A perspective on doubling constructions in child Dutch*

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Abstract

Scope-bearing elements for negations and questions may appear in Dutch child language as "doubling" constructions. The doublings are not part of the adult system. They arise spontaneously in early and later child language. The early doublings have a <+neg>-element or a <+Q/+wh>-element in sentence-initial position and double it by means of a sentence adverb in a sentence-final position. These doublings disappear in child Dutch after the acquisition of V-second. A later temporary doubling appears in negative constructions that contain a quantifier. The analysis below will consider the temporary doublings in child Dutch as attempts to maintain an earlier, more simplified construction. Temporary options in child language may result from a learnability hierarchy.

1. The acquisition of underlying structure

All generative types of grammar introduce hidden factors, since grammar is an interaction of intricate abstractions. A generative grammar may introduce underlying structures and movement operations, introduce categories with complex internal articulation (Categorial Grammar), or apply abstract grammatical relations (Relational Grammar, Lexical Functional Grammar). In all theses cases the acquisition procedure must relate simple language-specific constructions with more far-reaching abstract categories and principles. A generative type of grammar that derives constructions from an underlying structure offers a good illustration of the problem. In order to understand and acquire the structure a child hears, she must first conceive of another structure, one that she does not hear. It may very well be that grammatical categories and principles fit the human brain so well that one may as well consider them as innate and genetically given, but that is only half of the story.[1] When confronted with

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[1] For the neural evolution of so complex an adaptation, one may speculate as follows. The early humans as a species represented a severe case of "specific language impairment". The rise of grammatically structured language in early cultures must have selected the verbally gifted individuals. As children they got more attention and protection and later as partners they must have had more prestige. From that point on "specific language impairment" got genetically marginalized and became a deficiency within the species, rather than a general characteristic. Plausible as some neural pre-determination for language performance may be, it does not clarify a formal point: How does the language acquisition procedure select the appropriate UG principles and

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the language-specific input sentences, the language acquisition procedure must be forced into a system that does more than relate the specific utterance with the specific stereotype situation. The input sentence, each input sentence, must offer a "local access" that automatically drives the mind to (for example) UG principles and parameters. The input sentences must have the somewhat mysterious potential to activate abstract UG principles. Otherwise, the UG system, whether as such genetically predetermined or not, could not get started and become a guiding force in the acquisition procedure. I say "somewhat mysterious" for the following reason. If the intention of an input sentence is not pragmatically understood within the situation, how would that input sentence have any other effect than the child's incomprehension? But if, by contrast, the utterance is pragmatically understood anyway, what could drive the child's cognitive system towards a deeper more derived understanding by means of highly abstract principles? [2]

The analysis of the doubling constructions below is part of a larger alternative research program. It intends to build the bridge that is now lacking and to cross the gap between general principles and language-specific sentences (Evers and Van Kampen 2007, Van Kampen and Scha 2007). My basic idea is that any acquisition procedure will lead to the formation of a lexicon. The lexicon will eventually provide the words of the lexicon with categories and local context specifications. If all language experience is re-routed through a lexicon with grammatically marked

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parameter options? It is after all confronted with no more than a set of highly language-specific and situation-specific utterances.

[2] The problem of selecting the right categories and principles has been noticed before. For example, Tomasello (2003) recommends a "construction-based" grammar for early child language. His assumption is that construction-based grammar may cover all input data for child language and evade a selection of abstract grammatical principles, at least provisionally, and maybe definitely. Dresher (1999), by contrast, adheres to abstract innate UG grammar, but he stresses that there is an "epistemological problem" and a "credit problem". The very explanatory and abstract nature of the parameter implies that its presence cannot be noticed as a simple property in the primary data. This is the epistemological problem. The credit problem relates to the interaction of parameters. The necessary and intended interaction of parameters prevents their setting by simple observation. When combining a tentative setting of parameters yields results not confirmed by the primary data, it is unclear which parameter setting caused the uninvited superset effect. Both problems follow from the nature of the parameter itself and both seem to disqualify parameter settings as innate bootstraps for error-driven first language acquisition. Whatever their obvious differences, Tomasello (2003) and Dresher (1999) are both concerned with the need of a local access, a bridge, between language-specific input and more abstract principles. See also Sakas and Fodor (2001).

items, grammar builds up automatically as the best and most effective way to handle in mini-seconds the quantitative mass of the lexicon. A well-defined example of how this may work is the acquisition of the V-second rule in Dutch and German, and in its wake the temporary doubling constructions. This will be elaborated in the remaining of this section.

The acquisition of the V-second rule will appear to be a structural watershed that will cause the disappearance of the doubling constructions. I will exemplify the acquisition steps that lead to the appearance and disappearance of the doubling constructions in the case of Sarah ((Van Kampen corpus CHILDES, MacWhinney 2006). This case study will be supported by data from other Dutch children.[3] Section 2 will deal with the descriptive part of doubling constructions in early child Dutch, and derive their disappearance from the acquisition of the V-second rule. Section 3 sketches how "negative concord" doublings reappear with the introduction of quantifiers. Again the doubling is a temporary option. Finally, section 4 adds some concluding remarks.

1.1. The acquisition of V-second

Denotational (content) verbs in Dutch root clauses tend at first to appear as infinitives in the predicate-final position. This form, and its predicate-final context is the primary acquisition frame for denotationals. The finite verb of these root clauses is realized by a modal, aspectual or auxiliary verb, cf. (1a) (approximately 2/3). They take the sentence-initial (so-called "second") position. Approximately 1/3 (<35%) of the root clauses have the denotational verb in the clause-initial position, cf. (1b).

(1) a. mama gaat de beer in bed doen
mummy goes the bear to bed put
mummy is going to put the bear to bed

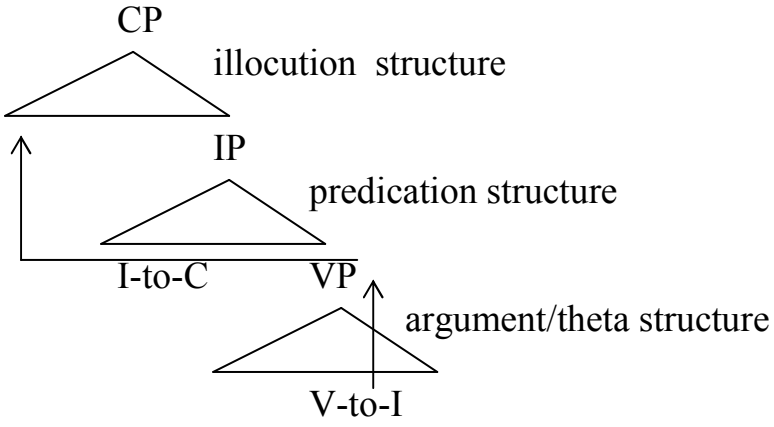
b mama doet de beer in bed t_V
mummy puts the bear in bed

A common, albeit much debated, analysis generates all verbs in the predicate-final V^o position, classifying Dutch as an SOV language. A movement rule subsequently brings the finite verbs into the "second"

[3] It is my contention that the order of acquisition steps is a causal effect of massive daily input. The acquisition speed of children may differ, but it seems unlikely that there can be variation in the order of the steps themselves. For that reason, I propose that arguments based on order of acquisition steps – even if derived from a few children – constitute strong evidence indeed.

position labeled C^o (Den Besten 1983). I further assume some standard analysis of sentential structure as in (2).

(2)



The V-second analysis represents an acquisitional challenge (cf. Evers and Van Kampen 1995, 2001, 2007). What could motivate a language acquisition procedure to move the finite verb from the predicate-final position into the sentence-initial position, if the finite verb is hardly ever noticed in the predicate-final position to begin with?[4] The following generative solution was first proposed in De Haan (1987), and has since been further developed in Van Kampen (1997) and subsequent work. All denotational verbs are first acquired in their predicate-final position and for that reason they get equipped with an OV argument/theta frame. The lexicon preserves for each lexical item its category and its frame. Some input examples will have a finite denotational verb and moreover have it in a sentence-initial position. These less frequent structures ((3b), 1/3 of the input structures) can be acquired, but initially only as idiomatic stereotypes.

(3) verbal patterns in early child Dutch

a.	(Aux) [Arg_1 Arg_2 V^o]	(regular)
b.	V_{fin} Arg_1 Arg_2	(stereotype)

At the beginning of the so-called "optional infinitive" period only modals and copulas appear in finite form (3a). Finite denotational verbs (3b) are at first almost absent in child Dutch. Their percentage only rises to the adult level at the end of the optional infinitive period, see the graph in Figure 1 and the percentages in Table 1 (from Evers and Van Kampen 2001). I take it that the acquisition point of V-second is the point where the graph crosses irreversibly the 80% line, at week 123 in the graph in Figure 1.

[4] Some researchers have suggested that the language acquisition procedure might have been inspired by finite subordinate clauses. The finite verb in Dutch subordinates takes the predicate-final position. For a criticism of this way out, see Van Kampen (1997:41, 2006) and Sakas and Fodor (2001).

Figure 1. The acquisition of V-second by Sarah.

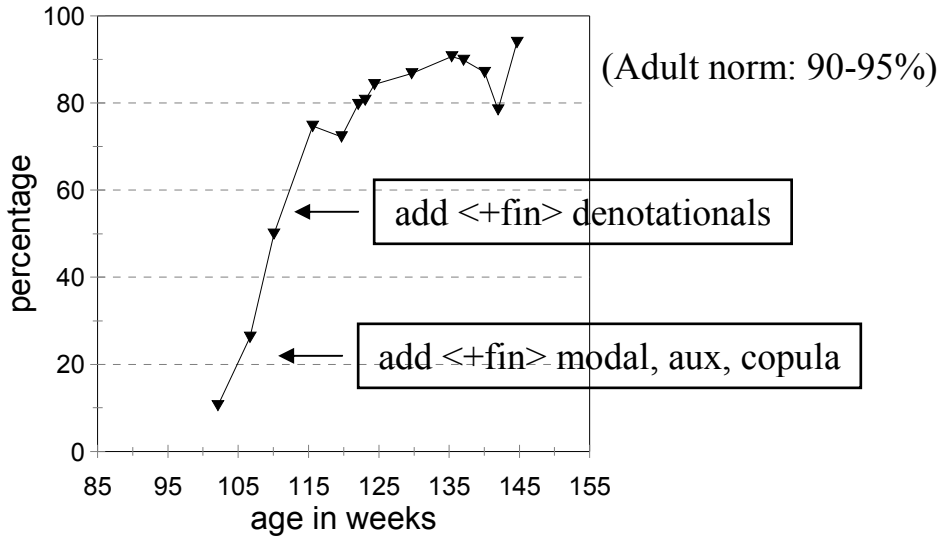


Table 1: Types of finite verbs produced by Sarah and her mother

Verb Type	Sarah: age in weeks			Mother
	107-110	115-122	129-133	
auxiliary V	92%	80%	70%	70%
denotational V	8%	20%	30%	30%

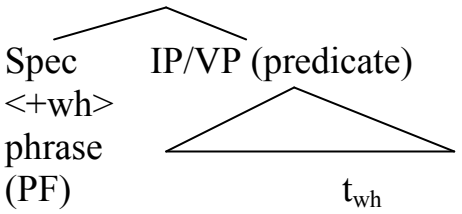
At first only a few denotational verbs appear both as a <+finite> variant in C^o position and as a <–finite> variant in V^o position. Eventually, it turns out that each verb allows both variants (3a) and (3b). The identity of the denotational variants <+finite> and <–finite> is established by the model of the acquisition procedure if pattern (3b) derives from (3a). The distributional variants (3b) make use of the same lexical context frame, but adds a rule. The key to underlying structure is given by the initially acquired structure of the lexical items. The lexicon functions as a grammatical memory (Evers and Van Kampen 2007).

1.2. The acquisition of scope-bearing elements

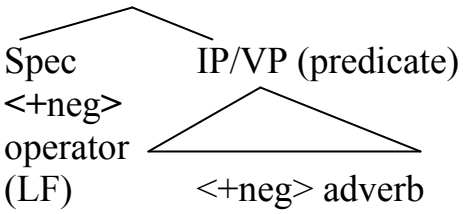
There are other structures that tend to require more than an immediate phrase structure configuration alone. These are the scope-bearing elements like those for negation (<+neg>) and question (<+wh>/<+Q>). Scope-bearing elements happen to have a double aspect. They are "bi-locational", in the following sense: On the one hand they qualify the sentence as a whole; they have "scope" over the sentence. On the other hand they are local subparts, construed with some I^o or D^o element, within the predicate–argument structure.

Such scopal elements appear quite early in the speech production of the child (between the second and third birthday). Surprisingly, they reflect the bi-locational property at PF in child Dutch where they turn up as temporary <+neg>-doubling and <+wh>/<+Q>-doubling constructions.[5] In these constructions, a single negation or a single wh-question is expressed by both an element in the high scope-marking position at the left edge of the utterance, and a corresponding sentential adverb marker in the lower more-rightward inner structure. The subsequent development leads to adult Dutch, where neither the negation nor the wh-question maintains a double marking in PF structure. Sentential <+wh/+Q>-marking in adult Dutch is reduced to an operator outside the predicate structure (4a) and <+neg>-marking in adult Dutch is reduced to an adverb inside the predicate structure (4b).

(4) a.



b



Scope-bearing elements <+wh>, <+neg>
(i) add a quality to the sentence CP as a whole
(ii) are at the same time subparts of a sentence CP

The "bi-location" of scopal elements is not present in the adult PF input data. So, how does the acquisition procedure reconstruct the underlying representation that relates the scope-marking position outside the predicate with a position inside the predicate–argument structure? The scopal elements offer a variant of the grammar acquisition problem. They appear in child language as temporary doubling constructions. These doublings are not available from the adult input.

The present paper will analyze three temporary doubling constructions in Dutch. Child language displays several temporal or permanent doublings of grammatical markings.[6] The present paper is not intended as a general theory of doublings in acquisition. It is rather an attempt to derive these

[5] By doubling constructions I mean that there is a single grammatical marking (e.g. tense, negation or question) expressed at two places.

[6] Doublings of various kinds are attested in other child languages as well, e.g. *do*-doubling, <+tense>-doubling and <+neg>-doublings in the acquisition of English (see e.g. Hurford 1975, Valian et al. 1981, Roeper 1992, and many others). I am at the moment non-committal how these are to be analyzed.

three specific cases. I will show that these doublings may appear as a natural consequence of the acquisition procedure for scopal elements, rather than being dictated by a UG arrangement.

2. Doubling constructions in early child Dutch

Adult Dutch expresses <+Q/+wh>-marking by the outside wh-scope operator, whereas the inside scope focus is empty, see (5).

(5) welk boek heb jij t_{wh} gelezen ?
which book have you *read ?*

Adult Dutch also expresses <+neg>-marking by means of a single marking. Negation shows the reverse picture. This time, the <+neg>-element is in front of the final predicate group (the so-called "Endfeld") and the outside scope operator is empty. See the negation in (6).

(6) wil jij dit boek niet lezen ?
want you this book not read ?
don't you want to read this book ?

Now the following happens in acquisition. Dutch children reconstruct negations and wh-questions as doubling constructions before they step over to the single markings of the adult system. Examples of <+neg>-doublings are given in (7).[7]

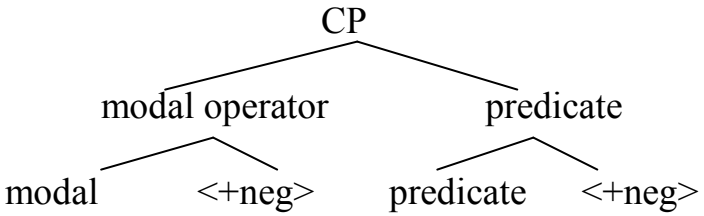
(7)	fused operator ~ content+negation		Sarah (Kampen corpus)
a.	issenie	~ ei [niet]	(S. 2;4.2 week 122)
	thatsnot	~ egg not	
b.	hoefenie	~ bad [niet]	(S. 2;4.25 week 124)
	(I) neednot	~ bath not	
c.	(ik) hepniet	~ sjembad [niet]	(S. 2;4.27 week 124)
	(I) havenot	*~ swimming pool not*	
d.	hoortniet	~ daar [niet]	(S. 2;5.22 week 129)
	(it) belongsnot ~ there not		
e.	kannie	~ vinden [niet]	(Tim 2;2)
	(I) cannot	*~ find not*	
f.	hoortniet	~ in kamer [niet]	(child 2;8.23)
	belongsnot	~ in room not	

[7] The examples in (7a-d) are from Sarah. The doublings in (7e-j) are attested in Van Kampen (diary notes 1989-1994), Coopmans (1995), Van der Wal (1996), and in other Dutch corpera in CHILDES (Groningen corpus, Utrecht corpus).

g.	pastniet	~ ijsbeer in [niet]	(Matthijs 2;4.24)
	((there) fitsnot	*~ polar-bear in not*	
h.	hoefeniet	~ pap opeten [niet]	(Thomas 2;4.14)
	neednot	*~ porridge eat not*	
i.	khoefnie	~ s(l)apen [niet]	(Laura 2;4.21)
	(I) neednot	*~ sleep not*	
j.	zijnnie	~ [niet] koud [niet]	(Laura 2;8.24)
	(they) arenot	*~ cold not*	

The utterances in (7) are binary constructions; a <+neg>-marked modal-like operator is followed by a content element that is also <+neg>-marked.[8] The initial <+neg>-element in italics is analyzed as part of a fused part modal operator.[9] Since the two-part utterances in (8) as a whole were intended as a single negation, I analyze the final <+neg>-element between brackets [niet] as a simultaneous and repetitive tag on the content element. The <+neg> element is the final element in both parts of the utterance, see (8), and often stressed.

(8)



The modal negation and the tagged content element are also used as independent utterances by the child. Their combination yields the temporary doubling construction.

In this way, the negation doublings in (7) are not part of the input, but they will nevertheless arise from an acquisition procedure that combines pre-existing parts. The adult input is as in (9).

[8] The cover term "modal/illocution operator" can be applied to sentence-qualifying words, a class of stereotype initial elements in child language. The acquisition of the category <+finite> verb in tandem with the V-second rule changes that state of affairs. Some sentence-qualifying words preserve their simple "ad-sentential" or adverbial nature, whereas others develop a "bi-location". The initial sentence-qualifying position gets related to an empty position within the predicate (as in the V-second construction), or the initial sentence-qualifier for question, negation, subordination gets related to a morphological marker within the predicate. The sentence advertises its illocution status by an initial element as well as by a predicate-internal property. This is probably a general property of scope-bearing items.

[9] An analysis of *kannie*, *hoefenie*, *magnie*, etc. as unanalyzed "negative modal operator" is present in Hoekstra and Jordens (1994) and Jordens (2002) as well.

(9) Adult Dutch

a. ik hoef het niet t_V
I need it not t_V
I do not need it

b. ik hoef het ei niet t_V
I need the egg not t_V
I do not need the egg

c. ik hoef niet t_V te eten
I need not t_V *to eat*
I do not need to eat

d. ik hoef niet een ei t_V
I need not an egg t_V
I do not need an egg

The adult Dutch sentences in (9) allow us to consider the child language forms in (10) as temporary reductions by the acquisition procedure. The negation element can become part of different remnants. The binary blocks in (10a) have a *niet* following the modal as a clitic, those in (10b) have a non-cliticized *niet* in final position following a content element, and those in (10c,d) have a non-cliticized *niet* preceding a content element.

(10) child's binary reductions

a.	hoefenie(t)	(need not)	(S. 2;0.17 week 107)
b.	ei niet	(egg not)	(S. 2;1.10 week 110)
c.	niet eten	(not eat)	(S. 2;0.7 week 107)
d.	niet ei	(not egg)	(S. 1;11.15 week 102)

In adult Dutch, the negation element precedes the infinitive. It precedes the indefinite object (10d), but follows the definite object (10b) when the definite object is said to be "scrambled". The negation in early child Dutch may have three different forms or a doubling combination of those three forms: (i) A cliticized part of the fused modal operator (10a); (ii) an adverb in front of the "Endfeld" (final predicate group) (10c,d); and (iii) an utterance-final adverb (10b).

The introduction of the V-second rule changes all that. The "t_V" left by the V-second rule allows a reanalysis. All negation elements appear as adverbs in front of the "Endfeld" that is now headed by t_V. At the same time, the V-second rule enforces a reanalysis of the initial modal operator as an element consisting of a finite verb plus a cliticized *-nie*. This cliticized *-nie* can also be analyzed as adverb in front of the "Endfeld" headed by t_V. The three positions mentioned under (10) are now unified. The scope marker *-nie* cliticized to the finite verb might have been

maintained in various other grammars, but no longer supported by clear input it disappears in child Dutch shortly after the acquisition of V-second.

A similar temporary doubling is present for wh-questions, see (11).

(11) a. [was] ~ dat [nou] ? (S. 2;4.2 week 122)
what-is ~ that 'now' ?

b. [wasse] ~ buiten [nou] ? (S. 2;4.9 week 123)
what-is-there ~ outside 'now' ?

c. [waas] ~ koning [nou] ? (S. 2;4.27 week 124)
where-is ~ king 'now' ?

d. [tga] ~ jij [nou] doen ? (S. 2;5.9 week 127)
what-go ~ you 'now' do ?

The operator forms [was] (*wat is* 'what is'), [wasse] (*wat is er* 'what is there'), [waas] (*waar is* 'where is'), and [tga] (*wat ga* 'what will') can be analyzed in the adult system as cliticized forms of a wh-element and a copula or auxiliary. The adult forms of the finite verb and the wh-pronoun follow from the V-second rule and the wh-movement rule. These constitutive parts have not yet been acquired in early child language. In Figure 1, we saw that Sarah acquires the V-second rule at week 123. Wh-movement follows some 15 weeks later. For that reason, the initial forms in (11) are better analyzed as fused operator elements that will be reanalyzed as soon as the acquisition procedure is equipped by the V-second rule.

The fused operators of early child language may also be and often are left out. In these cases, *nou* still marks the sentence as a <+wh>-question, see (12).[10]

(12) a. dat nou ? (S. 1;7.21 week 86)
(what) is that 'now' ?

b. nou eend ? (S. 2;0.17 week 107)
(where is) 'now' duck ?

With the acquisition of V-second, the (provisionally) fused operators in (11) are reanalyzed as finite verbs, preceded by a <+wh> pronoun. This reanalysis is forced upon the fused operators by the V-second rule. When the cliticized parts *wa-* disappear, the content part continues to represent a question due to the sentential adverb *nou*, as in (13). For many more examples, see Van Kampen (1997: appendix A).

[10] The earliest content questions are one-word utterances. English toddlers select wh-pronouns for such utterances, e.g. *what* (is this)*?*, *where* (is X)*?*, whereas Dutch children select *nou?* (= 'what is this?', 'where is X?').

(13) a. ∅ heb dat nou daan t_V? (S. 2;4.18 week 124)
(who) has that now done t_V ?
who has done that ?

b. ∅ zit de vogeltje nou op t_V ? (S. 2;5.4 week 127)
(where) sits the birdie now on t_V ?
on what sits the birdie ?

c. ∅ heet die jongen nou t_V? (S. 2;8.4, week 140)
(how) calls that boy now t_V?
what is that boy's name ?

The appearance of V-second does not immediately yield the wh-pronouns, see the examples in (13). The wh-pronouns ask for a command of several other grammatical properties at the same moment, such as the presence of a fixed argument structure with D^o-marked arguments to identify the t_{wh} position and for a distinction between φ-features like <±human> and <±oblique> (*wat/wie// waar* 'what/who//where') (see for a full and quantified analysis Van Kampen 1997: ch. 4). Right after the acquisition of the wh-pronouns, the use of the adverb *nou* makes a dramatic fall.

Presence or absence of *nou* may from here on, and in adult Dutch, rather mark "open questions" versus "obvious answer questions". Adult Dutch, as well as the other V-second languages, allow the sentence adverb *nou* ('now') or *dan* ('then') to be added to questions, e.g. *denn* in German, *då* in Swedish, *da* in Norwegian. Child Dutch shows an overuse of this adverb with a simultaneous delay of introducing wh-pronouns. In adult Dutch the adverb *nou* is an option, see the examples in (14) for Sarah's mother.

(14) a. wat heeft die enge reus nou aan z'n neus hangen ?
what has that scary giant now on his nose hang ?
what has that scary giant hanging on his nose ?
zie je dat ?
see you that ?
do you see it ? (file 17, age S. 2;5.22)

b. wat ben je nou aan (he)t doen ?
what are you now doing ?
what are you doing now ?
he, ondeugd, heb jij alle kussens d'r afgehaald ?
hey, naughty, have you all cushions there off taken?
hey, naughty girl, have you taken off all cushions ?
(file 23, age S. 2;8.19)

The adult use of *nou* in (14) has a pragmatic effect rather than being a question marker. [11] The adult speaker suggests with *nou* that the appropriate answer is known and presupposed. The two-year old child is unlikely to notice that flavor. She seems to consider *nou* as a standard marker for any wh-question. This claim is supported by the following percentages. Whereas in adult Dutch, the adverb *nou* is only added in 15% of the wh-questions, the child makes use of *nou* as a (near) obligation for any wh-question. Over 80% of Sarah's questions lacking the wh-element have the *nou* inserted. With the acquisition of wh-pronouns, the use of the adverb *nou* makes a dramatic fall from 80% to the adult level of 15% (Van Kampen 1997: 79).

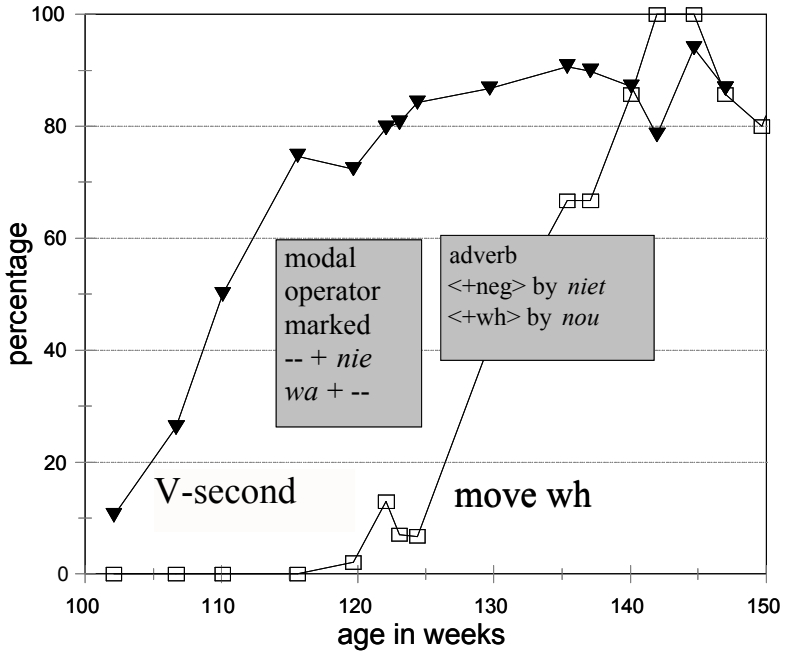
I see the following acquisition order for <+wh>-question formation.

(15) Acquisition order for wh-questions
a. content element with question tag *nou*
nou doen ? / doen nou ? ('now' do ? / do 'now' ?)
b. intention operator with a fused question marker
(wa)tga jij doen nou ? ((wha)t-go you do 'now' ?)
c. V-second: dismissal of the clitic element in the operator
ga jij doen nou ? (are you doing 'now' ?)
d. introduction of wh-pronoun and disappearance of *nou*.
wat ga jij doen ? (what are you doing ?)

The mass of both the <+neg>-doublings and the <+wh/+Q>-doublings in early child language appear at the end of the V-second acquisition graph. After the acquisition of V-second, the fused operators of early child Dutch are reanalyzed and the <+neg> and <+wh/+Q> doublings disappear. This development is illustrated in Figure 2 below.

[11] Compare also adult Dutch *nou en?* ('now and?') to the English equivalent *so what?* Sentence adverbials abound in spoken Dutch. Children pick them up almost immediately, but not necessarily with the pragmatic intention of the adult user (Van Kampen 1997, 2001, 2005). Being spoken language, they are hardly analyzed in the standard grammars.

Figure 2: Acquisition order: doubling → reanalysis



2.1. V-second as a structural watershed

There are striking parallels between the <+neg>-doubling and the <+wh/+Q> doubling. Both result from a cliticized element in the complex sentence operator of early child language. Both suddenly disappear in the reanalysis of the initial operator due to the acquisition of V-second. Both make use of a simultaneous sentential adverb in the right-hand content part. The sentential adverbs *nou* <+Q> and *niet* <+neg> arguably take the predicate-final position before the t_V, see (16). Once the child adds a trace for the finite verb in the predicate-final position, all <+neg>-elements can be reinterpreted as adverbs in front of the "Endfeld" (final predicate group). A uniform position of <+neg> *niet* (and also <+Q> *nou*) can be established.

(16)

<+finite>	<+neg>		
kwil	niet	[bad	t_{Vfin}]
kan	niet	[vinden	t_{Vfin}]
is	niet	[ei	t_{Vfin}]
gaat	niet	[in kamer	t_{Vfin}]
wanna	*not*	*bath*	
can	*not*	*find*	
is	*not*	*egg*	
goes	*not*	*in room*	

<+finite>		<+neg>	
	badje	niet	t_{Vfin}
wil	*vinden	niet	t_{Vfin}
	ei	niet	t_{Vfin}
	*in kamer	niet	t_{Vfin}
wanna	*bath*	*not*	
	**find*	*not*	
	egg	*not*	
	**in room*	*not*	

<+finite>					
∅ (waar)	zit	vogeltje	nou	[op	t_{Vfin}] ?
∅ (wat)	gaat	papa	nou	[doen	t_{Vfin}] ?
∅ (wie)	heb	dat	nou	[daan	t_{Vfin}] ?
∅ (hoe)	heet	die jongen	nou	[	t_{Vfin}] ?
(where)	*sits*	*the birdie*	*now*	*on*	*?*
(what)	*has*	*daddy*	*now*	*done*	*?*
(who)	*has*	*that*	*now*	*done*	*?*
(how)	*calls*	*that boy*	*now*		*?*

If the acquisition of the V-second rule comes down to the introduction of "t_{Vfin}" in all root clauses, it allows a uniform analysis of the sentence adverb *niet*. This explains the sudden disappearance of the initial <+neg>-

doubling. The same V-second rule established the basis for the acquisition of wh-pronouns in Dutch. When the wh-questions are marked by the wh-pronoun, the use of *nou* as a standard marker for a wh-question disappears.

Figure 1 showed that Sarah acquired V-second around week 123. Before that acquisition point, very few denotational verbs appear as <+finite>. Soon after that point, the acquisition procedure discovers the lexical overlap between <+finite> and <–finite> forms. The category V^o is born as the category with the +finite/–finite paradigm. The V-second rule states their distribution. A reanalysis of the fused modal/illocution operators is bound to follow. The fused initial operator in C^o reappears as V<+fin> plus some cliticized illocution element. At that point the child adds in principle an illocution marking V<+fin> for any root clause. That marking, placed in the C^o position, characterizes the CP as a single scopal domain in V-second Dutch. The mass of <+neg> and <+Q/+wh> doublings in early child language appear within a fairly short period of approximately 10 weeks, at the end of the V-second acquisition graph between weeks 115-125. Thereafter they only appear sporadically. This indicates that the acquisition of the V-second rule is a true watershed between early and later child language as respectively dominated by a grammar without and a grammar with underlying structure.

The V-second rule has several structural consequences. (i) It reanalyzes the fused operators as a finite verb plus additional scopal elements. (ii) It creates a predicate constituent headed by t_V, which clarifies the position of all sentential adverbs, especially *nou*<+Q> and *niet*<+neg>; and (iii) it establishes a clear demarcation of sentential scope. That tends to make the double markings for question scope and negation scope redundant.

The finite verb in root clauses of V-second languages may itself be analyzed as a clear illocution marker and a scope-bearing item. The finite verb is related to two positions one within the predicate in I^o $t_{V<+fin>}$ and one outside it, $V_{<+fin>}$ in C^o.

(17) the finite verb is related to
  a. a C^o-position having CP scope.
  b. the predicate head final position.

To summarize, the evolution of the underlying bi-locational system shows the three steps in (18).

(18) Step 1: Operator tags in strongly reduced structures
  Step 2: Doubling in combined expressions
  Step 3: Integrated in V-second structures

The Dutch child spells out the initial scope-bearing elements at a single place in the scopal domain before her 3rd birthday right after the acquisition of the V-second rule.

3. Quantifiers and <+neg>-doublings in later child Dutch

Explicit doublings of a new type pop up (again spontaneously) in more complex <+neg>-constructions, when children begin to use quantifiers around the age of four.

3.1. Existential quantifiers and negation

A complication appears with the acquisition of existential quantifiers like *iemand* ('someone'), or *iets* ('something').[12] They get a negative marking when they are under the scope of the negation (*niemand*/not~anyone 'no-body'; *niks*/ not~anything 'no-thing'). Child language accepts these negative quantifiers from the adult examples, but persists at the same time in the habit of marking negative sentences on the predicate only. The result is that new <+neg>-doublings may appear with the introduction of negative quantifiers, see the examples in (19)

(19) child Dutch

a. niet tegen niemand zeggen (S. 4;1.11)
(do) not to nobody tell
don't tell nobody
(adult: tegen niemand zeggen)

b. niemand kan er niks aan doen (S. 5;10)
nobody can there nothing about do
nobody can do nothing about it
(adult: niemand kan er iets aan doen)

[12] Quantifiers take part in definiteness effects. Only indefinite DPs can occur after "there be" (*there is a pencil/some pen/something in the box* versus **there is the pen/every pen/everything in the box*). Universal quantifiers, as opposed to existential quantifiers, are excluded in *there*-sentences.

c. niemand speelt niet met mama (Veerle 3;3)
nobody plays not with mummy
nobody doesn't play with mummy
(adult: niemand speelt met mama)

The negative quantifier constructions in (19) appear in late child language.[13] The adult input does not add the sentence adverb *niet*, but typical child language puts it in spontaneously. It seems that the negative quantifiers are not yet (or at least not always) interpreted as markers for sentential negation.

There are languages in which quantifiers get a negative marking in addition to the standard sentential negation, expressing only one semantic negation (¬∃x∃y). That phenomenon is known as "negative concord". The quantifiers that allow negative concord are "n-words" (Laka 1990). N-words are a set of indefinites that share the property of being licensed in both negative and non-negative contexts, like *personne* in French. In order to avoid that such sentences get double negation (¬∃x¬∃y, denying the negation), Zeijlstra (2004) proposes that the negative quantifiers in these languages are better seen as non-quantificational indefinites that do not project a negative feature (*n*-body = person; *n*-thing = thing). They are only marked as falling under the scope of a sentential standard negation that by consequence has to be present (Zeijlstra 2004: chapter 8).

Assume now the following. The child has acquired the standard negation *niet* as the sentential adverb in front of, and adjoined to, the final predicate group ("Endfeld"). Subsequently, she is confronted with a sentence structure containing an argument marked by a quantifier like *niemand* ('nobody'). She understands (pragmatically) that this sentence is intended as a simple negation. Hence, having a grammar of her own in full operation, the child may spontaneously add the standard sentence negation *niet*. She simply adheres for some time to her hard-won negation rule. Only slowly she gives in to the input pressure to drop the standard sentence adverb *niet* in order to reinterpret the n-word as a complex category, an indefinite quantifier as well as a sentence negation element. That reinterpretation implies that the negation element *niet* disappears from the construction in (19). It is a nice point that in language history the negative markers within the quantifiers (*niemand* 'nobody', *niets* 'nothing') did

[13] The constructions in (19) appear well after the third birthday. In Van Kampen (2004) I propose more substantially to distinguish early and later child language as child language respectively before and after the acquisition of systematic I^o-marking (finite verbs) and D^o-marking (determiners).

originate as markers for the existential quantifiers under the scope of explicit negation like the English *some*/*any* variations. The child language development for negative quantifiers repeats in a sense the history by entering the "Jespersen cycle" at its most reduced moment (single negation only; see Zeijlstra 2004: 56 for an outline of the Jespersen cycle).

The Dutch adult language drops the separate negation elements. This implies a reanalysis. The <+neg>-marked quantifier turns into a new type of negation element. It projects the negation scope feature on the clause. The doubling (*niemand ... niet*, cf. (19)) disappears in order not to cause the semantic scarecrow "negation of a negation". The scopal effect, first taken care of by the <+neg>-adverb, is now taken over by a quantifier interpreted as a <+neg>-element. The doublings introduced by the child in examples like (19) were temporary concord phenomena.

3.2. Universal quantifiers and negation

The tendency of the grammatical system to maintain a single device for sentence negation plays a part in the negation of universal quantifiers as well.

The main rule is that there is a single adverb of sentential negation. Its place (like all sentential adverbs in Dutch) is right before the "Endfeld". Subject and object arguments that are definite or presupposed appear to the left of the <+neg>-adverb. Child language and informal Dutch allow that these pre-posed arguments are quantified with *alle* ('all') or *ieder* ('each'). The main negation rule is maintained. The universal quantifiers *iedereen* ('everybody'). *alle* ('all'), *alles* ('everything') mark high placed arguments on the left and nevertheless fall under the scope of the low placed preverbal *niet* in the predicate-final position ($\neg > \forall$), see (20).

(20) child Dutch (also: informal Dutch)

a. iedereen vindt haar niet lief (S. 4;5.29)
everybody finds her not nice
meaning: not everybody finds her nice

b. *alle kinderen* zijn *niet* gekomen (S. 4;8.9)
all children are not come
meaning: not all children came

c. alles is niet gelijk (S. 4;7.24)
all is not equal
meaning: not everything is the same

d. iedereen had z'n taak niet af (Laura 8;10.14)
everybody had his task not finished
meaning: not everybody had finished his task

e. alles kun je niet zien (Sanne 3;10.8)
all can you not see
meaning: you can not see everything

From the context in the recordings it is obvious that the negation is intended by the child as having scope over the quantifier.[14] Again, as in the case of the examples in (19), the child maintains the hard-won negation rule of early child language for a while (negative predicate implies negative sentence). Examples like (20) are attested for a very long period in child language. They also appear in the informal speech of many adults with the obvious intention that the universal quantifier on the subject falls under the scope of the sentence adverb *niet* in the predicate (¬ > ∀).

Formally, one also expects the interpretation where the universal quantifier has scope over the negation (∀¬ >), as in (21).

(21) alle kinderen zijn [niet op mijn feestje gekomen]
all children are [not to my party come]
(for all of the children it is the case that they did not come etc.)

Yet, this formal option is simply not used in Dutch. One cannot say that the sentences in (20) are ambiguous between a wide scope and a narrow scope reading for negation. Only the wide scope reading of the negation applies in child language and informal Dutch.

A more careful adult style of speaking avoids the construction in (22) altogether. If the negation has scope over the quantifier one should use (unambiguously) (22a), and if the quantifier has scope over the negation, one should use (unambiguously) (22b).

(22) a. niet alle kinderen zijn op mijn feestje gekomen
not all children came to my party
(it is not the case that all children came to my party)

b. geen van de kinderen is op mijn feestje gekomen
none of the children is to my party come
(for all of the children it is the case that they did not come etc.)

The construction in (20) and (21) are evaded in formal Dutch.[15] In informal Dutch, by contrast, the constructions in (20) are not uncommon, but only with *niet* having scope over the quantifier. They are already present in child

[14] See for a similar result with indefinite DPs under the scope of negation, the experimental work of Krämer (2000).

[15] An exception is the quantifier *allemaal* ('all'): *ik wil ze allemaal niet* (I want them all not = I don't want any of them) versus *ik wil ze niet allemaal* ('I want them not all' = I don't want them all).

language. The more careful forms in (22) are difficult to acquire. They seem to be on the verge of learnability. No matter how faultless the Dutch mothers address their children (as attested in the Sarah files), all Dutch children pass through an intermediate substandard stage like (20) where a <+neg>-element is spontaneously attached to the final predicate group and has scope over the universal quantifier on the left.

4. Concluding remarks

Three cases of spontaneous temporary doubling in child Dutch have been analyzed as the outcome of recombining constructions that were acquired in previous steps. Early child grammar makes use of initial operator elements that may incorporate negation or question markers. At the same time it expresses a negation or a question by means of specific sentential adverbs. The system results in a bi-located PF type of marking of a single (LF) question or negation. The acquisition of V-second clarifies the clause structure and yields the key to the adult structure: a wh-phrase in Spec,C and a negative adverb in front of the “Endfeld” .

The <+wh> and <+neg> "remnants" in the initial modal operator element disappear when the operator is reanalyzed by the V-second rule. All negations are taken care of by the sentence adverb *niet* only. The same holds for the wh-questions. They are for a short time taken care of by the sentence adverb *nou*. Both sentence adverbs (*niet* and *nou*) are placed in the sentence (pre-)final position. The scope of these adverbs is expressed in a new way. The <+neg> and the <+wh/+Q> marker are adjoined to the “Endfeld” (final predicate group) but maintain scope. This can be modeled by assuming that the <+neg> and <+wh/+Q> features are projected up to the highest CP.

The important factors for the present analysis (adjunct, segment structure, specifier, adverb, cliticized tag, predicate, quantifier) are all UG minted distinctions. These factors are simply not relevant from the very beginning on. They do not enter the development until they have been acquired earlier in maximally simplified highly repetitive binary structures that remain part of the grammar until the next step in the acquisition process has been taken. Language acquisition starts simple with a radical reduction of the adult input. The successive grammars of child language cover the resulting reduced intake, extending them slowly in a stepwise fashion. Initial accommodations such as the doubling constructions for questions and negations disappear. Operations that are initially optional,

such as the use of finite verbs in second position, eventually turn into obligatory operations.[16]

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[16] This learnability perspective is not as far from present day theorizing as one may imagine, although it is definitely a different point of view. Chomsky (2005) mentions three factors for the acquisition of grammar, (i) input structures, (ii) innate UG factors, and (iii) general cognitive abilities. Subsequently, he proposes that language is "perfect" if the UG factor derives from the two other factors. Since evolution, genetic and non-genetic, is a procedure to eliminate the less-perfect adaptations, the first guess must be that language has to be perfect (for its users). Language is in perfect connection with the cognitive abilities (factor (iii)) and the perceptual/motorial abilities (factor (i)) of the user. If so, the triple statement can be read as a program to reanalyze the UG factor in first language acquisition as the outcome of the acquisition process. I hope to have shown that there is a bridge between input data and general grammatical distinctions. The first distinctions derived by the child define typological properties. This remarkable phenomenon, which was already noticed by Jakobson (1942) for phonology, is due to the fact that the input structures survive by allowing the natural reductions shown in the CHILDES files. The reductions suggest which successive generalizations are needed to build up a grammar from scratch.

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