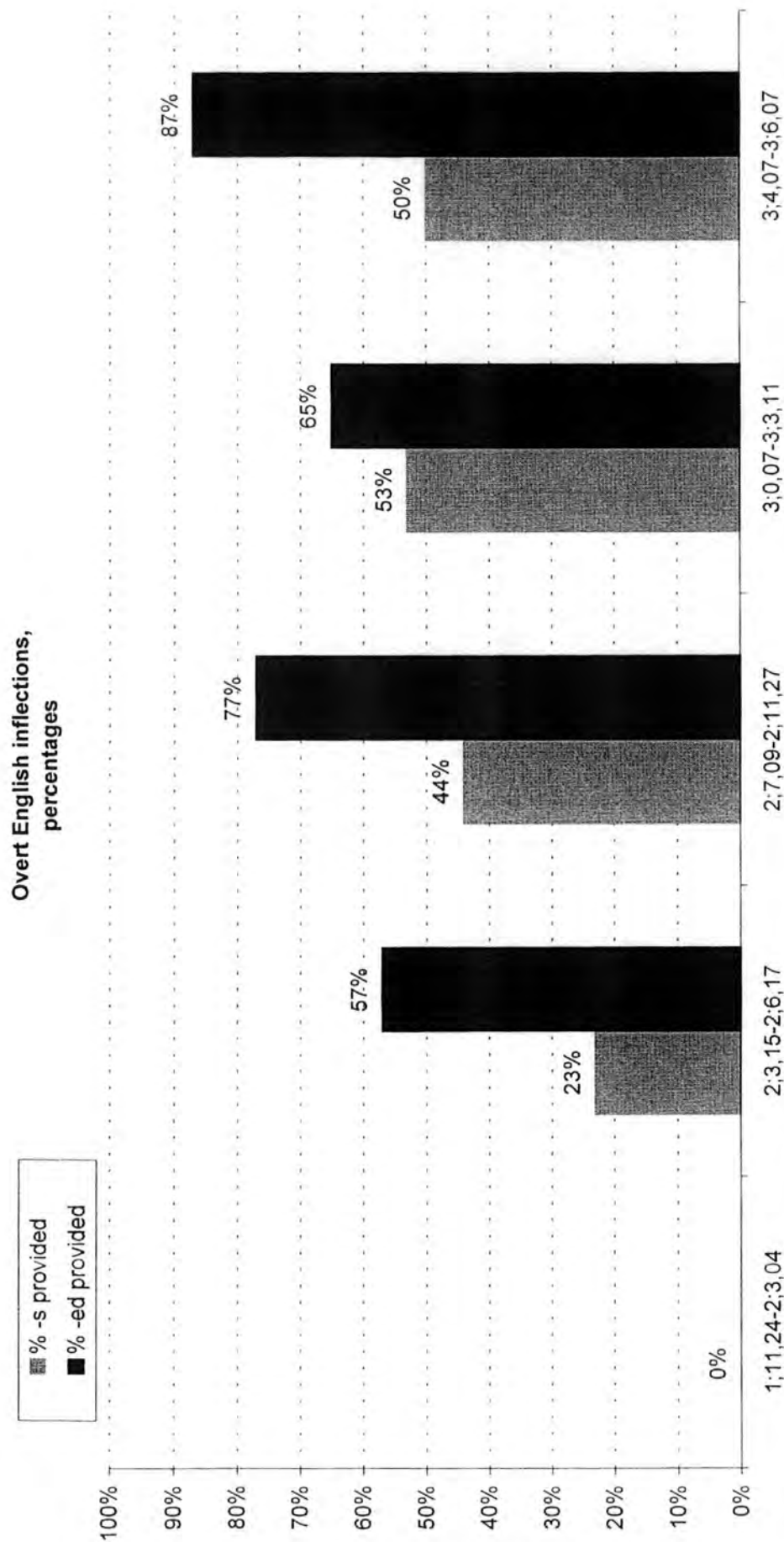


Figure 7.2. Katla's provision of overt finite inflection on English thematic verbs (3SG -s and past -ed), as percentages out of obligatory contexts (100%). Samples are grouped into 5 age ranges.

