EARLY VERBS IN CHILD SWEDISH – A DIARY STUDY ON TWO BOYS

PART I: VERB SPURTS AND THE GRAMMAR BURST

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to my beloved sons – or rather from them

Early verbs in child Swedish

Part I: Verb spurts and the grammar burst

CONTENTS

TABLES

FIGURES

Presentation of the study

This is a study of early verbs in child Swedish based on diary data. When completed it will consist of three parts: *Part I: Verb Spurts and the Grammar Burst*; *Part II: Morphology* (due to be published in 2011); and *Part III: Semantics* (due to be published in 2012). This book presents the first part of the study.

In order to understand the patterns involved in the use of early verbs in child Swedish, the same data has been analysed from different angles. Verbs are analysed as lexemes and as the core parts of clauses (here in Part I), as morphological forms (in Part II), and as conventionalised and contextualised meaning (in Part III). Each analysis is performed independently of the others, but in the final study various types of correlations between form and meaning will also be discussed.

All parts of the study are based on the same set of data, and this data originates from the diary journals that I kept on the linguistic development of my two sons – Hugo, from 0;9 to 2;5 (that is, from of the age of nine months to the age of two years and five months) and Bruno, from 0;7 to 2;7. Limiting the data to that available through the age of approximately 2;6 was a very natural choice. At this age, both children had developed a restricted but target-like syntax within main clauses, but they did not produce subordinate clauses or connect main clauses with conjunctions other than (extremely) sporadically. The two boys did not, however, reach this level equally rapidly. The data indicates that this developmental stage was reached by Hugo by about 2;3, but for Bruno not until 2;7, according to the impression given by the journals. This can, to some extent, be due to variations in the diaries, but in general the temporal/developmental differences between the two brothers are both evident and rather constant. For Hugo there is, for instance, a clear verb spurt at 1;6–1;7; the same phenomenon is found for Bruno at 1;8–1;9. For Hugo the first modals are registered at 1;9, for Bruno at 2;0, etc. In order to capture approximately the same developmental level in the children investigated, I take into account the data up to and including the month of 2;5 for Hugo, and up to and including 2;7 for Bruno.

The focus of the study is broad, since it covers lexical, syntactic, morphologic and semantic issues. This is motivated by the fact that Swedish, a language spoken by

approximately ten million people, is not as well described with respect to language acquisition as are many other Western languages. There are many valuable studies that examine various aspects of the verb system (above all, syntactic phenomena), but no case studies that describe the development of the verb system in individual Swedish children. There is no study such as *First Verbs* (Tomasello 1992) dealing with the Swedish language. And although we have a lot of data available (for instance, the Swedish parts of the CHILDES database), we lack studies that present basic data at a general level: for instance, developmental lines for individual children where many different types of linguistic phenomena are examined and related to each other.

The general objective of this study is to discover patterns involving early verbs in child Swedish. Verbs are not acquired in isolation, and in order to understand this developmental process we need data not only on verbs, but also on categories that accompany verbs. By describing the overall development of verbs and verb-related phenomena in two normally developing Swedish toddlers, I will hopefully reach a good understanding of how the verb system is established in child Swedish. For this purpose the natural limitations of diary data have been an advantage, since even small samples of data can give quite a clear picture of the acquisition process in individual children. Although the core features of the verb system in early child Swedish is my primary interest, an additional aim is to provide data that can be useful as a basis for comparison with both future studies on Swedish child language and to cross-linguistic studies of this kind. Hopefully this will be a study that can be used when quick answers are needed to questions such as "When is it likely that modals appear in child Swedish?"; "When does negation show up?"; "What is the relationship between nominal spurts and verb spurts?"; "In what order do morphological verb forms emerge?"; "In what order do different types of pronouns emerge?"; "When is it likely that clauses with habitual meaning appear in child Swedish?" and so on.

Although diary data is suitable for a study like this, there are naturally also many deficiencies intrinsic to using this type of data (for a discussion, see Part I, Chapter 2). In order to counterbalance such deficiencies, I have aimed for a high degree of methodological explicitness. All the investigations start with an account of the analytic principles being used. I have further tried to retain close contact with the data at all times in order not to force theory upon data or to over-interpret the observations that have been made. This means that in this study not only can a good deal of

detailed quantification be found in tables and figures, but also many quotes are reproduced from the diaries.

As has already been made clear, this study is empirical rather than theoretical. The analysis made in Part III (*Semantics*), however, relies on a model for the analysis of situation types that will be published in a separate study (Christensen, forthcoming). When it comes to verb morphology (Part II), I have tried to tidy up a bit in the traditional account of Swedish verb inflection in order to obtain a tool useful for dealing with natural (child) data. Other parts of the study are kept at a more or less non-theoretical level; they are descriptive and empirical and do not problematise linguistic concepts – such as lexeme, morpheme or subject – that are to be found in any introductory textbook on today's linguistics. The main aim is, as mentioned previously, to find core patterns of the verb system in child Swedish, not to explain them theoretically. In spite of this, I do – naturally – have a general theoretical stance or starting point. This stance is a functionalist (constructivist and cognitivist) rather than a generativist one, even if I definitely support the idea of generative/productive morpho-syntactic rules. For my part, a theory of language acquisition that fully recognises both the role of imitative learning of linguistic strings and the creation of more and more general schemata or rules seems to be the best alternative. Such an approach was outlined by Ray Jackendoff in his immensely inspiring plenary speech at the Tenth International Congress for the Study of Child Language (IASCL) in Berlin in 2005, when he argued, among other things, that there must be a "smooth transition from idiosyncrasy to maximal generality" (Jackendoff 2005:9). As I see it, language is a socio-biological system that cannot be reduced to either "socio-" or "bio-" alone, and that, regardless of the theoretical framework, the complexity of language needs to be taken seriously in any kind of study.

1 Introduction

Early Verbs in Child Swedish, Part I: Verb Spurts and the Grammar Burst offers both a general introduction to the entire study and an account of two of the verb-related phenomena studied in the spoken language of the children investigated: verb lexemes and clauses. The aim is both to establish a background by presenting general information that is relevant for all parts of the study, and to focus on two central aspects of the acquisition of verbs – verbs as parts of the productive lexicon and verbs functioning as the core part of clauses. When it comes to verb lexemes, these are noted from approximately 1;4 (Hugo) and 1;6 (Bruno) and later, but the occurrences are not evenly distributed over time. Verbs clearly emerge in verb spurts – as will be described. With respect to clauses, it is much more difficult to tell when they show up in the language usage of the two boys, mainly because it is so difficult to define what a clause is. However, clauses that show many or most of the characteristics of target-like Swedish clauses are present in Hugo's language at 2;1 and in Bruno's at 2;3–2;4, i.e., at a point in their development that can best be described as the grammar burst.

Chapters 2 ("The data") and 3 ("Production and vocabulary") present background information that constitutes the basis for all three parts of the study. Chapter 2 offers detailed information about the two sets of data that originate in handwritten diary notes on the linguistic development of my two sons, Hugo and Bruno. Chapter 3 offers a numerical overview of this data and describes both lexical growth and the composition of the boys' accumulated lexica at the end of the period investigated. One objective of Chapter 3 is to show that the two sets of data are congruent in spite of differences in size and focus, as well as concordant with previous studies on lexical development in child Swedish.

In Chapter 4 ("Establishing vocabulary spurts and the grammar burst") the overall lexical development is described in terms of vocabulary spurts and a grammar burst, two cross-linguistically well-established notions within the field of L1 research. Here, individual developmental timelines are established for each child by presenting basic data on the chronology of the observations of different word categories.

The next two chapters focus on lexemes. Because the acquisition of verbs cannot be described in isolation, without regard to the parallel acquisition of words other than verbs, a quite detailed description of the two boys' vocabularies is offered in Chapter 5 ("Lexemes other than verbs and pronouns"). Chapter 6 ("Verb lexemes") concentrates on verb lexemes and describes the chronological order of appearance of all verb lexemes registered, as well as the total number of verb tokens during the entire period investigated. This is a chapter that the reader can return to when reading other parts of the study in order to check basic data; for instance, the first notation or the total frequency of a certain lexeme in either boy. The data for each of the boys is – as in the rest of the study – presented separately, but verbs that are common to both boys are analysed a bit more thoroughly. These verbs are, for instance, analysed in temporal terms, following the developmental milestones that have been established in Chapter 4.

In Chapter 7 ("Verb units") I present some methodological considerations regarding how the data has been treated when analysing syntactic phenomena. The "verb unit" is used as the basic analytical unit underlying some of the quantitative analyses in the following chapters.

Chapters 8 to 12 can be regarded as a substudy focusing on a quartet consisting of pronouns, functional verbs, subjects and the main clause. It is obvious that there is a close connection between these four distinct linguistic items. Functional verbs and pronouns are the only functional categories that can be said to be acquired during the period investigated, and the data clearly indicates that they are closely related to each other in the boys' productive language. It is actually possible to discern a set of main clause starters consisting of pronouns (above all, subject pronouns) and functional verbs, for instance "ja ska" 'I will', "man kan" 'you can', "de e" 'it is' and "vem e" 'who is'. In order to investigate such segments, Chapter 8 ("Pronouns") gives a detailed account of the emergence of pronouns, especially personal pronouns. Chapter 9 ("Functional verbs") describes in some detail the development of modals, the copula and the perfect auxiliary, as well as the constructions connected with these lexical items: the modal construction, the copula construction and the perfect construction. Chapter 10 ("Clauses") gives a short overview of each of the boys' development of different clause types other than the declarative main clause, focusing especially on (holophrastic) *wh*-questions (such as "Vem är det?" 'who is that') and V1-questions (yes/no-questions) (such as "Sover du?" [sleep you] 'are you sleeping?'). Chapter 11

("Clause subjects") presents the emergence of subjects of various morphological and semantic types in the two boys. In Chapter 12 ("Main clause starters") the findings from Chapters 8 through 11 are brought together, and the specific relationship between functional verbs and personal pronouns in the initial part of main clauses will be scrutinised and discussed, an important issue for the discussion being the role of holophrastic strings of various types and sizes.

In Chapter 13 ("Summary") I will summarise the findings made in the book and sketch Hugo's and Bruno's linguistic development during the period investigated. Readers who want an overview of the acquisitional process in two Swedish children – as it can be described on the basis of diary data and with verbs as the main focus of interest – may begin by reading the final chapter; they will then hopefully be inspired to read the entire book.

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My English has been checked by Lena Olsson of Kakapo Fact & Fiction and Richard McKinney, Lund, who did a great job.

2 The data

2.1 Diary data on two Swedish boys

2.1.1 General information

This study relies on data written down in diaries kept on my two sons, Hugo (H), born in February, 1992, and Bruno (B), born in January, 1995. They were both normally developing toddlers, born without complications after full-term pregnancies. Since diary data naturally has deficiencies and is qualitatively different from data obtained through audio or video recordings, I will here describe the two diaries in some detail. (This material is also used in Christensen 2003a, 2003b and 2003c.) The two sets of data were written down independently, meaning that I did not analyse or use the journals on Hugo when making notes on Bruno, and I did not try to compare their respective developments other than intuitively at times. In this study I will describe the data on Hugo from 0;9 to 2;5 (i.e., the final notations were made just before he turned 2;6), and on Bruno from 0;7 to 2;7. The difference in time span is due to the fact that Bruno's linguistic development was slower than Hugo's; cf. Chapter 3.

The boys' mother tongue is Swedish, and during their first eight and five years, respectively, they were brought up in the southern part of Sweden. This means that their linguistic environment consisted of a regional variety of standard Swedish, Scanian. This circumstance has consequences for some of the morphological forms discussed in this study, and will be commented on when relevant.

The boys' father is Danish and he has mainly spoken Danish to them. When it comes to lexicon and syntax, Danish and Swedish are two closely related languages, mutually understandable in written form. When it comes to phonology – and partly morphology – Danish is, however, quite far removed from Swedish. Hugo showed influences from Danish expressions at various linguistic levels in his early language production, while the element of Danish for Bruno's early production was negligible. As an approximate measure, it can be mentioned that there are roughly sixty observations indicating Danish influence for Hugo before 2;6 but only five for Bruno

before 2;8. The number of Danish verb lexemes in the data that do not coincide with Swedish verbs are four, all found for Hugo; cf. Chapter 6 ("Verb Lexemes").

Hugo entered the care of a municipal childminder (Lena) at the age of 1;6, when he spent six hours a day in a group of four children. Once a week they met with a larger group of children and their childminders in a house called "Gula Villan" ('the yellow house'). Bruno started to attend a municipal day care centre (in colloquial Swedish "dagis") at the age of 1;6, where he spent six hours a day in a group of twelve children and three teachers. The only language spoken at Lena's and at the "dagis" was Swedish.

The diaries were originally kept with two goals in mind: As a linguist mother I was interested in following my children's linguistic development as a whole, but I have also been extra focused on matters related to tense and time, above all on the boys' ability to talk about situations other than the present and on their means for doing so (cf. Christensen 2003a). This circumstance has probably led to a bias towards non-present tense forms, which in turn may have had other consequences; for instance, that semantic verb types that often occur in the two morphological forms of past and supine are slightly overrepresented. This factor will be commented on when relevant. The two diaries also have slightly different emphases: The diary on Hugo reflects the first goal (following the child's general linguistic development) more clearly than the second (registering tense-related phenomena), while the opposite goes for the diary on Bruno. The early diary on Hugo consists of, for instance, many lists of "words that he regularly uses" and then later mentions a lot of more complex utterances as soon as they begin to appear. The early diary of Bruno is more sporadic, without so many word lists, but notes utterances comprising verb constructions with indications of past or future time, and time adverbials are registered and commented upon as soon as they begin to appear.

Both journals consist mainly of direct quotations of child utterances, written down immediately following those utterances, and accompanied by information about context, interpretation, utterances made by other persons, etc. The journals also contain entries without direct quotations, but with explicit comments on the boys' linguistic development instead. Such notations typically concern words, word forms or constructions that are new or frequently registered as an element of the child's productive language during a certain period. Both types of notation will be used in the study; both types are included in the numerical analyses. The two types can

sometimes be found separately, but typically an explicit comment on a linguistic item is confirmed by quoted utterances that have been recorded during the same period, although not on the same occasion as the explicit remark.

The two diaries show great variation in size and do not cover the same age spans equally well. The data on Hugo before 2;6 is twice as extensive as the data on Bruno up to the same age, but only sporadic from 2;6 and afterward. On Bruno, the diary has been kept up to the age of six, probably most intensely between the ages of three and four, but only the data up to 4;0 has been transferred so far to completed and proofread computer files. A rough measure of the differences in size is indicated by the number of entries in the computer versions of the diaries, one entry corresponding to either an utterance or an explicit comment on a certain linguistic item (for details see the following section). In the files on Hugo there are 1,160 entries before 2;6 and 124 from 2;6 to 3;11. In the files on Bruno there are 449 entries before 2;6 and 1,403 from 2;6 to 3;11. The data used in the study consists of 1,160 entries from the files on Hugo (out of which 678 have at least one verb and 482 have no verbs) and 553 entries on Bruno (399 with verbs, 154 without).

The variations in size have several explanations: When it comes to Hugo, I intuitively regarded him as a very fluent speaker already at 2;6 – which was naturally an overstatement that at least partly can be explained by his distinct and target-like pronunciation. This, in combination with the fact that I was pregnant with his brother, may explain my loss of interest in keeping up his diary. When it comes to the diary on Bruno, one reason for the sparseness of data from the earliest period might be that I, as a mother of two, naturally had less time for the second child than the first when he was still a toddler. The difference in the number of utterances registered probably also reflects the fact that Bruno was slower in his linguistic development than his elder brother; he did not show the same target-like pronunciation from early on, and he was in general less talkative than his brother (see Chapter 3). All in all, Bruno's linguistic development, as compared to Hugo's, seems to be a neat illustration of the well-documented "second-child effect", i.e., the fact that many children with siblings show a slower linguistic development than first-born children. When it comes to vocabulary comprehension and vocabulary production in child Swedish, the effect of birth order has been documented by Berglund & Eriksson (2005) using the Swedish Early Developmental Inventories (SECDI), and concluding, among other things, that "first-born children scored higher than later-born children" (ibid. 485).

As a consequence of the differences in size between the two diaries, the observations on Hugo dominate this study relative to the observations on Bruno. I still find it most valuable to be able to analyse the development in both children, since patterns found in one journal can confirm findings from the other. And even if the two diaries differ in focus and size, the discrepancies in overall composition between them should not be overemphasised. The two data sets are – in general and in many details – highly concordant. Sometimes the parallels between them are striking, as will be shown below. Naturally, the main reason for this is that the boys were brought up in the same linguistic environment, but supposedly also that my principles as a diarist – consciously as well as intuitively – have been consistent from the elder to the younger brother.

In addition to the notations before 2;6 on Hugo and before 2;8 on Bruno, later notes on Bruno will occasionally be used for comparisons and digressions.

2.1.2 Basic organisation of the data

The original handwritten versions of the journals have been transferred to computer files (in the FileMaker program), the main principle being that one utterance (or linguistic item explicitly commented on) should correspond to one entry in the file, as long as the utterance does not consist of what can be regarded as two clauses or more. Utterances consisting of more than one clause are divided into one entry per clause (or clause equivalent). (For details, see Chapter 7: "Verb units".)

Repetitions have been treated in the following way: An utterance consisting of identical, or shorter but otherwise identical, repetitions of the same linguistic string, with unmodified meaning, constitutes one entry in the file, with the most elaborate instance analysed and included in the numerical analysis. For instance, "vi mate, vi mate hestona ida" [we fed, we fed horses.the today] (H 2;5) counts as one instance of the string "vi mate hestona ida" and thus as one instance of the verb *mata* 'feed'. If the repetition is combined with syntactic, morphological or semantic variation, the different instances of the verb lexeme include separate entries, in order not to lose the information contained in each entry. For instance, "Mattin söpt den […] en bil, söpte Mattin" [Martin bought.SUP that-one […] a car bought.PAST Martin] (H 2;0) constitutes two entries and counts as two instances of the verb *köpa* 'buy'.

Since the journals contain both direct quotations and explicit comments on certain items, the numerical account of the data is somewhat unusual. A registration such as "he often uses the verb *komma* 'come' at the moment" counts as one instance of the verb *komma*, as well as a quoted utterance such as "kom!" 'come' (IMP). One can say that all figures refer to occasions of registration of certain items in the diary, immediate (varied or identical) repetitions being excluded as described above. This is of course a very rough numerical measure, but it is still useful for finding the patterns within the two sets of data and for making comparisons between them.

The basic temporal unit for organising the data is the month. For instance, "H 2;2" covers all registrations from the day Hugo turns two years and two months old to the day before he turns two years and three months old.

2.1.3 Conventions when presenting the data

When referring to the diaries I use the following conventions: Double quotation marks indicate an exact quotation of a child's utterance as it has been taken down in the diary, which normally means that the child's pronunciation is indicated by the spelling. Italics indicate target Swedish word forms. Square brackets indicate a word-to-word glossing to English, with an indication of the morphological form when necessary. Single quotation marks indicate the meaning of the utterance translated into English. The identity of the child is indicated within rounded brackets (H or B), as well as the age of the child at the time of the quoted registration (year; month). The following indications of morphological verb forms will be used (they are all explained in more detail in *Part II: Morphology*): BASE – base form; a verb form that cannot be disambiguated from the infinitive and the imperative (and sometimes the present tense): *kasta* 'throw', *hoppa* 'jump'; INF – infinitive (that does not coincide with the imperative): *springa* 'run', *skrika* 'shout'; IMP – imperative (that does not coincide with the infinitive): *spring* 'run', *skrik* 'shout'; PRES – present tense (that does not coincide with the base form): *springer* 'runs', *skriker* 'shouts'; PAST – past tense: *kastade* 'threw', *sprang* 'ran'; SUP – supine (which is a Swedish verb form used as the second verb in the perfect and pluperfect constructions): *kastat* 'thrown', *skrikit* 'shouted'.

A quote from the diary applying all of these different types of indicators would then look like this: “mo jobbit” *mor jobbat* [mother worked.SUP] ‘mother has been working’ (H 2;2). Only rarely will all these types of notation be necessary at the same time. When the child’s utterance is (almost) target-like there is no need for including the Swedish notation, and when the Swedish utterance, structurally and pragmatically, comes close to the English word-to-word correspondence for it, there is no need for including an English gloss. Sometimes entire diary entries are quoted. They will be directly translated into English without including the Swedish original, with the exception of the natural utterances that were noted. When a child’s utterance contains one of the children’s own names I will continue to use their aliases, indicated by asterisks: *Hugo and *Bruno.

2.2 The status of diary data: plusses and minuses

In the following chapters I will attempt to demonstrate, by describing the lexical development for Hugo and Bruno, that the two sets of data, based on diary notes, show internal and external consistency. These two sets of data are mutually congruent in spite of their differences in size, as well as concordant with findings from other studies on child language, with respect to both Swedish and other languages. It is still important to stress that diary data has some obvious disadvantages in comparison to natural data recorded using other methods. One of these is that diary data cannot be double-checked. A diarist must retain the conviction that the original observation was actually correct. The only thing that can counterbalance this drawback is the consistency among observations. If the same phenomenon is reported again, the first observation becomes more valid.

A direct consequence of the choice of diary data is a limitation in the number of linguistic levels that can be analysed. Especially when you see language acquisition as a socio-biological process incorporating a multitude of factors, among which the most important are patterns and frequencies in the input, this limitation becomes problematic. This study will focus on verb lexemes, verb semantics, verb morphology and some aspects of verb-related syntax. All these linguistic levels are reasonably accessible using diary data. Phonetics and input will not be investigated as separate factors, not because they are regarded as less important, but because the nature of

diary data simply makes them unobtainable for a qualified analysis. In spite of this, I will often discuss linguistic patterns – "holophrases", "chunks" – that are likely to have been present or even frequent in the input of the two boys, in that they correspond to a standard Swedish formulation in a given pragmatic situation. Sometimes I will also discuss phonetic/prosodic features of adult Swedish – above all, word accent.

Diary registrations not only make input data inaccessible, they may also influence the type of child utterances that are recorded. Since the diarist is, for the most part, also the child's major interlocutor, and it is obviously difficult to take more than one or two notes when you are engaged in an ongoing conversation, it may be that the diarist focuses more on the child's capacity to make independent contributions to a conversation, or to start up conversations spontaneously, than on his ability to partake in a dyadic (or triadic) discourse. If this is a correct assumption, diary data probably has a bias with regard to speech mode towards monologue rather than dialogue.

Another problem is that figures from diary data do not indicate frequencies from an investigated child's language production, but from what the diarist has registered. And a diarist normally does not focus on what is most frequent at a given point in time, but rather on what is new in comparison to earlier periods. A diarist will tend to note what is seen as the child's highest level of productive language, the child's top performance at a given time.

Even if diary data is problematic in several respects, it should be emphasised that it also has certain practical and methodological advantages. Taking diary notes is an easy (and cheap) way of collecting data for any linguists interested in their children's linguistic development. A good diarist is sensitive to shifts and frequency increases in the child's productive language, and this sensitivity is valuable even if the data cannot be used for qualified quantitative comparison with data registered by other methods. An observant diarist might be more likely to register infrequently occurring (such as first or early) instances of different items than audio/video recordings, if these are not very dense (Tomasello & Stahl 2004). And this is why diary notes are an important complement to other methods of recording.

In addition, diary entries are not dependent on technical arrangements, such as placement of microphones or video cameras, and they can thus provide a number of different utterances found in a wide range of everyday pragmatic situations in natural settings. The diarist observes the child for long periods of time and in a great variety

of everyday activities and situations, not only in typical set-ups for recordings where the child's attention is perhaps focused on one single activity at a time. Especially when it comes to situations, including outdoor activities and (vivid) motion, one can expect differences and perhaps also when it comes to typical transition contexts (waking up in the morning, being left by your parent at the day care centre, etc.). In this respect diary data might be superior to other types of recordings: The linguistic context – the process of discourse – cannot be captured satisfactorily, but perhaps diary data can provide more information about the relationship between different types of pragmatic contexts and child utterances than audio/video recordings can do. Many – not to say most – everyday situations combine linguistic and non-linguistic routines, and it is likely that a child acquires the routine as a whole, not its linguistic and non-linguistic components in isolation. Since verbs are the core part of clauses, and thus the basic organisation principle when humans handle or reproduce referential or pragmatic situations linguistically, the relationship between utterances containing verbs and the pragmatic situations in which the utterances are produced is a very salient factor to investigate. For this purpose, a larger set of pragmatic situations is better than a smaller one.

Finally, a diarist is always well acquainted with both the children and the situations described, which is a good starting point for detailed semantic analysis. The utterances registered are truly spontaneous and are accompanied by contextual information and hypotheses on what the child intended to communicate. Such information is not always possible to reconstruct from other types of recordings. Semantic subtleties that with other methods might have run the risk of being "lost in transcription" are sometimes very interesting.

2.3 The interpretation of natural data

As in any study on child language, I will use adult language as a basis for comparison and use the concepts "target-like" and "non-target-like" many times in the discussion of specific utterances. Naturally, a child utterance can be target-like or non-target-like in a number of respects. The linguistic string might be fully target-like, but the application of it non-target-like, or vice versa: the linguistic string might deviate from

adult language, while the utterance is fully comprehensible and communicatively felicitous in its pragmatic context.

The material used when analysing diary data (i.e., written transcriptions of child utterances) is very far from the actual location where the utterance was originally created – the child's brain. But even if it is impossible to tell what mechanisms lie behind natural child utterances, one must have some basic ideas concerning these when analysing the data. I will assume that three general principles are relevant: a communicative need, an imitative capacity and a rule-based capacity. The weighting of these principles is naturally a core question for the field of language acquisition research and is also dependent on the researcher's theoretical affiliation (cf. Lieven et al. 2003; Tomasello 2003; Jackendoff 2005:10). I will however not explore the question theoretically but only assume the presence of these principles and that they co-occur in various combinations and strengths relative to one another.

A) A communicative need. The child has a desire to express him- or herself in a specific situation, for various social or private reasons. Since the wish to express oneself is not always on par with one's linguistic competence, there can be times when the child wishes to express more than he or she can cope with linguistically.

B) Linguistic capacity or competence.

1. An imitative capacity: The child can repeat rote-learned longer or shorter linguistic strings ("holophrases", "chunks") in a more or less communicatively appropriate way. The imitation can be immediate (the child repeats what an interlocutor has just said) or temporally remote (in a specific pragmatic situation the child utters what he himself or someone else has uttered in a similar situation earlier). Even if my data does not allow for analysis of input data, many child utterances can be directly related to expressions that are typical of everyday Swedish, and when this is the case, I will assume that the child has probably internalised the standard formulation as a holophrase or chunk rather than the rules and morphemes that are needed to compose it productively. In this book, I will thus speak of "standard formulations" or "likely input-strings" or "holophrastic strings" when the child utterance comes very close to a linguistic string that is typically used in a specific pragmatic situation in colloquial Swedish.

2. A rule-based capacity: The child knows, partly or fully, the morpho-syntactic rules of the language and is able to use them for combining lexical and morphological material in strings that he or she has never encountered before. Even if it is impossible

to prove that a certain utterance registered in the diary recordings is a result of a rule-based process, some utterances more than others give an impression of being produced creatively, in that they are not copies of any given original or model in the target language. Naturally, non-target-like expressions are more easily judged as productive, but also target-like expressions might be composed or applied in a way that seems new to an adult.

It is important to emphasise that I will not try to decide whether specific linguistic strings quoted in the diaries actually are the result of imitation or of productive syntactic operations; I will only allow myself to discuss the likeliness of the two possibilities. In order to show how this will typically be done, I will here present some examples.

Both Hugo and Bruno did for a long period (starting at 2;1 for H and 2;2 for B) use the question "vem e de" 'who is that' for both animate and inanimate referents. Not surprisingly, I regard the string "vem e de" as an unanalysed holophrase that is sometimes applied target-like (meaning 'who is that'), but is actually more often used non-target-like (meaning 'what is that').

On one occasion, when Hugo found his toy motor bike standing in the bath-tub, where I had placed it because it had become wet while he was playing outside, he uttered: "cykel, duffit" [bike, showered.SUP] (H 2;0). Since the situation was new and unique – we had never talked about bikes showering – my interpretation is that he had combined the two words productively, perhaps also relying on some kind of "rule" that makes the word order target-like: SV.

When Bruno at 2;1 spontaneously and without connection to any ongoing conversation utters "mamma sjunga natten möökt (nå) *Bruno sova sej" [mummy sing.INF night.the dark (when) B sleep.INF himself], his utterance is quite astonishing. It is much longer than his typical utterances at the time: it contains three propositions ('mummy sing', 'the night dark' and 'Bruno sleep') and something that seems to be a *when*-clause, more than a year before he starts producing target-like *when*-clauses regularly. My interpretation is that his communicative urge to express a complex content is so strong that he surpasses himself. By adding lexical items or larger chunks and relying on some type of rules or schemata when it comes to word order – the word order is target-like even if many functional words are lacking – he manages quite well. But the utterance is still non-target-like, the verbs being infinite and the verb *sova* 'sleep' being constructed as a reflexive verb, and it is impossible to

tell whether he is referring to our habit (of my singing to him in the evening when he is going to sleep) or to a specific occasion (when I had been singing to him).

In general, I regard much of my work with the data as a matter of interpretation, and interpretation is a subjective practice. My hope is that methodological explicitness and carefulness, as well as a close contact with the data by way of many direct quotes, will make my interpretations transparent and available for reinterpretation if necessary.

2.4 Evaluating the data

There are no studies on child Swedish with the same type of focus as this study. Neither are there studies describing the verb system as a whole, nor exhaustive case studies covering the entire period of language acquisition in individual children up to approximately 2;6. Still, my general impression is that the two boys' overall linguistic development matches, or at least does not stand in opposition to, what is observed in other studies on L1 Swedish. (Cf. for instance Lange & Larsson 1973; Lindhagen 1976; Lange & Larsson 1977; Strömqvist 1984; Lundin 1988 (1987); Håkansson 1989; Platzack 1990; Plunkett & Strömquist 1990; Platzack 1992; Plunkett & Strömquist 1992; Håkansson & Nettelbladt 1993; Håkansson 1994; Håkansson & Dooley Collberg 1994; Santelmann 1995; Josefsson 1996; Hansson 1997; Håkansson 1998; Platzack 1998; Berglund & Eriksson 2000; Josefsson & Håkansson 2000; Platzack & Josefsson 2000; Strömqvist & Ragnarsdóttir 2000; Strömqvist, Ragnarsdóttir & Richtoff 2001; Josefsson 2002; Josefsson et al (eds.) 2003; Bohnacker 2003; Josefsson 2003a; Josefsson 2003b; Platzack 2003; Santelmann 2003; Veres 2004; Berglund & Eriksson 2005; Nettelbladt & Salameh (eds.) 2007; Wikström 2008; Waldmann 2008).

It would lead to far to summarise the results from all the studies mentioned above. Still I nevertheless conclude that my data is compatible with earlier work on child Swedish, and therefore satisfactorily valid for its purpose: to find the patterns in which early verbs in child Swedish occur and to establish timelines for the overall development of verbs and verb-related linguistic phenomena in the two investigated children up to the age of 2;6. The results of abovementioned studies will naturally be referred to in different parts of the study, when particular issues are discussed.

My hope is that the quite exhaustive presentation of my data that is offered in this study will function as a good complement to other available corpora, for instance the Swedish parts of the CHILDES database (MacWhinney). (Cf. also Strömqvist, Richtoff & Andersson 1993 and Håkansson 2003.)

3 Production and vocabulary

This chapter offers numerical and chronological overviews of the data by examining the production and increase of tokens, vocabulary growth, composition of accumulated lexica and the chronological development of each word class.

3.1 Analytical method

All utterances are analysed in target word units (i.e., tokens) following the standards for written Swedish and applying a "closest match principle". If Hugo has uttered "ks" and the pragmatic situation includes what in Swedish is called *kex* 'biscuits', then this is how the utterance has been interpreted. Words that have been pronounced in contraction are nevertheless analysed separately. The registration 'mo läsabok' [mother readbook] (H 1;8), where the diary clearly indicates that the verb and the object have been pronounced as a unit, is still analysed as consisting of three words: *mor* 'mother', *läsa* 'read', *bok* 'book'. Even so, a handful of exceptions to the strict word-to-word principle are justified, and the following type of (infrequent) strings are not segmented: adverbs that constitute lexicalised units also in adult Swedish (for instance *i-sönder* [in-pieces], *i-natt* [to-night]); interjections that occur in fixed combinations in specific pragmatic situations (*hej-då* [hello-then] 'bye-bye', *nej-tack* [no-thanks]); repeated onomatopoetic words (*tick-tack* 'tick-tock', *pang-pang* 'bang-bang'); proper names consisting of two words (*Pippi Långstrump* 'Pippi Longstocking'). In addition, a handful of clearly holophrastic Danish utterances for Hugo are not analysed word for word, but treated separately (cf. 10.1.3). Single Danish words or Danish words appearing in combination with Swedish words are treated together with Swedish words in the numerical analyses. Danish expressions will be commented on specifically when relevant. When (parts of) registrations are uncertain due to poor pronunciation, odd or non-target-like for various reasons, or reported to be identical imitations of what an adult has just said, they will still be included in the numerical analyses, but they will also be commented upon specifically if they are used as examples in later chapters. Since first registrations often belong to

either of the categories mentioned (i.e., uncertain cases or imitations), it is important not to exclude them, even if they need to be handled with extra care.

It should be emphasised that the lexeme analysis in many respects probably contradicts the actual developmental process, in which holophrases play a major role. This is nevertheless the best method for tracing the emergence of different word types. When analysing actual utterances I will often discuss their status as more or less holophrastic, and not use the lexeme analysis as a guideline for the utterance analysis.

All word units have been assigned to lexemes and word classes, following *Svenska Akademiens Ordlista* ('The Swedish Academy Glossary') and using the following definition of a lexeme: "a set of related meanings associated with a set of related word forms" (Cruse 2003:239). This means that the words are assigned to target lexemes without any assumptions about how the child's lexical knowledge may have been organised at the time being investigated. For instance, *fick* [got.PAST] and *fått* [got.SUP] are identified as grammatical forms belonging to the verb lexeme *få* 'get'. It is not self-evident that the child makes this connection. An exception to the lexeme-principle are personal pronouns with suppletive inflection, such as *jag* 'I' and *mig* 'me' etc.; they are dealt with as separate lexemes. Homonyms are separated: *var* 'was' and *var* 'where' are treated separately, as are *bubbla* 'bubble' (verb) and *bubbla* 'bubble'(noun). (Note that homonyms between word classes are much rarer in Swedish than in English.) The only exception is *den* (common gender) and *det* (neuter gender), two word forms that function as definite articles ('the'), personal pronouns ('it') and demonstrative pronouns ('that', 'that one') in Swedish; all instances of *den* and *det*, respectively, have been grouped together in the lexical analysis and considered as pronouns.

3.2 Production increase and vocabulary growth

Numerical overviews of all words (tokens and lexemes) registered per month and examined in this study are presented in Table 1. For each boy, twenty-one months of notations are presented. For Hugo this period has no gaps, i.e., there are notations from all months from 0;9 to 2;5. For Bruno there are gaps in the beginning of the period. The main reason for this is that the first notation for Bruno was taken down

already at 0;7, the next at 0;11, and then from 1;1 and afterward without further lacunae.

Table 1A. Total number of words (tokens and lexemes) and new lexemes per month for Hugo.

Age	Tok	*Tok %*	Acc Tok	*Acc Tok %*	Lex	Acc Lex	*Acc Lex %*	New Lex	*New Lex %*	New Lex / Tok
0;9	2	*0.1*	2	*0.1*	1	1	*0.2*	1	*0.2*	.50
0;10	4	*0.2*	6	*0.3*	4	4	*0.7*	3	*0.6*	.75
0;11	2	*0.1*	8	*0.4*	1	5	*0.9*	1	*0.2*	.50
1;0	21	*0.9*	29	*1.3*	11	13	*2.4*	8	*1.5*	.38
1;1	8	*0.4*	37	*1.6*	7	16	*2.9*	3	*0.6*	.38
1;2	5	*0.2*	42	*1.8*	3	18	*3.3*	2	*0.4*	.40
1;3	23	*1.0*	65	*2.8*	16	28	*5.1*	10	*1.8*	.43
1;4	78	*3.4*	143	*6.3*	51	64	*11.7*	36	*6.6*	.46
1;5	52	*2.3*	195	*8.6*	45	91	*16.6*	27	*4.9*	.52
1;6	98	*4.3*	293	*12.8*	80	153	*•27.9*	62	*11.3*	.63
1;7	137	*6.0*	430	*18.9*	92	202	*36.9*	49	*8.9*	.36
1;8	79	*3.5*	509	*22.3*	61	235	*42.9*	33	*6.0*	.42
1;9	17	*0.7*	526	*23.1*	13	241	*44.0*	6	*1.1*	.35
1;10	53	*2.3*	579	*•25.4*	48	275	*•50.2*	34	*6.2*	.64
1;11	60	*2.6*	639	*28.0*	40	293	*53.5*	18	*3.3*	.30
2;0	246	*10.8*	885	*38.8*	125	358	*65.3*	65	*11.9*	.26
2;1	587	*25.8*	1,472	*•64.6*	233	459	*•83.8*	101	*18.4*	.17
2;2	331	*14.5*	1,803	*•79.1*	140	495	*90.3*	36	*6.6*	.11
2;3	246	*10.8*	2,049	*89.9*	115	525	*95.8*	30	*5.5*	.12
2;4	114	*5.0*	2,163	*94.9*	67	535	*97.6*	10	*1.8*	.08
2;5	117	*5.1*	2,280	*100*	62	548	*100*	13	*2.4*	.11
∑	**2,280**	*100*						**548**	*100.2*	.24

Key to Tables 1A and 1B:

Tok – number of tokens (i.e., words) registered during a month

Tok % – proportion of all tokens registered during a month (example: for Hugo 25.8% of all tokens are registered during 2;1)

Acc Tok – number of accumulated tokens registered prior to a specific month

Acc Tok % – relative increase of accumulated tokens; the sign • indicates where the relative proportion of accumulated tokens exceeds 25%, 50% and 75% (example: the registrations for Hugo exceeds 50% of the total number of tokens during month 2;1)

Lex – number of different lexemes registered during a month (example: during 2;1, Hugo used 233 different lexemes according to the diary)

Acc Lex – number of accumulated and distinct lexemes (example: in the data on Hugo there are a total of 548 distinct lexemes; 459 of them were registered before the end of 2;1)

Acc Lex % – relative increase of accumulated types; the sign • indicates where the relative proportion of accumulated new lexemes exceeds 25%, 50% and 75%

(example: 50% of Hugo's entire vocabulary at the end of the period investigated was registered by the end of 1;10)

New Lex – number of lexemes registered for the first time during a specific month

New Lex % – proportion of all lexemes registered for the first time during a specific month

New Lex / Tok – ratio between the number of new lexemes and the number of tokens registered during the same month

Table 1B. Total number of words (tokens and lexemes) and new lexemes per month for Bruno.

Age	Tok	*Tok %*	Acc Tok	*Acc Tok %*	Lex	Acc Lex	*Acc Lex %*	New Lex	*New Lex %*	New Lex / Tok
0;7	1	*0.1*	1	*0.1*	1	1	*0.3*	1	*0.3*	1.00
0;8	0	*0*	1	*0.1*	0	1	*0.3*	0	*0*	
0;9	0	*0*	1	*0.1*	0	1	*0.3*	0	*0*	
0;10	1	*0.1*	2	*0.1*	1	1	*0.3*	0	*0*	
0;11	2	*0.1*	4	*0.3*	1	2	*0.6*	1	*0.3*	.50
1;0	0	*0*	4	*0.3*	0	2	*0.6*	0	*0*	
1;1	1	*0.1*	5	*0.4*	1	3	*0.9*	1	*0.3*	1.00
1;2	2	*0.1*	7	*0.5*	2	4	*1.2*	1	*0.3*	.50
1;3	8	*0.6*	15	*1.0*	6	9	*2.6*	5	*1.4*	.62
1;4	3	*0.2*	18	*1.3*	2	10	*2.9*	1	*0.3*	.33
1;5	13	*0.9*	31	*2.2*	13	20	*5.8*	10	*2.9*	.77
1;6	28	*2.0*	59	*4.2*	26	34	*9.9*	14	*4.1*	.50
1;7	22	*1.6*	81	*5.7*	14	43	*12.5*	9	*2.6*	.41
1;8	51	*3.6*	132	*9.3*	37	66	*19.1*	23	*6.7*	.45
1;9	108	*7.6*	240	*16.9*	66	105	*•30.4*	39	*11.3*	.36
1;10	33	*2.3*	273	*19.2*	26	114	*33.0*	9	*2.6*	.27
1;11	23	*1.6*	296	*20.8*	18	126	*36.5*	12	*3.5*	.52
2;0	19	*1.3*	315	*22.2*	16	135	*39.1*	9	*2.6*	.47
2;1	68	*4.8*	383	*•27.0*	43	157	*45.5*	22	*6.4*	.32
2;2	89	*6.3*	472	*33.2*	53	181	*•52.5*	24	*7.0*	.27
2;3	216	*15.2*	688	*48.4*	91	225	*65.2*	44	*12.8*	.20
2;4	267	*18.8*	955	*•67.2*	110	270	*•78.3*	45	*13.0*	.17
2;5	104	*7.3*	1,059	*74.6*	54	287	*83.2*	17	*4.9*	.16
2;6	53	*3.7*	1,112	*•78.3*	38	294	*85.2*	7	*2.0*	.13
2;7	308	*21.7*	1,420	*100*	125	345	*100*	51	*14.8*	.17
∑	**1,420**	*100*						**345**	*100.1*	.24

3.2.1 Production

As can be seen from Table 1, both diaries show a similar increase in the number of registered words. If only the period up to 2;5 for Bruno is taken into consideration, 28% of the tokens were registered before 2;0 in both data sets (H: 639 tokens out of a total of 2,280; B: 296/1,059) and 72% of the tokens were registered from 2;0 to 2;5

(H: 1,641/2,280; B: 763/1,059). (If instead the data on Bruno is considered up to 2;7 and divided at 2;2, 27% (383/1,420) of all tokens were registered before 2;2 and 73% (1,037/1,420) from 2;2 to 2;7.) The figures indicate that the boys' productivity has increased and has developed in a parallel manner, when measured as the number of words registered in their diaries. Nevertheless, it is clear that Hugo's diary shows a more rapid development than Bruno's. If we look at the months in which the 25%, 50% and 75% levels of the total number of tokens are reached, the pattern will be, respectively, 1;10 – 2;1 – 2;2 for Hugo and 2;1 – 2;4 – 2;6 for Bruno.

The data varies in density, but even this variation is quite similar in the two sets; there is an early period when the registration of entries is intensified (H 1;6–1;7 and B 1;8–1;9), followed by a period containing less extensive data (H 1;9–1;11 and B 1;10–2;0), followed once again by a period with more data (H 2;0–2;3 and B 2;3–2;4 + 2;7). For reasons that no longer can be ascertained, the entries on Bruno are rather limited for 2;5 and very limited for 2;6. It could be that I was lazier in keeping the diary during the summer months of 1997. From 2;7, starting on 23 August when the family was back at work and "dagis", the data becomes much denser. As a consequence of these variations in the data, it is impossible to tell if 2;7 was a month when Bruno (suddenly) began using many new linguistic items, or if it was a month when the notations merely filled in gaps caused by my neglect during the two or three preceding months.

3.2.2 Vocabulary

The pattern of token spurts is, not surprisingly, repeated in the registration of new lexemes: For Hugo a total of 111 new lexemes (20% of all lexemes) were registered during 1;6 and 1;7, and 231 new lexemes (42%) were registered during 2;0 to 2;3. For Bruno 62 new lexemes (18% of all lexemes) were registered during 1;8–1;9, and 140 lexemes (41%) were registered for the first time during 2;3, 2;4 and 2;7.

If we regard the months in which the 25%, 50% and 75% levels of new lexemes were reached, respectively, the pattern is 1;6 – 1;10 – 2;1 for Hugo and 1;9 – 2;2 – 2;4 for Bruno. Both boys exhibit the same pattern, in that the relative proportions of their accumulated lexemes increase earlier than the relative proportions of their

accumulated tokens. This pattern indicates that vocabulary increase precedes production increase, even if it naturally also reflects the diarist's focus on new items.

If we instead look at the proportion of new lexemes per number of tokens registered (the last column), there is a break in the trend for Hugo at 2;1 (before 2;1 the value is always higher than .24 while from 2;1 and afterward it is always lower than .24; note that .24 is the overall average). For Bruno there is a break in the trend at 2;3 (before 2;3 the value is always higher than .24; from 2;3 and afterward it is always lower than .24). Perhaps this pattern is a clear indication of the fact that the production increase lags behind the vocabulary increase. In any case, all figures indicate that the two diaries display highly similar patterns, with Hugo always approximately two months earlier in his development than Bruno.

Hugo's and Bruno's vocabulary growth corresponds to what is known from Swedish children studied using the CDI method (Berglund & Eriksson 2000). In Table 2, the successive increases in different lexemes for Hugo's and Bruno's speech is compared to the results of the Swedish CDI study. Despite the methodological differences, Hugo's accumulated productive vocabulary fits nicely with the ninetieth and the seventy-fifth percentiles, and Bruno's with the fiftieth and the twenty-fifth percentiles, of the CDI results from the period investigated in the CDI study. I take this as an indication that lexical development for Hugo and Bruno can be described as normal and therefore representative of Swedish children.

Table 2. Productive vocabulary; comparison between the Swedish CDI study and Hugo (H) and Bruno (B).

	16 months	19 months	22 months	25 months	28 months
SECDI 95th	80	252	465	610	684
SECDI 90th	57 **H64**	204 **H202**	408	568	643
SECDI 75th	33	108	259 **H275**	476 **H459**	568 **H535**
SECDI 50th	17	48 **B43**	146 **B114**	290	414
SECDI 25th	10 **B10**	20	56	142 **B157**	272 **B270**
SECDI 10th	4	11	23	58	96
SECDI 5th	3	8	14	32	61

Key to Table 2:
The figures in roman type are quoted from Berglund & Eriksson (2000:144). Hugo's and Bruno's accumulated total of lexemes at the end of their sixteenth, nineteenth, twenty-second, twenty-fifth and twenty-eighth months, respectively, are indicated in boldface type beside the closest corresponding number from the SECDI results.

3.3 Composition of accumulated lexica

The distribution of word tokens and types per word class in the accumulated lexica of Hugo and Bruno is presented in Table 3.

Table 3. Distribution of all lexemes and word tokens per word class in the data of Hugo up to 2;5 and of Bruno up to 2;7.

Word class	Hugo				Bruno			
	Lex.	*%*	Token	*%*	Lex.	*%*	Token	*%*
Noun	214	*39*	628	*28*	116	*34*	326	*23*
Proper name	38	*7*	120	*5*	15	*4*	62	*4*
Verb	145	*26*	772	*34*	109	*32*	475	*33*
Adjective	33	*6*	75	*3*	16	*5*	36	*3*
Adverb	37	*7*	202	*9*	37	*11*	165	*12*
Interjection	15	*3*	46	*2*	9	*3*	25	*2*
Onomatop.	9	*2*	19	*0.8*	3	*0.9*	5	*0.4*
Pronoun	23	*4*	302	*13*	23	*7*	251	*18*
Numeral	13	*2*	17	*0.7*	1	*0.3*	1	*0.07*
Preposition	8	*1*	54	*2*	8	*2*	43	*3*
Wh-word	3	*0.5*	16	*0.7*	4	*1*	18	*1*
Conjunction	2	*0.4*	12	*0.5*	1	*0.3*	1	*0.07*
Subordinator	2	*0.4*	9	*0.4*	2	*0.6*	3	*0.2*
Other	6	*1*	8	*0.4*	1	*0.3*	9	*0.6*
∑	548		2,280		345		1,420	

Even if these two data sets may be too small to allow for any advanced statistical conclusions to be drawn, the general impression is that they are strikingly similar. One difference that may be more than accidental is that Hugo demonstrates a greater variation in his nominal lexicon (nouns and proper names) than does Bruno. He also uses more adjectives and numerals, categories closely related to the nominal domain. Bruno instead shows a greater variation in his verbal and adverbial lexicon, while the boys' relative use of verbs is almost identical (34% of all of Hugo's tokens are verbs; 33% of Bruno's), and so is their use of nominal categories seen as a whole: Nouns, proper names and pronouns amount to 46% of Hugo's tokens and 45% of Bruno's.

When it comes to the most frequently noted lexemes within the separate word classes, there are also many parallels between the two data sets; see Chapters 5 and 6. The remainder group for Hugo's case consists of eight utterances representing whole Danish sentences or phrases that were registered from 2;0 to 2;4. These will be discussed below in 10.1.3 ("Hugo's Danish holophrases"). The remainder group for

Bruno's case consists of the syllables 'me' or 'mi' that in an early period (from 1;4 to 1;9) cannot be fully disambiguated from *mig* 'me', *min* 'mine' and *mer* 'more'; cf. Section 8.3 ("First-person pronouns").

3.4 Chronological development with reference to word class

In Tables 4 and 5 all first notations of new lexemes are presented per word class. During an early period (at least up to 1;7 for both boys) nouns, proper names, verbs, interjections and onomatopoetic words clearly dominate the scene.

Table 4. First registrations of new lexemes for Hugo and Bruno within the categories nouns, proper names, verbs, adjectives, adverbs, interjections and onomatopoetic words.

Age	Noun		Proper name		Verb		Adjec-tive		Adverb		Inter-jection		Onom.	
	H	B	H	B	H	B	H	B	H	B	H	B	H	B
0;7		1												
0;8														
0;9									1					
0;10	2				1									
0;11		1											1	
1;0	3				2		1						2	
1;1	1										2			1
1;2	2									1				
1;3	7	2	1			2					1		1	1
1;4	21		2		5				2		1		4	
1;5	20	8	2		3		1					2	1	
1;6	29	7	5	2	18	2	4		1	1	2	2		
1;7	20	4	4	1	17	3	4	1	3		1			
1;8	20	6	3		6	12	1		1	2		1		
1;9	1	17	1	1	2	13		1	1	2	1			1
1;10	9	1	2	2	4	2	2		2	2	1	1		
1;11	4	6	2	1	5	4			2		2			
2;0	18	1	5		20	7	9		3					
2;1	31	5	1		34	9	6	2	11	1	3			
2;2	11	6	7		13	7	2		2	5				
2;3	8	10	1	1	8	17	3	1	4	9	1	2		
2;4	3	18		1	4	7		5	2	7				
2;5	4	7	2		3	2			2	3		1		
2;6						2		2		1				
2;7		16		6		20		4		3				
∑	214	116	38	15	145	109	33	16	37	37	15	9	9	3

Table 5. First registrations of new lexemes for Hugo and Bruno among pronouns, numerals, prepositions, *wh*-words, conjunctions and subordinators.

Age	Pron. + Article		Numeral		Preposi-tion		*Wh*-word		Conjunc-tion		Subordi-nator		Remain-der group	
	H	B	H	B	H	B	H	B	H	B	H	B	H	B
1;4	1													1
1;5														
1;6	3													
1;7														
1;8	1	2			1									
1;9		4												
1;10	3	1	10		1									
1;11	2				1	1								
2;0	3	1	3		1		1						2	
2;1	8	3			1		2	1	2			1	2	
2;2	1	2				2		2						
2;3	1	2			2	2					1		1	
2;4		5		1				1					1	
2;5		2			1	2					1			
2;6		1										1		
2;7						1				1				
∑	23	23	13	1	8	8	3	4	2	1	2	2	6	1

With one exception (the pronoun *alla* 'all' was registered several times at 1;4 for Hugo, in "alla bil" [all car], although with a non-target-like reference to single cars), functional words appear sporadically from 1;6 for Hugo and from 1;8 for Bruno, but most lexemes within functional categories have been registered from 2;0 and afterward. These findings are by no means controversial; they are perfectly in line with what is known from the L1 acquisition literature. For almost every word class, Bruno lags behind Hugo by a couple of months (or more), both when it comes to first registrations and with respect to the successive increase of items within a particular category.

3.5 Conclusion

The lexical development of the two children investigated in this study is parallel both in general (relative type and token frequency in the accumulated number of words in the data sets) and in many details (order of acquisition of particular word types and highly frequent lexemes within certain word classes). I take this as a strong indication

that my data is representative for the two boys' productive language during the period investigated, and thus also reasonably representative for the acquisition of L1 Swedish.

4 Establishing vocabulary spurts and the grammar burst

"Vocabulary spurt" is an established notion within the L1 acquisition field (cf., for instance, Goldfield & Reznick 1990). In this section I will use this concept to describe the overall lexical development of the two boys during the period investigated by establishing noun spurts and verb spurts as well as spurts of some less important categories (adjectives, adverbs and pronouns). The spurts of these minor categories are temporally connected to what can been described as "the grammar burst" (cf. Choi & Gopnik 1995; Gopnik & Choi 1995; Howell & Becker 2001). The method used here is a calculation of a lexical spurt score that will be introduced in the next section. In the final section of the chapter, I will delimit major developmental periods in the two boys, relying on the results from the lexical spurt score investigation.

4.1 The lexical spurt score

Just by taking a glance at Table 4, in the previous chapter, it is easy to discern certain months for Hugo and Bruno when the registration of new verbs intensified. In Hugo, many new verbs occur during 1;6 and 1;7, and then between 2;0 and 2;2. For Bruno the corresponding months seem to be 1;8 and 1;9, and then 2;3 and 2;7. In order to establish the verb spurts more accurately and to investigate the relationship between verb spurts and other important vocabulary spurts, I have conducted an investigation into five classes of words: nouns + proper names, verbs, adverbs, adjectives and pronouns. The method used is a calculation of a lexical spurt score, which is designed to counterbalance the fact that the number of tokens registered per month is not evenly distributed over time, thus making the observations more reliable and tendencies clearer. In order to get a high lexical spurt score during a specific month, a category needs to have a large number of notations when compared to other months, and simultaneously a high proportion of new notations in comparison to other categories from the same month.

The lexical spurt score is a sum of two values, A and B. Value A is the relative proportion of new lexemes within a category per month. Since each of the two sets of data consists of twenty-one months of recordings, 4.76% (100% spread equally throughout the entire twenty-one months) of all lexemes within a word class would be registered per month – if the registration of new lexemes was proportional over time. For Hugo, 13.5% of all nouns were registered for the first time during 1;6. This is thus a high value for A. During 2;4 only 1.2% of all of Hugo's nouns were registered for the first time, which is a low value for A, etc.

Value B measures whether a category is more dominant than other categories during a specific month, and it is added or subtracted from the first value. An example: 11.3% of all of Hugo's new lexemes were registered for the first time during 1;6. During the same month 13.5% of all of his nouns were registered for the first time – as we have just seen. This means that 1;6 is a month in which the proportion of new nouns is higher than the average proportion of new lexemes. The difference between 13.5 and 11.3 (i.e., 2.2) constitutes value B, and value B is added to value A since it is a positive figure. The lexical spurt score for nouns for Hugo at 1;6 is therefore 15.7 (13.5 + 2.2). The impression that 1;6 is an important month for new nouns is thus strengthened: Many new nouns showed up this month and nouns were also more preponderant as newcomers than other categories at this time. Another example: During 2;1, 12.7% of all of Hugo's nouns showed up for the first time. But since 2;1 is the month when most new lexemes were registered in total (18.4% of all lexemes were registered for the first time during this month), the relative proportion of nouns is 5.7 points below average. The lexical spurt score for nouns during 2;1 therefore decreases and ends up at 7.0 (12.7 minus 5.7). The first impression – that 2;1 was an important month for nouns, indicated by the raw figures and value A – is thus weakened. It is true that many new nouns were noted during the explosive month of 2;1, but nouns were not the dominant category during that month.

The lexical spurt score method is intended to support the intuition of the diarist, with some reservations. If the diarist has reacted to a high proportion of new lexemes within a certain category during a specific month, this is reflected in value A. But the whole picture (the relationship between the category in question and all the other categories, represented by value B) is also taken into account – even if the diarist probably had no chance of detecting the relationship among the categories at the time

of the original notations. A is the most decisive value of the two; while value B only modifies value A.

In the following five pages, value A can be read from Tables 6A and 6B while value B can be read from Tables 7A and 7B. The final value, the lexical spurt score, can be found in Tables 8A and 8B.

Table 6A. Hugo: New lexemes per month within the categories nouns + proper names, verbs, adverbs, adjectives and pronouns (fifty-eight lexemes of other word classes are excluded).

Age	New lex	%	Noun Prop	%	Verb	%	Adv	%	Adj	%	Pron	%
0;9	1	*0.2*					1	*2.7*				
0;10	3	*0.5*	2	*0.8*	1	*0.7*	0	*0*				
0;11	1	*0.2*	0	*0*	0	*0*	0	*0*				
1;0	8	*1.5*	3	*1.2*	2	*1.4*	0	*0*	1	*3.0*		
1;1	3	*0.5*	1	*0.4*	0	*0*	0	*0*	0	*0*		
1;2	2	*0.4*	2	*0.8*	0	*0*	0	*0*	0	*0*		
1;3	10	*1.8*	8	*3.2*	0	*0*	0	*0*	0	*0*		
1;4	36	*6.6*	23	*9.1*	5	*3.4*	2	*5.4*	0	*0*	1	*4.3*
1;5	27	*4.9*	22	*8.7*	3	*2.1*	0	*0*	1	*3.0*	0	*0*
1;6	62	*11.3*	34	*13.5*	18	*12.4*	1	*2.7*	4	*12.1*	3	*13.0*
1;7	49	*8.9*	24	*9.5*	17	*11.7*	3	*8.1*	4	*12.1*	0	*0*
1;8	33	*6.0*	23	*9.1*	6	*4.1*	1	*2.7*	1	*3.0*	1	*4.3*
1;9	6	*1.1*	2	*0.8*	2	*1.4*	1	*2.7*	0	*0*	0	*0*
1;10	34	*6.2*	11	*4.4*	4	*2.8*	2	*5.4*	2	*6.1*	3	*13.0*
1;11	18	*3.3*	6	*2.4*	5	*3.4*	2	*5.4*	0	*0*	2	*8.7*
2;0	65	*11.9*	23	*9.1*	20	*13.8*	3	*8.1*	9	*27.3*	3	*13.0*
2;1	101	*18.4*	32	*12.7*	34	*23.4*	11	*29.7*	6	*18.2*	8	*34.8*
2;2	36	*6.6*	18	*7.1*	13	*9.0*	2	*5.4*	2	*6.1*	1	*4.3*
2;3	30	*5.5*	9	*3.6*	8	*5.5*	4	*10.8*	3	*9.1*	1	*4.3*
2;4	10	*1.8*	3	*1.2*	4	*2.8*	2	*5.4*	0	*0*	0	*0*
2;5	13	*2.4*	6	*2.4*	3	*2.1*	2	*5.4*	0	*0*	0	*0*
	548	*100*	252	*100*	145	*100*	37	*99.9*	33	*100*	23	*99.7*

Table 6B. Bruno: New lexemes per month within the categories nouns + proper names, verbs, adverbs, adjectives and pronouns (twenty-nine lexemes of other word classes are excluded).

Age	New lex	%	Noun Prop	%	Verb	%	Adv	%	Adj	%	Pron	%
0;7	1	*0.3*	1	*0.8*								
0;11	1	*0.3*	1	*0.8*								
1;1	1	*0.3*	0	*0*								
1;2	1	*0.3*	0	*0*			1	*2.7*				
1;3	5	*1.4*	2	*1.5*	2	*1.8*	0	*0*				
1;4	1	*0.3*	0	*0*	0	*0*	0	*0*				
1;5	10	*2.9*	8	*6.1*	0	*0*	0	*0*				
1;6	14	*4.1*	9	*6.9*	2	*1.8*	1	*2.7*				
1;7	9	*2.6*	5	*3.8*	3	*2.8*	0	*0*	1	*6.2*		
1;8	23	*6.7*	6	*4.6*	12	*11.0*	2	*5.4*	0	*0*	2	*8.7*
1;9	39	*11.3*	18	*13.7*	13	*11.9*	2	*5.4*	1	*6.2*	4	*17.3*
1;10	9	*2.6*	3	*2.3*	2	*1.8*	2	*5.4*	0	*0*	1	*4.3*
1;11	12	*3.5*	7	*5.3*	4	*3.7*	0	*0*	0	*0*	0	*0*
2;0	9	*2.6*	1	*0.8*	7	*6.4*	0	*0*	0	*0*	1	*4.3*
2;1	22	*6.4*	5	*3.8*	9	*8.3*	1	*2.7*	2	*12.5*	3	*13.0*
2;2	24	*7.0*	6	*4.6*	7	*6.4*	5	*13.5*	0	*0*	2	*8.7*
2;3	44	*12.8*	11	*8.4*	17	*15.6*	9	*24.3*	1	*6.2*	2	*8.7*
2;4	45	*13.0*	19	*14.5*	7	*6.4*	7	*18.9*	5	*31.2*	5	*21.7*
2;5	17	*4.9*	7	*5.3*	2	*1.8*	3	*8.1*	0	*0*	2	*8.7*
2;6	7	*2.0*	0	*0*	2	*1.8*	1	*2.7*	2	*12.5*	1	*4.3*
2;7	51	*14.8*	22	*16.8*	20	*18.3*	3	*8.1*	4	*25.0*	0	*0*
	345	*100.1*	131	*100*	109	*99.8*	37	*99.9*	16	*99.8*	23	*99.7*

Table 7A. Hugo: Relationship between the proportion of specific categories and the proportion of all new lexemes (above or below average).

Age	Nouns and proper names	Verbs	Adverbs	Adjectives	Pronouns
0;9	–0.2	–0.2	2.5	–0.2	–0.2
0;10	0.3	0.2	–0.5	–0.5	–0.5
0;11	–0.2	–0.2	–0.2	–0.2	–0.2
1;0	–0.3	–0.1	–1.5	1.5	–1.5
1;1	–0.1	–0.5	–0.5	–0.5	–0.5
1;2	0.4	–0.4	–0.4	–0.4	–0.4
1;3	1.4	–1.8	–1.8	–1.8	–1.8
1;4	2.5	–3.2	–1.2	–6.6	–2.3
1;5	3.8	–2.8	–4.9	–1.9	–4.9
1;6	2.2	1.1	–8.6	0.8	1.7
1;7	0.6	2.8	–0.8	3.2	–8.9
1;8	3.1	–1.9	–3.3	–3.0	–1.7
1;9	–0.3	0.3	1.6	–1.1	–1.1
1;10	–1.8	–3.4	–0.8	–0.1	6.8
1;11	–0.9	0.1	2.1	–3.3	5.4
2;0	–2.8	1.9	–3.8	15.4	1.1
2;1	–5.7	5.0	11.3	–0.2	16.4
2;2	0.5	2.4	–1.2	–0.5	–2.3
2;3	–1.9	0	5.3	3.6	–1.2
2;4	–0.6	1.0	3.6	–1.8	–1.8
2;5	0	–0.3	3.0	–2.4	–2.4
Difference	9.5	8.4	19.9	22.0	25.3

Table 7B. Bruno: Relationship between the proportion of specific categories and the proportion of all new lexemes (above or below average).

Age	Nouns and proper names	Verbs	Adverbs	Adjectives	Pronouns
0;7	0.5	–0.3	–0.3	–0.3	–0.3
0;11	0.5	–0.3	–0.3	–0.3	–0.3
1;1	–0.3	–0.3	–0.3	–0.3	–0.3
1;2	–0.3	–0.3	2.4	–0.3	–0.3
1;3	0.1	0.4	–1.4	–1.4	–1.4
1;4	–0.3	–0.3	–0.3	–0.3	–0.3
1;5	3.2	–2.9	–2.9	–2.9	–2.9
1;6	2.8	–2.3	–1.4	–4.1	–4.1
1;7	1.2	0.2	–2.6	3.6	–2.6
1;8	–2.1	4.3	–1.3	–6.7	2.0
1;9	2.4	0.6	–5.9	–5.1	6.0
1;10	–0.3	–0.8	2.8	–2.6	1.7
1;11	1.8	0.2	–3.5	–3.5	–3.5
2;0	–1.8	3.8	–2.6	–2.6	1.7
2;1	–2.6	1.9	–3.7	6.1	6.6
2;2	–2.4	–0.6	6.5	–7.0	1.7
2;3	–4.4	2.8	11.5	–6.6	–4.1
2;4	1.5	–6.6	5.9	18.2	8.7
2;5	0.4	–3.1	3.2	–4.9	3.8
2;6	–2.0	–0.2	0.7	10.5	2.3
2;7	2.0	3.5	–6.7	10.2	–14.8
Difference	7.6	10.9	18.2	25.2	23.5

Key to Tables 7A and 7B:
The bottom row indicates the difference between the highest and the lowest value within each category.

Table 8A. Hugo: Lexical spurt scores.

Age	Nouns and proper names	Verbs	Adverbs	Adjectives	Pronouns
0;9	–0.2	–0.2	5.2	–0.2	–0.2
0;10	1.1	0.9	–0.5	–0.5	–0.5
0;11	–0.2	–0.2	–0.2	–0.2	–0.2
1;0	0.9	1.3	–1.5	4.5	–1.5
1;1	0.3	–0.5	–0.5	–0.5	–0.5
1;2	1.2	–0.4	–0.4	–0.4	–0.4
1;3	4.6	–1.8	–1.8	–1.8	–1.8
1;4	11.6	0.2	4.2	–6.6	2.0
1;5	12.5	–0.7	–4.9	1.1	–4.9
1;6	15.7	13.5	–5.9	12.9	14.7
1;7	10.1	14.5	7.3	15.3	–8.9
1;8	12.2	2.2	–0.6	0	2.6
1;9	0.5	1.7	4.3	–1.1	–1.1
1;10	2.6	–0.6	4.6	6.0	19.8
1;11	1.5	3.5	7.5	–3.3	14.1
2;0	6.3	15.7	4.3	42.7	14.1
2;1	7.0	28.4	41.0	18.0	51.2
2;2	7.6	11.4	4.2	5.6	2.0
2;3	1.7	5.5	16.1	12.7	3.1
2;4	0.6	3.8	9.0	–1.8	–1.8
2;5	2.4	1.8	8.4	–2.4	–2.4
Difference	15.9	30.2	46.9	49.3	60.1

Table 8B. Bruno: Lexical spurt scores.

Age	Nouns and proper names	Verbs	Adverbs	Adjectives	Pronouns
0;7	1.3	–0.3	–0.3	–0.3	–0.3
0;11	1.3	–0.3	–0.3	–0.3	–0.3
1;1	–0.3	–0.3	–0.3	–0.3	–0.3
1;2	–0.3	–0.3	5.1	–0.3	–0.3
1;3	1.6	2.2	–1.4	–1.4	–1.4
1;4	–0.3	–0.3	–0.3	–0.3	–0.3
1;5	9.3	–2.9	–2.9	–2.9	–2.9
1;6	9.7	–0.5	1.3	–4.1	–4.1
1;7	5.0	3.0	–2.6	9.8	–2.6
1;8	2.5	15.3	4.1	–6.7	10.7
1;9	16.1	12.5	–0.5	1.1	23.3
1;10	2.0	1.0	8.2	–2.6	6.0
1;11	3.5	3.9	–3.5	–3.5	–3.5
2;0	–1.0	10.2	–2.6	–2.6	6.0
2;1	1.2	10.2	–1.0	18.6	19.6
2;2	2.2	5.8	20.0	–7.0	10.4
2;3	4.0	18.4	35.8	–0.4	4.6
2;4	16.0	–0.2	24.8	49.4	30.4
2;5	5.7	–1.3	11.3	–4.9	12.5
2;6	–2.0	1.6	3.4	23.0	6.6
2;7	18.8	21.8	1.4	35.2	–14.8
Difference	20.8	24.7	39.3	56.4	45.2

4.2 The two-peaked pattern of language acquisition

In this section I will discuss the outcome of the lexical spurt score investigation and relate the patterns found to what is known from language acquisition studies on other languages.

4.2.1 The main vocabulary spurts for Hugo and Bruno

By looking at the last row ("Difference") in Tables 7A, 7B, 8A and 8B, above, we can detect two distinct patterns. We find categories which exhibit rather low variation among months and also categories which exhibit much higher variation. In both Tables 7A (Hugo) and 7B (Bruno), nouns and verbs show a variation between months of near to or just under ten points, while other categories have a variation of near to or

more than twenty points. For both boys, the larger categories of nouns and verbs thus show a more even development, i.e., the differences among months are not so marked as is the case for the minor categories of adverbs, adjectives and pronouns. This is not surprising as such; nouns and verbs are not only more extensive categories, they are also more important, being the most significant in content, and they naturally need to be adopted throughout the entire acquisition process. Nevertheless, it is important to point out that some categories display patterns containing longer crucial periods or tendencies, while other categories instead show sudden bursts. In addition, the similarities between the two data sets in this respect can be used as a measure of consistency between them.

Tables 8A and 8B show more or less the same patterns as Tables 7A and 7B, but with greater differences for Hugo than for Bruno, which is interesting, since a smaller data set would be likely to show greater differences due to lacunae in the registrations. This pattern might therefore indicate that the two boys have different acquisition strategies, Hugo's acquisition process being more sudden and Bruno's more drawn-out. (For further discussion of this, see below.)

If we consider the differences in patterns between, on the one hand, nouns and verbs, and, on the other, adverbs, adjectives and pronouns, the lexical spurt score can now be used to describe the bursts of various types of lexemes visually. This will be done in Figures 1A and 1B. (All numbers have been rounded off.)

The first row (*Tok*) shows how great a proportion of all tokens have been registered during a particular month. Percentages from five to nine are shown in roman type; percentages from ten and up are shown in boldface type. The first row thus primarily gives us a measure of the boys' productivity – measured as the number of words uttered and registered.

The second row (*Lex*) shows the proportion of new lexemes registered for the first time during a particular month. Also in this case, only amounts of 5% and greater are shown; from 10% these are in boldface.

The next five rows indicate the lexical spurt scores for the five categories investigated. For nouns and verbs (NS and VS) a spurt score from five to nine is shown in roman type; a spurt score of ten and above is shown in boldface. For adverbs (AvS), adjectives (AjS) and pronouns (PS), a spurt score of fifteen to twenty-nine is shown in roman type; a spurt score from thirty and up is shown in boldface.

	1;3	1;4	1;5	1;6	1;7	1;8	1;9	1;10	1;11	2;0	2;1	2;2	2;3	2;4	2;5
Tok %					*6*					***11***	***26***	***14***	***11***	*5*	*5*
Lex %		*7*	*5*	***11***	*9*	*6*		*6*		***12***	***18***	*7*	*6*		
NS	5	**12**	**12**	**16**	**10**	**12**				6	7	8			
VS				**14**	**14**					**16**	**28**	**11**	6		
AvS											**41**		16		
AjS					15					**43**	18				
PS				15				20			**51**				

Figure 1A. Hugo's lexeme spurts.

	1;5	1;6	1;7	1;8	1;9	1;10	1;11	2;0	2;1	2;2	2;3	2;4	2;5	2;6	2;7
Tok					*8*				*5*	*6*	***15***	***19***	*7*		***22***
Lex				*7*	***11***				*6*	*7*	***13***	***13***	*5*		***15***
NS	9	**10**	5		**16**							**16**	6		**19**
VS				**15**	**12**			**10**	**10**	6	**18**				**22**
AvS										20	**36**	25			
AjS									19			**49**		23	**35**
PS					23				20			**30**			

Figure 1B. Bruno's lexeme spurts.

In both data sets there is a late token increase, covering the period 2;0–2;3 for Hugo and the months 2;3–2;3 + 2;7 for Bruno. Interestingly enough, there is an earlier token peak – but much briefer and less high – for both boys: at 1;7 for Hugo and at 1;9 for Bruno. Other phenomena cluster around these two token peaks in a parallel manner in the two boys. For instance, the overall acquisition of new lexemes is intensified during the two periods. For Hugo the months 1;6, 2;0 and 2;1, respectively, contain more than 10% of all new lexemes. For Bruno the same goes for 1;9, 2;3, 2;4 and 2;7.

A pattern of two peaks in the development of productive language is well documented in early child language. An early vocabulary burst (somewhere between sixteen and twenty months) has been documented extensively, at least for English-speaking children (cf. Bates & Goodman 2001:135–6). A second burst (somewhere

between twenty and thirty months), but one rather of morpho-syntactic nature, has also been identified (ibid.).

This two-peaked pattern of language acquisition – which I was not acquainted with while making the diary entries – stands out clearly for both Hugo and Bruno. In the remainder of this chapter we will take a closer look at the characteristics of the two peaks, beginning with a survey of the five word classes investigated in Section 4.1.

4.2.2 Vocabulary spurts with reference to word class

The registration of new nouns has a very evident pattern for Hugo. For a lengthy and early period, from 1;4 to 1;8, the lexical spurt score for nouns is higher than ten. From 2;0 to 2;2 the registration of new nouns again intensified, but the figures are lower (score: six to eight), and the period is shorter. One can conclude that Hugo concentrated on nouns during a lengthy early period. The pattern is almost the same for Bruno, but it stands out less clearly. Many new nouns were noted from 1;5 to 1;9, but the second period shows higher figures than for Hugo, since especially 2;4 and 2;7 have many high scores. This pattern might reflect the fact that the data on Bruno is more limited in the beginning (and less focused on non-verbs), and that registrations from later months to some extent fill in gaps that were caused by less efficient registration during the earlier period. For both boys, a long-lasting early focus on nouns seems indisputable, however.

Interestingly, in the case of both boys, verbs seem to have sprung from nowhere. From a score lower than five (and therefore not indicated in Figures 1A and 1B) there are two months with scores reaching from twelve to fifteen, for Hugo at 1;6 and 1;7 and for Bruno at 1;8 and 1;9. Then there are a couple of months (four for Hugo, two for Bruno) with much lower scores. We can definitely speak of a "first verb spurt" as a distinct and indisputable phenomenon. Something must be happening in the acquisition processes of the two boys; at this specific stage of development there must be a qualitative transformation linked to verbs.

Hugo's first verb spurt, at 1;6–1;7, consists of thirty-five new verbs (24% of all verb lexemes); his second spurt, at 2;0–2;2, consists of sixty-seven new verbs (46% of all verb lexemes). The top of the peak is the month 2;1, when thirty-four new verbs (23%) were noted. Bruno has an equally distinct first spurt, at 1;8–1;9, when twenty-

five new verbs (23% of all verb lexemes) were registered for the first time. His second spurt was divided into two periods, however. At 2;3, seventeen new verbs were registered (= 16%), and at 2;7, twenty new verbs were noted (18%). This circumstance might not be due solely to variations in the registrations, because 2;4 is a month with plentiful data, but 2;5 and above all 2;6, are months with very few registrations (see Table 1B). While the first verb spurt is distinctly discernible for both boys (1;6–1;7 for Hugo and 1;8 –1;9 for Bruno) and the second verb spurt is possible to pin down to 2;0-2;2 for Hugo; Bruno's second verb spurt is more difficult to determine temporally. In fact, it is difficult to delimit at both ends, since the lexical spurt score for verbs is rather high (i.e., 10) already at 2;0 and 2;1.

It is worth pointing out that the first verb peak occurs during the longer-lasting first noun peak. In the data this is reflected in a number of verb + noun-combinations, i.e., in a syntactic pattern. For both Hugo and Bruno the first verb spurt thus coincides with a sudden increase in two-word utterances, above all verbs + complements. Before 1;11 there are approximately thirty strings for Hugo and twenty for Bruno matching the pattern [VERB + NOUN], where the noun corresponds to a verbal complement in the target language (either an object or an adverbial). In the case of both boys we can further see that some pronouns have been registered at this early stage (at 1;6 for Hugo and 1;9 for Bruno). In some respects, the first verb spurt is thus also a "grammar burst" – at least a minor one.

In the lacunae between verb spurts not much happens, but it is worth noting that each of the boys shows a large number of new lexemes in one of the months with rather sparse data. As can be determined from Table 1A, the ratio of new lexemes per token is .64 at 1;10 for Hugo, while Bruno's ratio of new lexemes per tokens is .52 at 1;11 (Table 1B). Adjacent months clearly have lower figures. This might indicate that even if I as a diarist have not registered many utterances during this period, I have still registered some new items. The lacunae between the verb spurts may be hiding some very interesting things in spite of a first impression to the contrary.

Among categories other than nouns and verbs, adverbs display the most distinct behaviour, since they peak late and quite distinctly: at 2;1 for Hugo and at 2;3 for Bruno. Adjectives make up a very small category both in the number of lexemes and tokens in each of the data sets. The introduction of adjectives is probably connected to the acquisition of the copula. For the acquisition of adverbs and, above all, pronouns, the number of lexemes is not as interesting as the number of tokens. The method used

here is thus very blunt when it comes to these categories. Adverbs will be treated in some detail in the next chapter (Section 5.2). Pronouns are one of the main subjects of the book and are therefore assigned a chapter of their own (Chapter 8).

4.2.3 The grammar burst

For both Hugo and Bruno the second intense period is clearly both lexical and morphosyntactic – as will be shown in the later parts of this book and in a separate part of the study, *Part II: Morphology*. The second intense period is definitely a grammar burst as well as a vocabulary burst. By just taking a glance at Figure 1A, we can see that 2;0 and 2;1 are extraordinary months for Hugo; all columns are filled, most of them with figures in bold. If we combine 2;3 and 2;4 in Figure 1B, the same goes for Bruno: all categories are of vital importance in the same short time span.

Hugo has a very distinct second verb spurt that coincides with the grammar burst. The second verb spurt as well as the grammar burst are not so easily delimited for Bruno, but 2;3 and 2;4 seem to be the core months. The main problem is whether 2;7 should be included for Bruno's grammar burst. In what follows I will not speculate further concerning why his second peak is split into two periods. This is most probably due to registration deficiencies, even if it naturally might reflect his development in some way – but this issue can only be approached via guesswork. My general impression from the data on Hugo is that he was a typical "grammar burst child", while Bruno's diary does not give the same impression. Apart from the two-peaked pattern of the second intense period for Bruno, the temporal displacement between the two brothers seems to be quite constant, since Bruno lags behind Hugo by two or three months with respect to the majority of the phenomena under investigation.

In general, categories other than nouns and verbs do not show up frequently or in conjunction with many different lexical items until the grammar burst occurs. The adverbial vocabulary especially shows a sudden increase at this stage (at 2;1 for H and 2;3 for B). I am inclined to see the acquisition of many new adverbs, especially sentence adverbs, as an indication that the grammar burst is peaking. In order to produce sentence adverbs, a child needs to be able to deal with three positions in a

clause (noun, verb and adverb), which means that the appearance of many new sentence adverbs may mark a new level in the child's syntactic development.

Apart from some uncertainties concerning the data on Bruno, we can conclude that the overall picture is distinct. The first verb spurt stands out clearly for both boys. The second verb spurt clearly coincides with the grammar burst for both boys. The problem concerns how to delimit Bruno's second verb spurt and his grammar burst temporally. But if we regard 2;3 and 2;4 as the core months of Bruno's grammar burst, it is clear that the grammar burst period of each child shows the same overall characteristics: high production (i.e., many tokens) and many new lexemes, among which non-nouns, i.e., verbs, adjectives, adverbs and pronouns seem to be the most important. (Note that verbal morphology is an additional significant component of the grammar burst – a component that, however, will be left out of the discussion for the time being. Morphology will be examined in Part II of the study.)

4.2.4 Delimiting preliminary developmental periods

On the basis of Figure 1, and the considerations that underlie it, we can discern three developmental periods in the two children being investigated. These periods are:

Period 1: Up to and including the first verb spurt

Hugo:	0;9–1;7	(first verb spurt: 1;6–1;7)
Bruno:	0;7–1;9	(first verb spurt: 1;8–1;9)

Period 2: Lacunae between verb spurts

Hugo:	1;8–1;11
Bruno:	1;10–2;2

Period 3: From production increase and later (including the second verb spurt and the grammar burst)

Hugo:	2;0–2;5	(grammar burst peak: 2;1)
Bruno:	2;3–2;7	(grammar burst peak: 2;3–2;4 + 2;7)

For Hugo the grammar burst peak coincides with the peak of the second verb spurt. For Bruno the second verb spurt peaks at 2;3 and 2;7. As discussed above, it is difficult to say when Period 3 starts for Bruno, but I have let the beginning of the production increase determine when the beginning of this period occurs for both boys. Consequently, we can discern a prelude to the grammar burst, covering 2;0 for Hugo. It is possible that 2;0 to 2;2 for Bruno should also be regarded as a prelude to the grammar burst rather than as a part of the lacuna between verb spurts.

In the following chapters I will make use of the periods introduced here, above all when referring to larger time spans in the boys' linguistic development. When I want to be more exact, I will instead speak of the first or second verb spurt or the peak of the grammar burst. In practice, items (for instance verb lexemes) included in Period 3 for Bruno were most typically registered for the first time in either 2;3 or 2;7.

Note already here that the limitations of period 3 in Bruno is possible to discuss also in relation to the emergence of pronouns and subjects. This will be done in chapter 13 ("Summary").

5 Lexemes other than verbs and pronouns

In order to demonstrate the overall lexical development of the two boys being investigated, I will, in the following sections, discuss the most frequently observed words within traditional word classes, mainly by means of lists of the most frequent members in each class, the criterion for "frequent" being that a specific lexeme amounts to at least 1% of all tokens registered for each boy. Somewhat more detailed descriptions are made of nouns (for Hugo), especially the noun *bil* 'car', as well as of adverbs of different semantic types. Verbs, and the closely related category of pronouns, being the main subject of this study, are examined later in separate chapters. Apart from providing background information for later parts of this study and some basic data on child Swedish, the present chapter also illustrates the high degree of congruity between the two sets of data. The vocabularies of the two boys in different word classes is sometimes strikingly similar.

In the lists, lexemes are presented in order of frequency, with the number of tokens of each lexeme registered in the diaries indicated in boldface type.

5.1 Nouns and proper names

Nouns registered seven times or more for Hugo (seventeen in total) were: **53**: *mor* 'mother'; **44** *bil* 'car'; **29** *far* 'father'; **10** *gubbe* '(old) man', *lampa* 'lamp', *sko* 'shoe'; **9** *boll* 'ball', *mat* 'food', *pojke* 'boy', *säng* 'bed', *vatten* 'water', *välling* 'gruel'; **8** *traktor* 'tractor'; **7** *buss* 'bus', *fot* 'foot', *golv* 'floor', *knapp* 'button'.

Nouns registered four times or more for Bruno (nineteen in total) were: **41** *mamma* 'mummy'; **32** *bil* 'car'; **31** *pappa* 'daddy'; **8** *dagis* 'day care centre'; **7** *anka* 'duck', *bok* 'book', *stol* 'chair', *tåg* 'train'; **6** *napp* 'comforter'; **5** *dator* 'computer', *klocka* 'clock'; **4** *boll* 'ball', *bulle* 'bun', *lampa* 'lamp', *mormor* 'grandmother', *natt* 'night', *saft* 'fruit drink', *sko* 'shoe', *vov-vov* 'bow-wow'.

During the period investigated Hugo used the Danish and/or Scanian words for mother and father, *mor* and *far*, while Bruno used the standard Swedish words, *mamma* and *pappa* – these were also used by Hugo from at least the age of three.

Apart from this difference, the three most frequent nouns are the same for both boys, the noun *car* being uniquely frequent among non-animate nouns (cf. below). Other frequent nouns are more specific for each boy, reflecting individual habits and interests. Bruno's first noun, "amme", for *lampa* 'lamp' (at 0;7), is registered more than once, but naturally is still uncertain.

Proper names registered five times or more for Hugo (six in total) were: **30** *Martin* (the name of the boys' uncle); **14** **Hugo*; **8** *Bamse* (the name of a character on a children's program on Danish television); **7** *Lena* (the name of Hugo's municipal childminder); **5** *Pippi* or *Pippi Långstrump* (Pippi Longstocking, a character in a book by Astrid Lindgren); **4** *Ikea* (the name of the furniture store).

Proper names registered two times or more for Bruno (seven in total) were: **24** **Hugo*; **7** *Martin*; **5** **Bruno*, *Ebba* (the name of a girl from the neighbourhood), *Jesper* (the name of a boy at the day care centre); **4** *Pippi* or *Pippi Långstrump*; **3** *Ulla* (the name of his favourite childminder at the day care centre); **2** *Konsum* (the name of the local grocery store).

The two lists are quite similar, the major difference being that Bruno, as a younger brother, naturally talks a lot about his elder brother.

5.1.1 Hugo's nouns and proper names

This section presents a closer semantic analysis of Hugo's nouns and proper names. It can be read for its own sake or as background to other parts of the study, especially the study on verb semantics (Part III) and the study on subjects and functional verbs (in Part I). The patterns are the same for Bruno as well, but because they stand out more clearly in the diary on Hugo, only his diary has been used for this substudy.

At the end of 2;5 the number of accumulated noun types (lexemes) registered is 214, representing 39% of Hugo's total productive vocabulary; the number of noun tokens is 628, representing 28% of all words registered (cf. Table 3). There are two periods when the registration of new nouns intensified: between 1;4 and 1;8, when about 20 new nouns were registered each month, and from 2;0 to 2;2, when a total of 60 new nouns were registered. At the end of 2;5 the number of accumulated proper names registered is 38, representing 7% of the child's total vocabulary; the number of

proper name tokens is 120, representing 5% of all words registered. (Hugo's most frequent nouns and proper names are listed in the previous section.)

In the following pages, a semantic analysis of all nouns and proper names registered before 2;6 in Hugo will be presented. The following categories will be employed: animate referents, inanimate referents, locations and abstract phenomena. The arguments for treating nouns and proper names together are the fact that, when it comes to animate referents and locations, they fall into the same subgroups, and that there is an evident problem of separating names and nouns in early child language.

Out of a total of 252 nouns and proper names, 76 denote animate referents and 176 denote inanimate referents. A closer analysis demonstrates the following groupings of words:

Out of the seventy-six words for **animate referents**, twenty-one are words for human beings, either from real life (for instance *bebi* 'baby', *mormor* 'grandmother', *barn* 'child') or from books, songs, and other fictional contexts (for instance *jultomte* 'Santa Claus', *musikant* 'musician', *tjuv* 'thief'); eighteen are the proper names of actual human beings (family, friends, neighbours, peers etc.); twelve are the proper names of fictional characters (for instance "Kalle", short for *Kalle Anka* 'Donald Duck', *Bamse* 'Teddy', *Kylling* 'Chicken' ("Teddy" and "Chicken" are the names of two characters in a children's program on Danish television), *Paddington*, *Barbapapa*); twenty-three are nouns for animals, many of which Hugo knew only from books or toys (examples: *anka* 'duck', *fågel* 'bird', *krokodil* 'crocodile'); two are proper names for dogs. The seventy-six words for animate referents constitute the potential agents that Hugo himself talks about during his first years. It is striking that so many of them – approximately a third – originate in fictional contexts.

Out of the 176 words for **inanimate referents**, 149 are count-nouns or mass-nouns for concrete entities while eighteen denote locations or places in a broad sense. Nine words are of other semantic types. The following semantic subgroups can be discerned:

Forty-eight count-nouns refer to artefacts, typically objects found at home, such as *lampa* 'lamp', *nyckel* 'key', *boll* 'ball', *leksak* 'toy', *väska* 'bag'. Thirty-six words denote things that you can eat or drink. Out of these, many are count-nouns (*äpple* 'apple', *korv* 'sausage'), some of them are mass-nouns (*glass* 'ice-cream', *mjölk* 'milk'), but, as with words for food in adult Swedish, many of them can be used in both ways (*ost* 'cheese', *russin* 'raisin'), etc. Twenty words refer to vehicles (both real

ones in the surroundings and toy vehicles at home): *buss* 'bus', *lastbil* 'lorry', *tåg* 'train', *lok* 'locomotive'. Representing a relatively limited domain, the semantic field of vehicles is noticeably well developed at an early stage, cf. the following section. Seventeen words designate parts of the body, for instance *hand* 'hand', *fot* 'foot', *tunga* 'tongue'. Sixteen words denote different types of clothes or clothing details, for instance *knapp* 'button', *glasögon*, 'glasses', *mössa* 'cap'. Six words for natural objects (*sten* 'stone', *måne* 'moon', *blomma* 'flower') and six mass-nouns not referring to edible things (*papper* 'paper', *snö* 'snow', *tvätt* 'laundry') are found in this group.

Eighteen nouns describe **locations**. As indoor locations I have analysed only *golv* 'floor', *tak* 'ceiling' and *vägg* 'wall'; locations can of course also be denoted by words like *stol* 'chair' and *bord* 'table'. Outdoor locations are denoted by words such as *sandlåda* 'sand-pit', *backe* 'slope', *domkyrka* 'dome', *stad* 'city', *plats* 'place'. Six proper names are used for different places, for instance *Ikea* and *Gula Villan* 'the Yellow House'.

Only a very small number of nouns refer to more **abstract phenomena**: Three words describe activities: *barnprogram* 'children's programme on TV', *hockey* 'hockey', *fotboll* 'football'. Four words designate times of day: *natt* 'night', *julafton* 'Christmas-eve', *tid* 'time', *gång* 'time, occasion'. The word *natt* 'night' is acquired already at 1;6, together with the two words *mörk* 'dark' and *måne* 'moon'. This might indicate that the night as a phenomenon is a matter that occupied Hugo's mind at this stage. (The related verb *sova* 'sleep' is registered for the first time at 1;7.) The word *julafton* 'Christmas-eve' is registered only once, at 2;0, more than a month after Christmas. It is reported as belonging to his standard utterances during this period, occurring in a small proto-narrative that always has the form "julafton, jultomte, posentå" 'Christmas-eve, Santa Claus, gifts' (with short pauses between the three nouns). By this utterance Hugo is probably referring to an occasion at "the Yellow House" a couple of weeks before Christmas, when an adult dressed up as Santa Claus and gave the children gifts. The temporal meaning of *julafton* 'Christmas-eve' is supposedly totally irrelevant to him; rather the word refers to the events that occur at Christmas. Both words for 'time' (*tid* and *gång*) show up in idiomatic target-like adverbial phrases: *hela tiden* 'all the time' (twice at 2;2) and *tre gånger* (once at 2;4) 'three times'; they do of course not refer to 'time' as an abstract concept.

Two nouns constitute their own categories: *spunk* 'squeazle/spink' (a nonsense word from one of Hugo's favourite books, *Pippi Longstocking*) and *danska* 'Danish'. The name of the Danish language is taken down a couple of times at 2;3 in the declarative "de e danska" *det är danska* 'it is Danish'. (See also 10.1.3, "Hugo's Danish holophrases".)

The above account tells us something about Hugo's communicative needs up to 2;6. This is the type of referential units that he made use of to grasp his world by linguistic means. Unsurprisingly, one can conclude that his universe was dominated by (real or invented) animate individuals and concrete inanimate entities, above all objects that could be found at home or in his nearest surroundings. The number of words for abstract phenomena is very small. Basically, Hugo speaks about what he can observe.

5.1.2 The noun *bil* 'car' – a path-breaker?

The word *bil* 'car' – a phonetically simple and regularly inflected noun in the common gender – deserves a short digression. It is unique among non-animate nouns since it occurs forty-four times in Hugo's case and thirty-two times in Bruno's, out of which nine registrations are from the same occasion at 2;3 when Bruno told his uncle over the phone about a trip we had made the same day, by car. This registration is quite interesting because it was Bruno's first telephone conversation of any length:

> Martin and Bruno are speaking over the phone. [The symbol // in this entry demarcates pauses in Bruno's part of the dialogue. The beginning of the conversation is not included.] "jaha, bilen kan inte köra" [well, car.the can not drive] (which was not correct; the car was in order) // "vi byggde Duplo nu" [we built Duplo now] // "ja byggde Duplo-hus" [I built Duplo-house] // "jaha, jaha, jaha, hejdå" [well, well, well, good.bye] (seems to intend to hang up, but picks up the receiver again) "hallå, hejdå" [hello, good.bye]. (M speaks with Hugo for a while and then with Bruno again) // "hallå, ja byggde Duplo daa" [hello, I built Duplo today] (Martin then asked Bruno what he has built with Duplo, the only remark of Martin's that he later reported to me) // "ja byggt en sto sto hus" [I built a big big house] (which is correct) // "ja stööde toonet" [I destroyed tower.the] "toonen tilla mej" [towers.the fall me] (supposedly meaning 'the tower fell over

> me') // "jaha, ja åkte bil daa" [well, I went.by car today] // "ja åkte bil daa" [I went.by car today] // "ja åkte bil" [I went.by car] (I can hear Martin ask Bruno to give me the receiver, which he does) ([Does Bruno say,] "jaha" 'well, yes' as an answer to Martins lines? or more as a way of imitating a telephone conversation?) (B 2;3)

It can be added that all instances of "jaha" 'well, yes' in Bruno's diary are from this entry; Bruno must have been imitating an adult speaking over the phone – probably me. Not only interested in cars, Martin often built Lego or Duplo things together with the boys, and these two subjects tended to dominate the conversations among them.

Words for (motor-driven) vehicles as a whole belong to a significant semantic field, especially in reference to Hugo, who uses eighteen lexemes for different types of vehicles before 2;6; Bruno uses eight before 2;8. Consequently, cars and other vehicles are the main topic of many notations.

In Hugo's case, the first instances of the word *bil* are pronounced "bi" (H 1;2); the utterances are used to refer to toy cars or pictures of cars. At 1;3 *bil* is noted as "his most important word", used for both toy cars and real cars, and it is registered both as "bi" and "bija"; from 1;5 both as "bil" and "bila". The two-syllabic form resembles the indefinite plural *bilar*, but is evidently not used to refer to more than one car. In 1;4, the word *bil* is said to be used to refer to cars as well as other vehicles. For Bruno the first instance of *bil* (at 1;3) is the observation that he can pronounce the word "bil", but that I am uncertain whether he knew what it meant. At 1;4 he used the word more actively, which this entry, which briefly summarises his linguistic capacity at this stage, reveals:

> I ask "Var är bilen?" [where is car.the?]. B points to the car (in the jigsaw puzzle) and says "bil" 'car'. Also calls the vacuum cleaner "bil". Has begun to say "me" (*mer*? (more?)) as soon as he wants something to eat or drink. Holds the telephone receiver and "converses" eagerly. With click sounds. Understands everything. Forgets nothing. Wants the vacuum cleaner to be out all the time. (B 1;4)

For Bruno, *bil* is the only word to appear both in singular indefinite and definite forms as well as in plural before 2;8. For Hugo *bil* is one of four lexemes to appear in all

these forms. For Bruno's case, the first target-like noun in the definite form is "bilen" at 1;9, followed by "tåget" 'the train', "båten" 'the boat' and "maten" 'the food' (all at 1;10). Naturally, it may be a mere coincidence that three out of four words that appear early and correctly in the definite form are words for vehicles. The first of Hugo's nouns to appear with the indefinite article is *bil* ("en bil"; H 2;0). For Hugo's case, *bil* is the first simplex word to occur also in compounds: *lastbil* (twice at 1;7); "assobil" *racerbil* 'racing car' (1;7), "kallisbil" *glassbil* [ice-cream-car] (1;8) and in the neologism "kippagäsbil" *klippa-gräs-bil* [cut-grass-car] (1;8; referring to a big lawn mower that he can see from the window). For Bruno only "taxibil" 'taxi/cab' has been registered, at 2;4.

Bil appears strikingly early even in noun phrases consisting of more than the head noun: "alla bi" [all car] (H 1;4; with unclear reference), "många bila" [many cars] (H 1;6 and 1;7; frequently, also with non-target-like singular reference), "blå bilen" [blue car.the] 'the blue car' (H 1;8); "min bil" [my car] (B 1;8); "många bila" [many cars] (B 1;8). There are virtually no other examples of noun-phrase attributes from such an early age for Hugo, while Bruno uses "me bok" [more/my book] and "annan bok" [other book] at 1;9.

The word *bil* also seems to act as a syntactic path-breaker at the clause level, at least for Hugo. Out of a total of nine two-word-combinations that were registered before the end of 1;5 for Hugo, seven of them contain the word *bil*. Examples: "bi dä" *bil där* [car there] (H 1;3); "ka bi" *åka bil* [go.by car] (H 1;4); "alla bi" *alla bil* [all car] (H 1;4). From 1;6 and later, when the two-word combinations become frequent, the variation of words also increases. The same pattern is repeated with the first three-word combinations. Before 1;9 there are approximately twenty utterances that can be interpreted as consisting of three words – regardless of how they should be syntactically analysed, rote-learned or not. Out of these, ten contain the word *bil*, and three of them contain the semantically related word *buss* 'bus'. Especially the first instances of the sentence pattern subject – verb – object are clearly focused on driving and vehicles, the most typical verb being *åka* 'go (by), ride'. Examples: "många bila dä" *många bilar där* [many cars there] (H 1;7); "nalle åka bil" *nalle åka bil* [teddy go.by car] (H 1;7); "Matti laga bilen" *Martin laga bilen* [M mend car.the] (H 1;7); "*Hugo åka buss" *H åka buss* [H go.by bus] (H 1;8); "Matti åka bil" *M åka bil* [M go.by car] (H 1;8). From 2;0 and later, when three-word combinations become frequent, the connection with the word *bil* is no longer noticeable.

To sum up, *bil* 'car' is Hugo's and Bruno's most frequent inanimate noun. It is the only one (for B) or one of very few (for H) nouns to appear in three different morphological forms; it belongs to a semantic field (words for vehicles) that is both frequent and semantically diversified from early on. For Hugo it occurs in several compounds, and it is the most important word in his very earliest word combinations. It is possible that the word *bil*, which obviously is communicatively highly important to both boys, functions as a type of morpho-syntactic path-breaker in their linguistic development – most clearly for Hugo's. No other noun displays a similar status or importance in their productive language. Interestingly enough, I had no idea that Hugo's interest for cars was so clearly reflected in his early linguistic production until I started analysing the diary, even if I clearly remember his passion for cars, a passion he shared with his beloved uncle Martin. Anecdotally it can be added that his interest in cars was not lasting; at his birthday party when he was four he received toy cars as gifts from all his guests – and he was very disappointed.

5.2 Adverbs

Adverbs registered three times or more for Hugo (fifteen in total) were: **50** *inte* 'not'; **36** *där* 'there'; **26** *nu* 'now'; **11** *upp* 'up'; **10** *bort* 'away' (directional meaning); **7** *ut* 'out'; **6** *också* 'too'; **5** *istället* 'instead'; *sen* 'later'; *så* 'so'; **4** *lagom* 'just right'; **3** *in* 'in', *igår* 'yesterday', *igen* 'again', *bara* 'only, just'.

Adverbs registered three times or more for Bruno (fifteen in total) were: **32** *där* 'there'; **22** *inte* 'not'; **15** *nu* 'now'; **10** *ner* 'down'; **9** *idag* 'today'; **8** *så* 'so'; **7** *också* 'too'; **6** *upp* 'up'; **5** *igår* 'yesterday'; **4** *borta* 'away' (locative meaning); **3** *då* 'then', *ju* 'actually', *sen* 'later', *sönder* 'broken', *ut* 'out'.

The two boys' adverbial lexicons are equally extensive (thirty-seven lexemes), and the two lists of adverbs show many similarities, nine lexemes appearing on both lists and the three most frequent adverbs being identical: 'not', 'there', 'now'.

Since adverbials are closely related to verbs, I will here briefly examine the chronological development of adverbs of different semantic types. In Tables 9A and 9B the registration over time of some frequent (relatively speaking) adverbs is shown, the criteria being adverbs that appear five times or more for Hugo **or** four times or more for Bruno. This group of – by this definition – frequent adverbs amounts to 166

tokens out of a total of 202 adverb tokens for Hugo (= 82%) and to 128 tokens out of a total of 165 adverb tokens for Bruno (= 78%). The relative number of frequent adverbs does not increase over time. Apart from months with very few registrations this lies near or somewhat under 10% of all tokens each month for both boys. All frequent adverbs are short or very short words. The semantic main types are spatial and temporal adverbs (i.e., frame adverbs) and negation.

Table 9A. Hugo: Registration of frequent adverbs per month (N 166).

	Spatial adverbs					Neg.	Temporal adverbs				Other adverbs			
	där	upp	ut	bort	bor-ta	inte	nu	sen	i-dag	i-går	ock-så	istäl-let	så	∑
0;9	2													2
0;10	1													1
0;11														0
1;0														0
1;1	1													1
1;2														0
1;3	2													2
1;4	4	2	1											7
1;5		1	1											2
1;6			2	5										7
1;7	2			2	1							4		9
1;8	1													1
1;9				1		2								3
1;10				1										1
1;11	2	1				1	5							9
2;0	1	5				8								14
2;1	9	1	1	1		15	10	3			3		3	46
2;2	5		1			13	7							26
2;3	4	1	1			4	3	1			2			16
2;4	2					1		1		1			2	7
2;5						6	1		1	2	1	1		12
∑	36	11	7	10	1	50	26	5	1	3	6	5	5	166

Key to Tables 9A and 9B:
Spatial adverbs:
där ‘there’
upp ‘up’
ner ‘down’
ut ‘out’
bort ‘away’ (directional meaning)
borta ‘away’ (locative meaning)
Negation:
inte ‘not’
Temporal adverbs:
nu ‘now’

sen ‘later’
idag ‘today’
igår ‘yesterday’
Other adverbs:
också ‘too/also’
istället (or for short “ist”) ‘instead’
så ‘so’

Table 9B. Bruno: Registration of frequent adverbs per month (N 128).

	Spatial adverbs						Neg	Temporal adverbs				Other adverbs			
	där	upp	ner	ut	bort	borta	inte	nu	sen	idag	igår	också	ist	så	∑
1;2	1														1
1;3	3														3
1;4															0
1;5															0
1;6		1													1
1;7	1														1
1;8	1		1			1									3
1;9	3	1	2	1											7
1;10	3						1								4
1;11															0
2;0						1	1								2
2;1		1		1		1	2							2	7
2;2	2						2	1				2			7
2;3	8	1	3				4	4		3	2	1			26
2;4	2	1	1	1	1		8	2	2	3	1	2		2	26
2;5	2		3				1		1			1			8
2;6	2	1				1	1	3		1					9
2;7	4				1		2	5		2	2	1	2	4	23
∑	32	6	10	3	2	4	22	15	3	9	5	7	2	8	128

As can be seen from Tables 9A and 9B, the grammar burst is not only a time when many new adverb lexemes show up, adverbs also become more frequent during this period, in absolute numbers. Especially 2;1 and 2;2 for Hugo and 2;3 and 2;4 for Bruno show many adverb tokens, among which the spatial adverb *där* ‘there’, the sentence negation *inte* ‘not’ and the temporal adverb *nu* ‘now’ are the most prominent.

When it comes to the emergence of adverbs of different semantic types, both boys show the same overall pattern.

The first adverb to appear is, not surprisingly, the deictic/locative *där* 'there' (which is also Hugo's first word altogether), and it precedes other spatial adverbs by several months. For Hugo there is a clear connection between early two-word utterances and the adverb *där*. Before 1;5 there are seven registrations of two-word utterances, out of which five contains the word *där*, the noun component being either *lampa* 'lamp' or *bil* 'car'. The first instance is "dä (m)pa" *där lampa* [there lamp] (H 1;1). From 1;4 both word orders are registered: "bi dä" [car there] and "dä bi" [there car]. For Bruno the very first two-word utterance also contains *där* ("tocka dä" [wipe there] B 1;3), but the construction with a noun and *där* is not as dominant a type as it is for Hugo, even if it does exist: "Ebba, där" [Ebba, there] (B 1;7; with the comment that his two-word utterances at the time have two prosodic curves, not one); "dä, dä, akka dä" [there there duck there] (B 1;8).

Different directional adverbs/particles are clearly registered before the first verb spurt for Hugo and from the first verb spurt and later for Bruno. Bruno uses both *upp* 'up' and *ner* 'down', which is probably explained by the fact that we were living in a two-floor house when he was a toddler, unlike the case when Hugo was the same age. For both boys the first registration of *upp* is noted with an extra "a" at the end: "opp(a)" (H) or "oppa/appa" (B). In the diary entry, Bruno is said to have used the word meaning either 'up' or 'staircase'. The Swedish word for 'staircase' is *trappa*, a pragmatically closely related word that also has some phonetic resemblance with *upp* 'up'. Perhaps Bruno mixed up the two words at this early stage.

During the first verb spurt Hugo displays some creative patterns involving adverbs. The adverb *bort* 'away' is found in the target-like string "toka bot" [wipe away] or "toka bot de" [wipe away it] 'wipe it off' (3 times at 1;6 and 1;7), but it is also registered in "lukka bort", a combination of a Danish verb and a Swedish adverb. This string is noted as being frequent at 1;6 and 1;7, meaning 'open' or sometimes 'close'. Once he uttered "lasta bort" [load away] (H 1;6) when emptying a toy truck loaded with blocks. The target-like verb phrase is *lasta av* [load off]. At 1;7 the following is reported:

> H has for a long time said "tellet" [*istället* 'instead'] because I say "Ska vi åka kana istället?" [shall we go to the slide instead], for instance when we are at the swings [at the playground]. His standard expressions have been "kana tellet" [slide instead] and "gauko tellet" [excavator instead (Danish noun, Swedish

> adverb)]. I did not think he knew what it meant, but then today we were reading and I said: "Då tar vi *Okker gokker*!" [let's take *Okker gokker* (a Danish children's book)]. "NAJ" [no] shouted H, "Apa tellet" [monkey instead], wanting to read the book about the monkeys instead. It seems hard to believe, but it was correctly applied. I had not said anything of the kind before. (H 1;7)

Obviously I did not expect this type of creativity at the time. Another partly "productive" structure is found in the combination "hej-då" [hello then] 'bye bye' (i.e., an interjection) + a noun (in definite form), for instance "hej-då husen" [bye-bye house.the] (H 1;7; when leaving the house); "hej-då bilen" [bye-bye car.the] (H 1;7; when leaving the car); "hej då bussen" [bye-bye bus.the] (H 1;7).

The sentence negation shows up after the first verb spurt for both boys, but clearly before the grammar burst. For Hugo the negation, *inte* 'not', is first registered with modals. At 1;9 there is a note stating: "H has been saying 'kan inte' [can not] for a long time and now he also says 'vill inte' [want not]". The registrations of the sentence negations become more frequent during the grammar burst for both boys.

Temporal adverbs are first observed during the grammar burst (i.e., when the inflection of verbs has its breakthrough) or even later, which is also true for the adverbs in the remaining group (apart from *istället* 'instead' for Hugo). For Hugo time adverbs pointing out another time than the moment of speech (*igår* 'yesterday') are later than time adverbs directly related to the moment of speech (*nu* 'now', *sen* 'later'). This tendency is not so clear for Bruno. The adverb *igår* is naturally connected to the past tense and the recalling of past events, mostly one-clause statements, but sometimes also to short narratives consisting of a handful of clauses. It is used with unspecific past-time references, for instance "ja lekte Mattin igåå" [I played [with] M yesterday] (B 2;4; which was actually correct; M visited us the day before); "ja åkte buss igåå" [I went.by bus yesterday" (B 2;7; the bus trip was several months earlier). At 2;4 the journals on Hugo contain the following information:

> H tells me first thing in the morning: "igå ja spingde, åkte takto, åka motocykel" [yesterday I run, went.by tractor, go.by motorbike]. I ask: "Gjorde du det med far?" [Did you do that with father?], but H does not answer. Instead he continues: "vi tankte, te gånge, så, en, två, te" [we filled.gas, three times, so, one, two, three] (counting on his fingers), "sto takto, liten motocykel" [big tractor, small

> motorbike]. Nothing of this kind has happened. I ask: "Har du drömt?" [have you been dreaming]. H: "Nej. Ja ha inte dömt" [No. I have not been dreaming]. (H 2;4)

The semantically broad use of *igår* – i.e., with unspecific past-time meaning – is found, relatively frequently, in the later journals on Bruno at least up to 4;4. It appears to be an important way of anchoring past-time utterances in his productive language.

The adverb *så* 'so' which is multi-functional in adult language, is found to have three different functions in the data. For both boys the first application is as a manner adverb in a sentence final position. The second registration regarding Hugo is interesting because it indicates that the adverb is linked to a new communicative capacity:

> Hugo has had, for a couple of weeks now, a specific narrative mode. His voice becomes whiny and he does not interrupt the vocal cord tone between the words. Often only a few words are intelligible, but it is obvious that he is narrating something. He looks straight at you, not at whatever he might be playing with. Many times Pippi Longstocking is the main character, but sometimes he mentions no names. Many instances of the adverb *så* 'so' are a part of the style, for instance "banka golvet så" [bang floor.the like.that] + an illustration and then something like "kasta så" [throw like.that] + illustration, then incomprehensible words. (H 2;1)

I believe that the "illustrations" were gestures. For Bruno it is reported at 2;1 that *så* is often added in a sentence final position, with a diffuse meaning of *omständigheter* 'circumstances'. The adverb is found as a grade adverb from 2;4 and afterward for Bruno, for instance when he is telling Hugo "de vadde jeting ditt uum *Hugo, de va inte så (r)oolit [pause], de va inte så faalit" [there was [a] wasp in your room, Hugo, it was not so funny, it was not so bad].

A significant Swedish sentence pattern in oral narrative contexts is declaratives connected by the adverb *så* 'so' in a clause-initial position. One instance of this structure is found in each data set, although perhaps not in genuinely narrative contexts: "ja spillde på golvet så tillade ja dä" [I spilled on floor.the so fell I there] (H 2;4; uttered about two hours after he had spilled some water on the floor and then fallen because the floor was slippery); "ja kliade så gådde den av stellet" [I scratched

so broke it off instead] (B 2;7; when I asked him what had happened to his fingernail, which was a bit frayed). The technique of connecting sentences with *så* 'so' in (for instance) a narrative context obviously did not develop fully until later. For Hugo, two instances are found at 2;8; for Bruno *så*-connections are found more frequently from 2;11 and afterward.

The development of adverbs for both Hugo and Bruno is – as could be expected – a process starting with concrete and basic deictic/spatial meanings, after which both boys successively incorporate more and more abstract meanings in their language production. Late adverbs are connected to new communicative capacities, such as recalling memories and narrating. Both adverb lexemes and adverb tokens show an increase in number at the time of the grammar burst. In fact, this increase seems to coincide with the peak of the grammar burst for both boys (cf. 4.2.3). Many new adverbs might therefore be a good indication when trying to delimit the grammar burst in children acquiring L1 Swedish.

5.3 Adjectives and numerals

Adjectives registered three times or more for Hugo (eleven in total) were: **6** *kall* 'cold', *ond* 'painful'; **5** *god* 'good', *trött* 'tired'; **4** *egen* 'own', *slut* 'finished'; **3** *arg* 'angry', *gul* 'yellow', *ledsen* 'sad', *liten* 'little', *stor* 'big'.

Adjectives registered two times or more for Bruno (nine in total) were: **5** *liten* 'small', *stor* 'big'; **4** *ledsen* 'sad', *varm* 'warm'; **3** *ny* 'new'; **2** *farlig* 'dangerous', *färdig* 'completed', *hård* 'hard', *rolig* 'funny'.

As can be seen from the two lists, each is almost completely unique for each boy – the only three adjectives that show up in both lists are 'little', 'big' and 'sad' – something that makes adjectives uncharacteristic among the word classes. Hugo's adjectival lexicon (thirty-three lexemes) is twice as large as Bruno's (sixteen lexemes). Note that the adjective registered for Hugo already at 1;0 is a direct imitation of what an adult has just said. At 2;0 Hugo produces the words for white, red, yellow and green, but applies them at random. At 2;7 he correctly identifies white, black, red, blue, green and yellow when describing the covers of books in the bookshelf. In between these entries there is only one comment on colour terms: At 2;2 Hugo is said to use the word for yellow accurately more often than words for other

colour terms. No colour terms are reported from Bruno before 2;8, and they are also very rare in the later recordings up to 4;0.

The difference between Hugo and Bruno when it comes to numerals (cf. Table 3) might be more or less accidental. At 1;10 the following observation is made:

> H has without our assistance acquired all the numerals up to ten, obviously as a long string of words. He pretends to count buttons on Martin's shirt: "en, tå, te, fya, fäm, (h)äx, uu, åtta, nie, tie" [written Swedish: *en*, *två*, *tre*, *fyra*, *fem*, *sex*, *sju*, *åtta*, *nio*, *tio*], all the time pointing at the same button. He does not say all ten numerals consecutively, though, but three or four at a time. (H 1;10)

The expression "without our assistance" can only mean that he has learnt the sequence of numerals from his childminder, Lena, or perhaps from his uncle Martin. At 2;0 he is reported to "know the numerals up to thirteen". There is not much in the diary about actual counting. At 2;1 he reacts accurately to his father's exhortation to "get two cars" (for them to play with), but this can of course be coincidental. At 2;4 he illustrates the expression *tre gånger* 'three times' by counting "en, två, tre" 'one, two, three', using his fingers to show the numbers. At 2;6 he takes out the beaters to the hand mixer from a kitchen drawer, saying "titta, två" 'look, two'. For Bruno the numeral *två* 'two' is only found once before 2;8, with a somewhat unclear reference: "vi ka åka nya lekplassen båda två" [we shall go new playground both two] (B 2;4), when he wants both me and his father to go with him to a new playground in the area. In this context *alla tre* [all three] 'the three of us', would have been a more adequate expression than *båda två* [both two] 'the two of us'.

5.4 Prepositions, *wh*-words, conjunctions and subordinators

Functional words other than pronouns and functional verbs are generally found in low – or very low – frequency in the two boys' productive language before 2;6 and 2;8 respectively.

Prepositions registered two times or more for Hugo (five in total) were: **15** *på* 'on'; **10** *för* 'for', *med* 'with'; **9** *i* 'in'; **7** *till* 'to'. The following prepositions were registered two times or more for Bruno (six in total): **23** *på* 'on'; **6**, *i* 'in'; **5** *med* 'with'; **3** *av* 'of'; **2** *bakom* 'behind', *till* 'to'. The two boys' sets of prepositions are of

the same size, eight lexemes each, *på* ‘on’ (with a rather general locative meaning) being the most frequently registered preposition in both children. At 2;2 for Hugo there is an entry quoting “nu dansa Pippi bordet” [now dance Pippi table.the] ‘P is dancing on the table’ with the comment “usually he has a preposition here” (i.e., *på bordet* [on table.the]). At 2;3 “tack fo maten” [thanks for food.the] (a standard formulation) and “ja ska bara rita på pappo(r)et” [I will just draw on paper.the] are reported in the same entry – followed by the comment “has many prepositions”.

***Wh*-words** registered for Hugo were: **8** *vem* ‘who’; **5** *vad* ‘what’; **3** *var* ‘where’. *Wh*-words registered for Bruno were: **9** *vem* ‘who’; **7** *vad* ‘what’; **1** *när* ‘when’, *var* ‘where’. When it comes to *wh*-words the patterns are almost identical: both boys have *vem* ‘who’ and *vad* ‘what’ from 2;0–2;1 (Hugo) and 2;1–2;2 and later (Bruno), the *wh*-words above all appearing in holophrastic utterances. Both of them frequently and for a long period of time used “vem-e-de?” *vem är det?* ‘who is that?’ also when referring to inanimate referents. For Hugo there are also three instances of the Danish holophrase *hvad laver du* [what do you] ‘what are you doing’.

Conjunctions registered for Hugo were: **11** “å” *och* ‘and’; **1** *men* ‘but’. (Nine out of eleven registrations of *och* have the conjunction as a connector between verbs or nouns within the clause; two instances (both from 2;5) show a connection of main clauses in a short narrative.) Conjunctions registered for Bruno were: **1** “å” *och* ‘and’.

Subordinators registered for Hugo were: **8** *som* ‘which’ (relative ‘that’ and comparative subordinator; registered from 2;3 and later); **1** *att* ‘that’ (narrative subordinator; registered at 2;5). Subordinators registered for Bruno were: **2** *när* ‘when’ (temporal subordinator; the instance from 2;1 is least certain, the next instance is from 2;7). The infinitival marker “å” *att* ‘to’ is examined among the subordinators in Tables 4 and 6. It is registered once (at 2;6) for Bruno. The utterance is somewhat odd, and “å” can perhaps also be interpreted as *och* in the context: “ha du fäädit nu å diska?” [have you finished now to/and do-the-dishes] (B 2;6).

6 Verb lexemes

In the data on Hugo there are 772 verb tokens, corresponding to 145 different verb lexemes; in the data on Bruno there are 475 verb tokens, corresponding to 109 verb lexemes. In the two sets of data a total of 174 different verb lexemes have been registered. Eighty verb lexemes appear in both data sets; 65 verb lexemes are unique to Hugo and 29 verb lexemes are unique to Bruno. In the following sections the data analysed as verb lexemes will be discussed in detail.

As described in Section 3.1 ("Analytical method"), lexemes are discerned via comparison with adult Swedish. Actually this is a quite compelling way of organising the data. It is not self-evident that the following registrations from Hugo's diary constitute a "word" or "lexeme" to him: *kom*, *kommå*, *komma*, *kommit*, *komde*. To me, when analysing the data using the analytical unit "lexeme", they constitute the lexeme *komma* 'come', however.

6.1 Verb lexemes in the two sets of data

In the following two sections all lexemes appearing in the two data sets are listed in chronological order based on the first registration of each lexeme. After each lexeme the total frequency during the period investigated is indicated within round brackets. This means that "1;4 *bada* 'bathe' (8)" in the list for Hugo means that the verb lexeme *bada* 'bathe' was registered for the first time during the month when Hugo was one year and four months old and that it has been registered eight times during the entire period investigated, which for Hugo includes the month when he was 2;5. For Bruno the period includes also 2;6 and 2;7 (as described in 2.1.1). After the list for each month the total number of new verb lexemes during that month is indicated in bold and within square brackets. (The same information is found in Table 4, Chapter 3.)

Lexemes that appear in both diaries, i.e., are common to both boys, are underlined in the lists. If a first registration of a lexeme is uncertain for whatever reason, this is commented on and the second registration of the same lexeme is also noted.

The number of Danish verb lexemes in the data that do not coincide with Swedish verbs are four (Danish holophrases excluded), all found in Hugo's data; they are: *lukke* 'close' (seven registrations), *fortelle* 'tell' (three), *spise* 'eat' (three), *nusse* 'fondle' (one).

6.1.1 Hugo's verb lexemes

The following are verb lexemes for Hugo from 0;10 to 2;5 listed in chronological order of the first registration of each lexeme; in total 145 lexemes:

0;10 *titta* 'look' (11; uncertain first registration, next at 1;0) **[1]**

1;0 *gunga* 'swing' (9), *klappa* 'clap, pat' (5) **[2]**

1;4 *bada* 'bathe' (8), *hoppa* 'jump, hop' (5), *ploppa* 'plop' (1), *se* 'see' (6; uncertain first registration, next at 2;2), *åka* 'go (by), ride' (19) **[5]**

1;5 *gå* 'go/walk' (19), *stänga* 'close' (8), *torka* 'wipe' (8) **[3]**

1;6 *bita* 'bite' (3), *bygga* 'build' (5), *gråta* 'weep' (13), *krama* 'hug' (4), *laga* 'fix, mend' (3), *lasta* 'load' (2), *leka* 'play' (21), *lukke* 'close' (7) (Danish verb), *prutta* 'fart' (5), *regna* 'rain' (1), *rita* 'draw' (13), *simma* 'swim' (1), *slicka* 'lick' (2), *släppa* 'let go' (3), *spela* 'play' (8), *tappa* 'drop' (11), *trilla* 'tumble, fall' (16), *öppna* 'open' (5) **[18]**

1;7 *banka* 'bang, knock' (6), *bädda* 'make the bed' (1), *duscha* 'have a shower' (9), *hämta* 'fetch' (6), *kasta* 'throw' (3), *kittla* 'tickle' (1), *klättra* 'climb' (3), *komma* 'come' (24), *ligga* 'lie' (6), *läsa* 'read' (7), *sjunga* 'sing' (4), *slänga* 'throw (away)' (4), *smaka* 'taste' (3), *sova* 'sleep' (24), *sparka* 'kick' (2), *springa* 'run' (4), *äta* 'eat' (16) **[17]**

1;8 *bo* 'live' (1), *klippa* 'cut' (4), *kyssa* 'kiss' (1), *köra* 'drive' (9; uncertain first registration, next at 2;0), *låna* 'borrow' (2), *spise* 'eat' (3) (Danish verb) **[6]**

1;9 *kunna* 'can' (17), *vilja* 'want to' (18) **[2]**

1;10 *hänga* 'hang' (3), *knacka* 'knock' (1), *nysa* 'sneeze' (1), *säga* 'say' (8) **[4]**

1;11 *bajsa* 'poo' (10), *blunda* 'shut one's eyes' (1), *följa* 'follow' (1), *sitta* 'sit' (29), *vara* 'be' (59) **[5]**

2;0 *bränna* 'burn' (4), *dricka* 'drink' (8), *finnas* 'exist' (1), *fortelle* 'tell' (3) (Danish verb), *få* 'get' (17), *försvinna* 'disappear' (1), *göra* 'do, make' (11), *ha* 'have' (27), *kissa* 'wee' (7), *känna* 'feel' (2), *köpa* 'buy' (14), *landa* 'land' (1), *låsa* 'lock'

(2), *låta* ‘sound’ (3), *måla* ‘paint’ (5), *nusse* ‘fondle’ (1) (Danish verb), *slå* ‘hit’ (4), *spilla* ‘spill’ (4), *tända* ‘switch on’ (4), *vinka* ‘wave’ (3) **[20]**

2;1 *akta* ‘be careful with, beware’ (1), *baka* ‘bake’ (2), *blåsa* ‘blow’ (1), *dammsuga* ‘vacuum-clean’ (1), *fastna* ‘get stuck’ (1), *frysa* ‘feel cold’ (2), *fungera* ‘function’ (1), *förstå* ‘understand’ (1), *gräva* ‘dig’ (4), *gömma* ‘hide’ (4), *hosta* ‘cough’ (2), *hälla* ‘pour’ (2), *klistra* ‘paste’ (1), *klämma* ‘squeeze’ (2), *krypa* ‘crawl’ (2), *kräkas* ‘vomit’ (1), *måste* ‘must, have to’ (3), *orka* ‘manage’ (2), *packa* ‘pack’ (1), *prata* ‘talk’ (1), *pussas* ‘kiss’ (1), *ringa* ‘ring’ (2), *skola* ‘shall/will’ (34), *skriva* ‘write’ (2), *skruva* ‘screw’ (1), *sluta* ‘stop’ (1), *släcka* ‘switch off’ (2), *snöa* ‘snow’ (2), *stoppa* ‘stop’ (1), *stå* ‘stand’ (2), *ta* ‘take’ (3), *trampa* ‘tramp, tread’ (2), *trycka* ‘press’ (2), *tänka* ‘think’ (1) **[34]**

2;2 *backa* ‘back’ (2), *bubbla* ‘bubble’ (1), *båta* ‘boat’ (1) (neologism), *bära* ‘carry’ (2), *dansa* ‘dance’ (2), *flyga* ‘fly’ (2), *glömma* ‘forget’ (1), *heta* ‘be called’ (5), *hjälpa* ‘help’ (3), *jobba* ‘work’ (6), *klia* ‘itch, scratch’ (2), *skjuta* ‘shoot’ (1), *välta* ‘overturn’ (1) **[13]**

2;3 *bli* ‘become’ (2), *hålla* ‘hold’ (1), *höra* ‘hear’ (1), *ropa* ‘shout’ (2), *stickas* ‘be prickly’ (1), *studsa* ‘bounce’ (1), *tycka om* ‘like’ (1), *vila* ‘rest’ (1) **[8]**

2;4 *drömma* ‘dream’ (1), *ramla* ‘fall, tumble’ (1), *riva* ‘tear’ (1), *tanka* ‘tank’ (1) **[4]**

2;5 *berätta* ‘tell’ (1), *mata* ‘feed’ (1), *vakna* ‘wake up’ (1) **[3]**

6.1.2 Bruno’s verb lexemes

The following are verb lexemes for Bruno from 1;3 to 2;7 in chronological order based on the first registration of each lexeme; in total 109 lexemes:

1;3 *gunga* ‘swing’ (6), *torka* ‘wipe’ (3) **[2]**

1;6 *bita* ‘bite’ (5), *titta* ‘look’ (5) **[2]**

1;7 *akta* ‘be careful with, beware’ (5), *sitta* ‘sit’ (9), *åka* ‘go (by), ride’ (25) **[3]**

1;8 *banka* ‘bang, knock’ (2), *dricka* ‘drink’ (5), *klappa* ‘clap, pat’ (1), *klia* ‘itch, scratch’ (3), *plocka* ‘pick, gather’ (2), *regna* ‘rain’ (1), *ringa* ‘ring’ (3), *rita* ‘draw’ (6), *sparka* ‘kick’ (3), *stampa* ‘stamp’ (1), *tappa* ‘drop’ (5), *äta* ‘eat’ (10) **[12]**

1;9 *bajsa* ‘poo’ (4), *bygga* ‘build’ (11), *hjälpa* ‘help’ (3), *hosta* ‘cough’ (5), *kamma* ‘comb’ (1), *kasta* ‘throw’ (4), *knacka* ‘knock’ (1), *komma* ‘come’ (12), *läsa* ‘read’ (3), *spela* ‘play’ (5), *spilla* ‘spill’ (5), *ta* ‘take’ (11), *trilla* ‘tumble, fall’ (10) **[13]**

1;10 *sluta* ‘stop’ (1), *slå* ‘hit’ (3) **[2]**

1;11 *prata* ‘talk’ (2), *ramla* ‘fall, tumble’ (2), *stänga* ‘close’ (5), *vara* ‘be’ (30; uncertain first registration due to weak pronunciation; next at 2;1) **[4]**

2;0 *kunna* ‘can’ (7), *krossa* ‘crush’ (1), *låna* ‘borrow’ (2), *måste* ‘must, have to’ (1), *sova* ‘sleep’ (13), *tända* ‘switch on’ (1), *vilja* ‘want to’ (5) **[7]**

2;1 *glömma* ‘forget’ (2), *hälla* ‘pour’ (1), *klättra* ‘climb’ (1), *köpa* ‘buy’ (3), *måla* ‘paint’ (7), *prutta* ‘fart’ (2), *sjunga* ‘sing’ (3), *säga* ‘say’ (4), *tåla* ‘tolerate, bear’ (4) **[9]**

2;2 *bubbla* ‘bubble’ (3), *få* ‘get’ (5), *gå* ‘go/walk’ (9), *ha* ‘have’ (43), *leka* ‘play’ (12), *sätta* ‘put, place’ (2), *öppna* ‘open’ (2) **[7]**

2;3 *förstöra* ‘destroy’ (1), *göra* ‘do, make’ (10), *hitta* ‘find’ (1), *hända* ‘happen’ (3), *jobba* ‘work’ (2), *köra* ‘drive’ (1), *lägga* ‘put, lay’ (2), *ligga* ‘lie’ (3), *nysa* ‘sneeze’ (2), *ses* ‘see, meet’ (1), *skola* ‘shall/will’ (39), *skrika* ‘shout, scream’ (4), *skriva* ‘write’ (1), *stoppa* ‘stop’ (1), *stå* ‘stand’ (1), *tycka om* ‘like’ (1), *vakna* ‘wake up’ (2) **[17]**

2;4 *blåsa* ‘blow’ (1), *duka* ‘lay the table’ (1), *döda* ‘kill’ (1), *fråga* ‘ask’ (2), *försvinna* ‘disappear’ (1), *kissa* ‘wee’ (4), *smaka* ‘taste’ (2) **[7]**

2;5 *bada* ‘bathe’ (1), *ge* ‘give’ (2) **[2]**

2;6 *diska* ‘do the dishes’ (1), *hoppa* ‘jump, hop’ (3) **[2]**

2;7 *bli* ‘become’ (2), *cykla* ‘bike’ (1), *dela* ‘part, divide’ (1), *falla* ‘fall’ (1), *flyga* ‘fly’ (1), *förstå* ‘understand’ (1), *hämta* ‘fetch’ (1), *kladda* ‘make a mess’ (1), *klippa* ‘cut’ (1), *panga* ‘bang’ (2), *pussa* ‘kiss’ (1), *putta* ‘push’ (1), *sakna* ‘miss’ (1), *skjuta* ‘shoot’ (4), *slåss* ‘fight’ (1), *smälla* ‘bang’ (3), *spotta* ‘spit’ (3), *sticka* ‘prick’ (1), *trycka* ‘press’ (1), *tvätta* ‘wash’ (2) **[20]**

6.2 Frequent verb lexemes

The most frequent verb lexemes in the two data sets are to a large extent the same, and they are listed below. In the following section a frequent verb lexeme has been defined as a lexeme whose proportion of all tokens in one data set is at least one per

cent of all verb tokens, which means eight registrations or more for Hugo and five registrations or more for Bruno. (The data on Hugo consists of 772 verb tokens; the data on Bruno consists of 475 verb tokens.)

In the lists, token frequency in the entire data set is indicated (in bold) before the verb. Lexemes that appear in both diaries are underlined in the lists.

Hugo: Frequently registered verb lexemes for Hugo (eight registrations or more, a total of thirty lexemes):

59 *vara* 'be'
34 *skola* 'shall/will'
29 *sitta* 'sit'
27 *ha* 'have'
24 *komma* 'come', *sova* 'sleep'
21 *leka* 'play'
19 *gå* 'go/walk', *åka* 'go (by), ride'
18 *vilja* 'want to'
17 *få* 'get', *kunna* 'can'
16 *trilla* 'fall', *äta* 'eat'
14 *köpa* 'buy'
13 *gråta* 'cry', *rita* 'draw'
11 *göra* 'do', *tappa* 'drop', *titta* 'look'
10 *bajsa* 'poo'
9 *duscha* 'shower', *gunga* 'swing', *köra* 'drive'
8 *bada* 'bathe', *dricka* 'drink', *säga* 'say', *spela* 'play', *stänga* 'close', *torka* 'wipe'

Bruno: Frequently registered verb lexemes for Bruno (five registrations or more, a total of twenty-nine lexemes):

43 *ha* 'have'
39 *skola* 'shall/will'
30 *vara* 'be'
25 *åka* 'ride'
13 *sova* 'sleep'
12 *leka* 'play', *komma* 'come'
11 *ta* 'take', *bygga* 'build'

10 *äta* ‘eat’, *trilla* ‘fall’, *göra* ‘do’

9 *gå* ‘go/walk’, *sitta* ‘sit’

7 *kunna* ‘can’, *måla* ‘paint’

6 *gunga* ‘swing’, *rita* ‘draw’

5 *akta* ‘be careful with, beware’, *bita* ‘bite’, *dricka* ‘drink’, *få* ‘get’, *hosta* ‘cough’, *spela* ‘play’, *spilla* ‘spill’, *stänga* ‘close’, *tappa* ‘drop’, *titta* ‘look, *vilja* ‘want to’

As can be seen, twenty-two verb lexemes are found both among Hugo’s thirty most frequent verbs and among Bruno’s twenty-nine most frequent verbs. A probable effect of the slightly different foci of the two diaries – Hugo’s more focused on his general linguistic development, and Bruno’s more on matters related to temporality (cf. 2.1) – might be that the verb *ha* ‘have’ (which is mainly registered as a perfect auxiliary, not as a main verb) and the intentional future marker *skola* ‘shall/will’ appear more often for Bruno than for Hugo, while other modals as well as the copula (which most frequently appear in the present tense in everyday spoken language) appear more often for Hugo than for Bruno. (Note that the Danish use of the copula as temporal auxiliary in some linguistic contexts is not registered for any of the two boys.)

6.3 Verb lexemes that are common to both boys

The following list consists of the eighty verb lexemes that appear for both boys during the period investigated (i.e., up to 2;5 for Hugo and up to 2;7 for Bruno):

A *akta* ‘be careful with, beware’

B *bada* ‘bathe’, *bajsa* ‘poo’, *banka* ‘bang, knock’, *bita* ‘bite’, *bli* ‘become’, *blåsa* ‘blow’, *bubbla* ‘bubble’, *bygga* ‘build’

D *dricka* ‘drink’

F *flyga* ‘fly’, *få* ‘get’, *förstå* ‘understand’, *försvinna* ‘disappear’

G *glömma* ‘forget’, *gunga* ‘swing’, *gå* ‘go/walk’, *göra* ‘do, make’

H *ha* ‘have’, *hjälpa* ‘help’, *hoppa* ‘jump, hop’, *hosta* ‘cough’, *hälla* ‘pour’, *hämta* ‘fetch’

J *jobba* ‘work’

K *kasta* ‘throw’, *kissa* ‘wee’, *klappa* ‘clap, pat’, *klia* ‘itch, scratch’, *klippa* ‘cut’, *klättra* ‘climb’, *knacka* ‘knock’, *komma* ‘come’, *kunna* ‘can’, *köpa* ‘buy’, *köra* ‘drive’

L *leka* ‘play’, *ligga* ‘lie’, *låna* ‘borrow’, *läsa* ‘read’

M *måla* ‘paint’, *måste* ‘must, have to’

N *nysa* ‘sneeze’

P *prata* ‘talk’, *prutta* ‘fart’, *pussas* ‘kiss’

R *ramla* ‘fall, tumble’, *regna* ‘rain’, *ringa* ‘ring, phone’, *rita* ‘draw’

S *sitta* ‘sit’, *sjunga* ‘sing’, *skjuta* ‘shoot’, *skola* ‘shall/will’, *skriva* ‘write’, *sluta* ‘stop’, *slå* ‘hit’, *smaka* ‘taste’, *sova* ‘sleep’, *sparka* ‘kick’, *spela* ‘play’, *spilla* ‘spill’, *stoppa* ‘stop, put’, *stå* ‘stand’, *stänga* ‘close’, *säga* ‘say’

T *ta* ‘take’, *tappa* ‘drop’, *titta* ‘look’, *torka* ‘wipe’, *trilla* ‘tumble, fall’, *trycka* ‘press’, *tycka om* ‘like’, *tända* ‘switch on’

V *vakna* ‘wake up’, *vara* ‘be’, *vilja* ‘want to’

Å *åka* ‘go (by), ride’

Ä *äta* ‘eat’

Ö *öppna* ‘open’

The eighty lexemes that are common to both boys total 624 verb tokens for Hugo and 427 verb tokens for Bruno. Common verbs for Hugo thus correspond to 81% (624/772) of all verb tokens; common verbs for Bruno correspond to 90% (427/475) of all verb tokens. I take this as an indication that there exists a core body of early verbs for the boys investigated.

6.3.1 The relationship between common and unique verbs

In order to determine whether there is a core body of early verbs common to both boys, I have examined the chronological development of the relationship between verbs that are common to both boys and verbs that are unique to each boy. The result is presented in Table 10. The pattern is distinct: the number of unique verbs in each boy increases over time, while naturally always being much higher for Hugo than for Bruno.

Interestingly, there is a break in the trend at 2;3 for both boys, which can be seen most clearly for Bruno. For Hugo the share of unique verbs varies between 25% and 53% before 2;3, while it rises to between 67% and 75% from 2;3 and later. For Bruno the share of unique verb lexemes remains around 15% before 2;3 and then rises to at

least double that from 2;3 and later. This means that for Bruno the increased number of unique lexemes coincides with the second verb spurt.

Table 10. Common and unique verbs among accumulated verb lexemes per month for Hugo and Bruno.

Age	Hugo				Bruno			
	New verbs	Common verbs	Unique verbs	*% u. verbs*	New verbs	Common verbs	Unique verbs	*% u. verbs*
0;10	1	1						
1;0	2	2						
1;3	0	0			2	2		
1;4	5	3	2	*40*	0	0		
1;5	3	3	0		0	0		
1;6	18	10	8	*44*	2	2		
1;7	17	12	5	*29*	3	3		
1;8	6	3	3	*50*	12	10	2	*17*
1;9	2	2	0		13	12	1	*8*
1;10	4	3	1	*25*	2	2	0	
1;11	5	3	2	*40*	4	4	0	
2;0	20	11	9	*45*	7	6	1	*14*
2;1	34	16	18	*53*	9	8	1	*11*
2;2	13	7	6	*46*	7	6	1	*14*
2;3	8	2	6	• *75*	17	11	6	• *35*
2;4	4	1	3	*75*	7	4	3	*43*
2;5	3	1	2	*67*	2	1	1	*50*
2;6					2	1	1	*50*
2;7					20	8	12	*60*
∑	145	80	65	*45*	109	80	29	*27*

Key to Table 10:
New verbs – the total number of new verb lexemes registered during a month
Common verbs – verb lexemes used by both boys
Unique verbs – verb lexemes used by either boy
% u. verbs – portion of unique verb lexemes out of all new verb lexemes registered during one month
• – indicates where there is a break in the trend

If the data is divided into two parts, the proportion of unique verbs of all new lexemes registered is for Hugo 33% (21/63) before 2;0 and 54% (44/82) after 2;0. (The proportion of unique verbs in the entire data set for Hugo is 45% (65/145).) The corresponding figures for Bruno indicate that 8% (3/38) of new lexemes registered before 2;0 are unique to him, while 37% (26/71) are unique after 2;0. (The proportion of unique verbs in the entire data set for Bruno is 27% (29/109).) Since Bruno is later in his development than Hugo, the data might be more telling if the set were divided

at a later point in time. This operation does not change the overall pattern, however. The proportion of unique verbs for Bruno before 2;3 is 10% (6/61); from 2;3 and later it is 48% (23/48).

The tendency for the proportion of unique verbs to increase with age for both boys can have two possible explanations: **A)** With an increasing number of utterances containing verbs produced by the child, the diarist notices fewer and fewer of them. **B)** With an increasing number of verb lexemes, the two boys develop more and more individual lexica. Both explanations are plausible, and regardless of what is the strongest underlying factor, it is possible to conclude that there is a body of very early verbs that are common to the two boys. At the same time, the pattern indicates that the data on Bruno is reasonably valid. Because the data on Bruno is less extensive than the data on Hugo, the presence of denser data in later months for Bruno could have the effect of merely "filling in the gaps" in his verbal lexicon as compared to Hugo's. Even if this may be true to some extent, the increasing number of unique verbs over time indicates that the notes on Bruno are equally representative of his linguistic production during different parts of the period under investigation.

6.3.2 Chronological patterns among common verbs

Among the eighty verbs that are common to both boys some chronological patterns can be discerned. In the following tables the lexemes are organised according to how early/late they show up, using the periods established in 4.2.4. Of greatest interest are of course verbs that display the same pattern for both boys.

Table 11. Very early verbs for both boys (i.e., verbs registered before the first verb spurt for both boys (before 1;6 for Hugo and before 1;8 for Bruno); four in total).

Lexeme	First H	First B	Tokens H	Tokens B
titta 'look'	0;10 / 1;0	1;6	11	5
gunga 'swing'	1;0	1;3	9	6
åka 'go (by), ride'	1;4	1;7	19	25
torka 'wipe'	1;5	1;3	8	3

Key to Table 11:
First H/First B – first registration of the verb lexeme for Hugo or for Bruno
Tokens H/Tokens B – all tokens of the lexeme in the entire data set on Hugo or on Bruno

As we can see from Table 11, there are few very early verb lexemes that the boys have in common. These verb lexemes are phonetically simple and have a disyllabic infinitive in adult language. The verbs denote activities that involve the entire body, the hands or the eyes. Of course, it can be disputed if *titta* 'look' at this early stage has the status of a verb or instead is an interjection.

In Table 12 (actually Tables 12A to 12F), all verbs that can be regarded as early verbs, although not very early verbs, are presented. These verb lexemes (fifty in total) were registered before Period 3 in one or both boys (i.e., before 2;0 for Hugo; before 2;3 for Bruno).

12A. Early verbs for both boys (before 1;8 for Hugo; before 1;10 for Bruno; fourteen in total).

Lexeme	First H	First B	Tokens H	Tokens B
klappa 'clap, pat'	1;0	1;8	5	1
bita 'bite'	1;6	1;6	3	5
regna 'rain'	1;6	1;8	1	1
rita 'draw'	1;6	1;8	13	6
tappa 'drop'	1;6	1;8	11	5
bygga 'build'	1;6	1;9	5	11
spela 'play'	1;6	1;9	8	5
trilla 'tumble, fall'	1;6	1;9	16	10
banka 'bang, knock'	1;7	1;8	6	2
sparka 'kick'	1;7	1;8	2	3
äta 'eat'	1;7	1;8	16	10
kasta 'throw'	1;7	1;9	3	4
komma 'come'	1;7	1;9	24	12
läsa 'read'	1;7	1;9	7	3

The verbs examined in Table 12A are typical of the first verb spurt (even if one or two of them show up even earlier for each boy). They all have a disyllabic infinitive in adult language. Semantically they are quite diverse, since we find typical activity verbs (*banka* 'bang, knock', *klappa* 'clap, pat') as well as telic verbs (*bygga* 'build', *kasta* 'throw'). We find transitive verbs and activities that involve an instrument. One can conclude that verbs display semantic variety already from the very beginning.

12B. Mixed pattern: early verbs for one boy; semi-late for the other (appearing before the second verb spurt for both boys; before 2;0 for Hugo and before 2;3 for Bruno; eleven in total).

Lexeme	First H	First B	Tokens H	Tokens B
stänga ‘close’	**1;5**	1;11	8	5
gå ‘go/walk’	**1;5**	2;2	19	9
prutta ‘fart’	**1;6**	2;1	5	2
leka ‘play’	**1;6**	2;2	21	12
öppna ‘open’	**1;6**	2;2	5	2
sova ‘sleep’	**1;7**	2;0	24	13
klättra ‘climb’	**1;7**	2;1	3	1
sjunga ‘sing’	**1;7**	2;1	4	3
knacka ‘knock’	1;10	**1;9**	1	1
sitta ‘sit’	1;11	**1;7**	29	9
bajsa ‘poo’	1;11	**1;9**	10	4

The verbs in Table 12B belong to the first verb spurt in one of the boys but not in the other. Here we find a verb with a monosyllabic infinitive in adult language (*gå* ‘go/walk’) and the first posture verb (*sitta* ‘sit’).

12C. Mixed pattern: early verbs for Hugo; late verbs for Bruno (before the second verb spurt for Hugo, but not for Bruno; eight in total).

Lexeme	**First H**	First B	Tokens H	Tokens B
bada ‘bathe’	1;4	2;5	8	1
hoppa ‘jump, hop’	1;4	2;6	5	3
ligga ‘lie’	1;7	2;3	6	3
smaka ‘taste’	1;7	2;4	3	2
hämta ‘fetch’	1;7	2;7	6	1
köra ‘drive’	1;8 / 2;0	2;3	9	1
klippa ‘cut’	1;8	2;7	4	1
nysa ‘sneeze’	1;10	2;3	1	2

12D. Mixed pattern: early verbs for Bruno; late verbs for Hugo (before the second verb spurt for Bruno, but not for Hugo; twelve in total).

Lexeme	First H	**First B**	Tokens H	Tokens B
akta ‘be careful’	2;1	1;7	1	5
dricka ‘drink’	2;0	1;8	8	5
ringa ‘ring, phone’	2;1	1;8	2	3
klia ‘itch, scratch’	2;2	1;8	2	3
spilla ‘spill’	2;0	1;9	4	5
hosta ‘cough’	2;1	1;9	2	5
ta ‘take’	2;1	1;9	3	11
hjälpa ‘help’	2;2	1;9	3	3
slå ‘hit’	2;0	1;10	4	3
sluta ‘stop’	2;1	1;10	1	1
prata ‘talk’	2;1	1;11	1	2
ramla ‘fall, tumble’	2;4	1;11	1	2

Tables 12C and 12D tell us that the “fill-in-the-gaps” tendency is not stronger for Bruno than for Hugo – rather the opposite in fact. This means that later registrations for Bruno do not merely compensate for poorer registrations at the beginning of the period investigated.

12E. Semi-late verbs for both boys (appearing after the first verb spurt for both boys, but before the second verb spurt; five in total).

Lexeme	First H	First B	Tokens H	Tokens B
låna ‘borrow’	1;8	2;0	2	2
kunna ‘can’	1;9	2;0	17	7
vilja ‘want to’	1;9	2;0	18	5
säga ‘say’	1;10	2;1	8	4
vara ‘be’	1;11	1;11 / 2;1	59	30

The verbs in Table 12E are most interesting. They belong to Period 2, i.e., the lacuna between the verb spurts. Three of them are functional verbs, either modals (*kunna* ‘can’, *vilja* ‘want to’) or the copula (*vara* ‘be’). Obviously these verbs show up in the preliminary stages to the grammar burst for both boys. As we shall see in Chapter 9, the functional verbs that emerge during the lacuna between the verb spurts do not become frequent until later, i.e., during the grammar burst.

12F. Late verbs for Hugo; semi-late verbs for Bruno (i.e., verbs registered from the second verb spurt and later for Hugo, but before the second verb spurt for Bruno (still clearly after Bruno's first verb spurt); nine in total).

Lexeme	First H	First B	Tokens H	Tokens B
tända 'switch on'	2;0	2;0	4	1
måste 'must, have to'	2;1	2;0	3	1
köpa 'buy'	2;0	2;1	14	3
måla 'paint'	2;0	2;1	5	7
hälla 'pour'	2;1	2;1	2	1
glömma 'forget'	2;2	2;1	1	2
få 'get'	2;0	2;2	17	5
ha 'have'	2;0	2;2	27	43
bubbla 'bubble'	2;2	2;2	1	3

The verbs in Table 12F can also be regarded as "prelude-to-the-grammar-burst verbs". We find two more functional verbs here: the modal *måste* 'must, have to' and the perfect auxiliary *ha* 'have'. *Få* 'get' can also be regarded as a functional verb in some contexts in adult Swedish; it can for instance act as a modal (meaning 'be allowed to'). We find four transitional verbs (i.e., achievements) among the verbs in Table 12F: *tända* 'switch on', *köpa* 'buy', *glömma* 'forget', *få* 'get'.

Table 13. Late verbs for both boys (i.e., lexemes that were registered from 2;0 for Hugo and from 2;3 for Bruno; seventeen in total).

Lexeme	First H	First B	Tokens H	Tokens B
göra 'do, make'	2;0	2;3	11	10
försvinna 'disappear'	2;0	2;4	1	1
kissa 'wee'	2;0	2;4	7	4
skola 'shall/will'	2;1	2;3	34	39
skriva 'write'	2;1	2;3	2	1
stoppa 'stop, put'	2;1	2;3	1	1
stå 'stand'	2;1	2;3	2	1
blåsa 'blow'	2;1	2;4	1	1
förstå 'understand'	2;1	2;7	1	1
pussa(s) 'kiss'	2;1	2;7	1	1
trycka 'press'	2;1	2;7	2	1
jobba 'work'	2;2	2;3	6	2
flyga 'fly'	2;2	2;7	2	1
skjuta 'shoot'	2;2	2;7	1	4
tycka om 'like'	2;3	2;3	1	1
bli 'become'	2;3	2;7	2	2
vakna 'wake up'	2;5	2;3	1	2

Among late verbs we find some mental state verbs for the first time (*förstå* 'understand', *tycka om* 'like'). We also find the transitional copula *bli* 'become' and the intentional future marker *ska* 'shall/will'.

Conclusion: It is possible to discern groups of verbs common to both boys that can be linked to Period 1 (Tables 11 and 12A), to Periods 1 or 2 (Table 12B), to Period 2 (Tables 12E and 12F) and to Period 3 (Table 13). (The periods are defined in 4.2.4.) A truly mixed pattern (involving both Periods 1 and 3) is only found involving a minor group of common verbs (presented in Tables 12C and 12D). This means that, out of eighty common verbs, sixty show a similar chronological pattern in the case of both boys, while twenty do not show a coherent temporal pattern. I take this as an indication that it is possible to discern quite distinct chronological tendencies in the emergence of new verbs. Groups of verbs are clearly linked to Periods 1, 2 and 3, respectively, in the two boys. Naturally it would be very interesting to see if the same groups of verbs are found during the same time spans in other children acquiring Swedish.

An important finding is that many functional verbs show up for the first time in Period 2, i.e., in the lacuna between the verb spurts. This means that the first appearance of functional verbs is found in the stages preliminary to the grammar burst. Note that all functional verbs display the same temporal pattern for both boys. The earliest modals (*vilja* 'want to' and *kunna* 'can) as well as the copula (*vara* 'be') are semi-late in the case of both boys (Table 12E); the next modal (*måste* 'have to') shows up somewhat later, during the same period as the first instances of the perfect auxiliary (*ha* 'have'; Table 12F). The intentional future marker *ska* 'shall/will' and the transitional copula *bli* 'become' are late verbs in the case of both boys (Table 13).

7 Verb units

In order to carry out syntactic analyses (for instance the subject analysis in Chapter 11), the data has been organised in terms of verb units, defined as linguistic strings comprising at least one item that corresponds to a target verb. Modals, auxiliaries, coordinated verbs and subordinated infinitival phrases are kept within the verb unit; (possible) subordinated clauses – which are very few – are regarded as independent units of their own. At a systemic level a verb unit is thus a clause equivalent, regardless of whether it has a finite verb and a subject or not.

7.1 Verb units in the data

An overview of the verb units in the data is presented in Tables 14A and 14B. Note that entries in the diary that do not quote actual utterances but only comment on the presence or frequency of a certain verb lexeme or verb form are also treated as verb units. If a verb unit contains more than one verb, only the first verb is presented in the subject analysis, see Chapter 11.

Table 14A. Verb units for Hugo.

	Verb unit	Verb tokens	Type of two- or three-verb unit	N
One-verb units	586	586		
Two-verb units	90	180	Modal or semi-modal + V	57
			Perfect auxiliary + V	18
			Copula + V	6
			Coordination: V + V	8
			V + Subordinated infinitival phrase	1
Three-verb units	2	6	Modal + V + V	1
			Coordination: V + V +V	1
∑	678	772		92

Table 14B. Verb units for Bruno.

	Verb unit	Verb tokens	Type of two-verb unit	N
One-verb units	323	323		
Two-verb units	76	152	Modal or semi-modal + V	37
			Perfect auxiliary + V	34
			Copula + V	1
			Coordination: V + V	2
			V + Subordinated infinitival phrase	2
∑	399	475		76

The data for Hugo consists of 678 verb units. Ninety of these units consist of two verbs each; two of them consist of three verbs. The total number of verb tokens presented in this study for Hugo is 772. The data for Bruno consists of 399 verb units. Seventy-six of these units consist of two verbs each. The total number of verb tokens presented for Bruno in the study is 475.

For Hugo there are twelve possible subordinate clauses; for Bruno there are thirteen. These clauses are examined in 10.2 ("Subordinate clauses").

7.2 Verb units with coordinated verbs

In the early language of each boy there are some instances of verbs that seem to be coordinated even if there is no explicit conjunction reported. Naturally it is hard to decide whether such an utterance consists of two independent verb units or of one verb unit consisting of a coordination of two verbs.

The following constructions have either been commented on as coordinations in the diary or display a target-like or close to target-like structure and are thus treated as coordinations in Table 14.

Hugo (eight instances): "gå gunna" [go swing] (1;7); "Matti komma leka" [M come play] (1;11); "pojke gå in, stängat" [boy go in, closed] (2;1); "fa sitta där å körrr" [father sits there and drives] (2;2); "ja sitta vagn, äta, sitta vagn, bita" [I sit pram, eat, sit pram, bite] (2;2; = 2 verb units with coordination in one utterance); "tanten sitta dä å köö" [lady.the sits there and drives] (2;3); "dickit upp å leka" [drunk.SUP up and play] (2;3). One may conclude that Hugo uses some precursors to a specific Swedish construction with a progressive meaning, a posture verb coordinated with a main verb (the so called "pseudo-coordination", cf. *Svenska*

Akademiens Grammatik [the Swedish Academy Grammar] (Teleman et al. 1999)), a target-like example being *Han sitter och läser* [he sits and reads] 'he is reading'.

Bruno (two instances): "akta, åka" [beware, ride.on] (1;7; in the diary labelled as a "two-word phrase"); "ha du fäädit nu å diska?" [have you finished now and/to do.the.dishes] (2;6; the utterance is odd and might equally well be analysed as comprising an infinitival phrase). Target would have been: *Har du diskat färdigt nu?* He might have confused "färdit" with a supine form.

Only Hugo used verb units with three verbs (two instances): "man kan öppna, tänga" [one can open, close] (2;1); "å mo duschade å duschade å duschade" [and mother showered and showered and showered] (2;5; as a part of a narrative; this is the only utterance in the data where a coordination – as in adult oral narratives – signals that an activity is protracted.)

The following type of utterances are analysed as consisting of two verb units since there is no self-evident target-like construction with a coordination: "slut välling moo, dickit" [finished gruel mother, drunk.SUP] (H 2;0); "gåtit sova den" [cried.SUP sleep that] (H 2;1); "gåtit, gåtit, sova egen säng" [cried.SUP, cried.SUP, sleep own bed] (H 2;1); "de e kallt, fyså" [it is cold, freeze.PRES] 'it is cold, I'm cold' (H 2;1); "sitta där, (h)on sittå där" [sit.INF there, she sits.PRES there] (H 2;1). Naturally it is to some extent a matter of interpretation which verb strings are analysed as independent verb units and which are regarded as being included in a coordination. (Note that a consequence of the analysis of a verb as the second (or third) verb in a coordination is that the verb is not treated as a null subject verb unit in the subject analysis.)

7.3 Verb units with subordinated infinitival phrases

In the data there is only one (almost) target-like subordinated infinitival phrase: "ja tycke om klättra" 'I like climbing' (H 2;3; note that the infinitival marker *att* 'to' is lacking; target would be *jag tycker om att klättra*). Bruno displays two instances of verb phrases treated as nouns: "hä komme äta maten" [here comes eat food.the] 'here comes the food' (B 1;10); "ja lekte, mamma, ja lekte spela dato, mamma" [I played, mummy, I played play computer, mummy] (B 2;2). In Table 14B these two utterances are treated as infinitival phrases. For Hugo we find a similar mix-up between verbs and nouns in "de e *Hugos äta" [that is Hugo's eat] (H 2;1) 'that is Hugo's food'.

This utterance is treated as a copula clause with a non-target-like verbal complement, cf. Table 14A. It is remarkable that both boys treat the verb *äta* 'eat' as a noun. Perhaps the verb is more important to them than the corresponding noun for 'food', which is *mat* in adult Swedish.

We may conclude that infinitival phrases are not acquired during the period investigated in either boy.

8 Pronouns

Pronouns are the only functional words, apart from functional verbs, to reach a stage at which they can be said to be, in some sense, acquired within the period investigated. The pronouns at issue are, above all, personal pronouns, and there are only a limited number of these. The acquisition of personal pronouns seems to be closely related to the acquisition of functional verbs, in that it is possible to distinguish a group of frequent main-clause starters consisting of monosyllabic pronouns in combination with monosyllabic functional verbs. This specific relation will be examined in Chapter 12.

Here I will describe the development of pronouns in various kinds of context, not in relation to functional verbs alone. An important goal in this chapter will be to estimate to what extent pronouns can be said to be a productive part of the children's linguistic capacity at the end of the period investigated. As will be shown, many pronouns first appear in larger segments that display various signs of being holophrastic or rote-learned. Some of them manage to achieve a more context-independent status during the period investigated – others do not.

8.1 The set of pronouns for Hugo and Bruno

The following pronouns have been registered for Hugo (twenty-three in total) (bold figures indicate tokens in the entire set of data): **85** *jag* 'I'; **49** *den* 'it/that' (common gender); **40** *det* 'it/that' (neuter gender); **23** *vi* 'we'; **15** *mig* 'me'; **14** *dig* 'you' (second person singular, object form); **13** *man* 'one/you' (general pronoun); **10** *du* 'you' (second person singular, subject form), *hon* 'she', *ingen* 'nobody/no one/none'; **5** *en* 'a/an' (indefinite article, common gender); **3** *alla* 'everybody/everyone', *dom* 'they', *han* 'he', "nåt" *något* 'something', "nånting" *någonting* 'something', *själv* 'self'; **2** *min* 'mine', *många* 'many', *sig* 'oneself/himself/herself/itself', *sin* 'his/her/its' [possessive reflexive pronoun]; **1** *hennes* 'her', *honom* 'him'.

The following pronouns have been registered for Bruno (twenty-three in total): **129** *jag* 'I'; **25** *vi* 'we'; **23** *den* 'it/that'; **17** *det* 'it/that'; **10** *mig* 'me'; **8** *ingen* 'nobody/no

one/none'; **7** *du* 'you', *min* 'my'; **4** *en* 'a/an' (indefinite article, common gender); **3** *dig* 'you', *han* 'he'; **2** *man* 'one/you', *många* 'many', "nån" *någon* 'somebody/ someone'; **1** *alla* 'all' 'everybody/everyone', *allihopa* 'everybody/everyone', *annan* 'another', *båda* 'both', *ditt* 'your', *ett* 'a/an' (indefinite article, neuter gender), *hon* 'she', *sig* 'oneself/himself/herself/itself', *själv* 'self'.

The two lists are strikingly similar, the five most frequent pronouns for both boys being the personal pronouns 'I', 'it/that' (common and neuter gender), 'we' and 'me'. Their pronominal lexicons are equally large (twenty-three lexemes each), but when it comes to token frequency, Bruno uses more pronouns than Hugo, favouring especially the pronoun *jag* 'I'.

As can be seen from this, the indefinite article is included among the pronouns. The definite article is not found in the vocabulary of either boy, but the homonymous demonstrative pronoun is registered six times for Hugo (always in the common gender form *den* 'that', regardless of the gender of the noun) and once for Bruno. The indefinite article is registered five times for Hugo (from 2;0 to 2;3), always in common gender (*en*). It is also found once in the Danish holophrase "gi maj et koos" *giv mig et kys* 'give me a kiss' (H 2;1). The indefinite article is registered five times for Bruno (from 2;3 to 2;7), for instance in "en mus a joot ett hål" [a mouse has made a hole] (B 2;4; when he saw that there was a small hole in a dish-cloth). In two registrations there is a lack of agreement between the article and the head noun: "ja byggt en sto sto hus" [I built a big big house] (target: *ett stort hu*s) (B 2;3); "en tåg" (target: *ett tåg*) 'a train' (B 2;6).

8.2 Chronological development of frequent pronouns

In Tables 15A and 15B the registration over time of the most frequent pronouns is illustrated, the criterion for a frequent pronoun being that it appears ten times or more for Hugo **or** seven times or more for Bruno. The following pronouns match this criterion: Personal pronouns: first person: *jag* 'I' (subject pronoun, singular); *mig* 'me' (object pronoun, singular); *min* 'my' or 'mine' (possessive pronoun, common gender); *vi* 'we' (subject pronoun, plural); second person: *du* 'you' (subject pronoun, singular); "dej" *dig* 'you' (object pronoun, singular); third person: *den* 'it' (subject and object pronoun, singular, inanimate, common gender); "de" *det* 'it' (subject and

object pronoun, singular, inanimate, neuter gender); *han* 'he' (subject pronoun, singular, animate, masculine); *hon* 'she' (subject pronoun, singular, animate, feminine) (the animate pronouns in the third person singular are so few that they are grouped together in Tables 15A and 15B). Other pronouns: *ingen* 'nobody/no one/none'; *man* 'one/you' (generic pronoun, third person singular). The last column in the tables shows the proportion of frequent pronouns among all word tokens registered during one month.

Table 15A. Registration of frequent pronouns per month for Hugo.

	1st person N 125 = 46%				2nd person N 24 = 9%		3rd person N 102 = 37%			Other N 23 = 8%		∑	*% of all tokens*
	jag	mig	min	vi	du	dig	den	det	han, hon	ing-en	man		
1;6						1		1				2	*2*
1;7						2		1				3	*2*
1;8			1			1						2	*3*
1;9						2						2	*12*
1;10	1	1										2	*4*
1;11	2		1				3			1		7	*12*
2;0	1	2					10	1		2		16	*7*
2;1	10	6		3	4	2	16	15	7	4	6	73	*12*
2;2	20	3		6		1	14	6	5	1	6	62	*19*
2;3	23	2		9	1	3	6	12		2	1	59	*24*
2;4	12			4	4	2		1				23	*20*
2;5	16	1		1	1			3	1			23	*20*
	85	15	2	23	10	14	49	40	13	10	13	274	*12*

The group of frequent pronouns amounts to 274 tokens out of a total of 302 pronoun tokens for Hugo (= 91%) and to 235 tokens out of a total of 251 pronoun tokens for Bruno (= 94%). During the first verb spurt there are very few pronouns, while the months from 1;9 to 2;1 for Hugo and 1;10 to 2;1 for Bruno seem to constitute an initial approach to the development during the grammar burst. For both boys the proportion of frequent pronouns (out of all tokens registered) stabilises at about 20% at 2;2. We can thus detect three stages in the acquisition of pronouns: **A.** Some pronouns are registered but less than 5% of all tokens are pronouns (Hugo: 1;6 to 1;8 and Bruno: 1;8 to 1;9). **B.** Pronouns amount to roughly 10% of all tokens (Hugo 1;9 to 2;1 and Bruno 1;10 to 2;1). **C.** Pronouns amount to around 20% of all tokens (Hugo

2;2 to 2;5 and Bruno 2;2 to 2;7). When it comes to the production of pronouns, Bruno is apparently as early as Hugo.

Table 15B. Registration of frequent pronouns per month for Bruno.

	1st person N 171 = 73%				2nd person N 10 = 4%		3rd person N 44 = 19%			Other 10 = 4%		∑	*% of all tokens*
	jag	mig	min	vi	du	dig	den	det	han, hon	ing-en	man		
1;8			1									1	*2*
1;9	1	1				1				2		5	*5*
1;10		2								1		3	*9*
1;11	3	1										4	*17*
2;0	2						1					3	*16*
2;1	4				1			2				7	*10*
2;2	12		1	2			3	1		1	2	22	*25*
2;3	24	2		9			4	2		1		42	*19*
2;4	31		2	4	2	1	6	11		1		58	*22*
2;5	9	1	2	3	1		3		1	2		22	*21*
2;6	2			1	2	1			1			7	*13*
2;7	41	3	1	6	1		6	1	2			61	*20*
	129	10	7	25	7	3	23	17	4	8	2	235	*17*

As can be seen from Tables 15A and 15B, first-person pronouns are the most frequent type of pronouns (especially for Bruno), followed by third-person pronouns, among which inanimate pronouns clearly dominate. The most frequent single pronoun for both boys is *jag* 'I'. It amounts to 28% of all pronouns for Hugo (85/302) and to 51% for Bruno (129/251). Already before 2;6, *jag* is registered eighty-six times for Bruno, as compared to Hugo's eighty-five registrations before 2;6 out of twice as many tokens. For Hugo the number of observations increases at 2;1–2;2, while for Bruno this happens at 2;2–2;3, although for Bruno the pronoun is reported to be heard regularly already at 1;11, which means that he appears to have been as early as Hugo when it comes to the production of the pronoun *jag* – or perhaps even earlier. The earliest first-person pronoun is not *jag*, however, but *min* 'my/mine' for both boys. In the following section, the development of personal pronouns will be described in some detail, starting with first-person pronouns.

8.3 First-person pronouns

8.3.1 Non-subject pronouns: *min* 'my/mine', *mig* 'me'

For Bruno there is a possible precursor to the first-person pronouns. In the diary there are nine registrations of the syllable "me" or "mi", three distributed from 1;4 to 1;8 and six registered during 1;9. The first registration is quoted here in its entirety: "He has begun to say 'me' [interpreted as *mer?* 'more', with a question mark] as soon as he wants something to eat or drink." (B 1;4). The next two observations are from lists of words that he regularly used at the time: "me/mi" (B 1;5; interpreted at the time of registration as *jag vill ha (mer)* 'I want (more)' or *min* 'my/mine'; "mi" (B 1;6; interpreted as *min* 'my/mine' or *ge mig* 'give me'). At 1;9 "mer bok" [more book] is taken down, without comment or interpretation, the string being non-target-like because the noun is in the singular form. (The only other registration of *mer* 'more' in an attributive function in the data on Bruno is from 2;4: "mer saft" [more fruit.drink].) Also at 1;9 we find "mamma gunga me" [mummy swing more/me], with the comment "three-word phrase"; the interpretation of "me" having a question mark added. The last three registrations, all from 1;9, have "me" in a pre-verbal position, "me gunga" (B 1;9; interpreted as *jag gunga* [I swing] or *mer gunga* [more swing]), "me bajsat" [I pooed] (B 1;9), "me dickat" (B 1;9; repeatedly; interpreted as *mer att dricka* [more to drink.VERB] or *mer dryck* [more drink.NOUN] with a question mark. An alternative analysis is that "drickat" is a supine form of the verb *dricka* 'drink'. To one of the quotes has been added, "He often says [the Swedish syllable] 'me' where *jag* [I] would have been target-like".

As can be seen, the earliest registrations have been interpreted as either *mer* 'more' (of something that he wanted) or *min* 'my/mine'. Later registrations have more often been interpreted as *mig* 'me' or *jag* 'I' in the diary. The pragmatic situations in which the utterances were observed are often self-centred; Bruno uttered the syllable "me/mi" when he wanted something. A plausible linguistic contribution from the adult in situations involving eating or drinking is the question "Vill du ha mer?" [want you have more] 'would you like some more?'. This might be the link to the lexeme *mer* 'more'. Two first-person pronouns that come close structurally to the syllable "me/mi" are the object pronoun *mig* 'me' and the possessive pronoun *min* 'my/mine'. At 1;8 "min bil" 'my car' is found in a list of words – without further comment. Other instances of *min* are only registered from 2;2 and later, when this word is found also

in the plural form, “mina”. At 1;9 the first instances of *mig* ‘me’ can be found in combination with transitive verbs, the following entry being the first observation: “‘jäppa mä(j)’ *hjälpa mig* [help.INF me]. Must have been picked up at the day care centre, often heard; another favourite: ‘akta dig’ [be.careful you, i.e. be careful], also from the day care.” Why I regarded these phrases as rote-learned, as having been picked up from other children, is not explained, but obviously they made that impression on me at the time. If these observations are correct, it means that the first instances of *mig* ‘me’ show up in holophrases. At 1;10 there are two more observations, neither of these with the comment that the accompanying utterances seem holophrastic; for instance, “sluta pappa jälpa mäj” [stop daddy help.INF me] (B 1;10; when his daddy was helping him climb the stairs). At 1;11 it is noted that Bruno quite often speaks of himself as either “ja” or “maj” (cf. below). The first (and only) instance of *mig* after a preposition is found at 2;3: “pappa ka sitta dä bakom mej” [daddy shall sit there behind me] (in the car).

Even if the data is sparse, a reasonable interpretation may be that the syllable “me/mi” initially is a merge between the object pronoun *mig*, the possessive pronoun *min* and probably also the quantitative pronoun *mer* ‘more’, a merge that at 1;9 – and only for a short while – develops into a first-person marker that can function in a pre-verbal position as a stand-in for the subject pronoun *jag*. At approximately 1;11 the target-like subject pronoun *jag* ‘I’ turns up, and *mig* and *min* are presumably limited to their typical contexts (even if this part of the process is hard to follow due to limited data). A corresponding pattern, with the object pronoun in a pre-verbal position and with a subject function, cannot be identified for Hugo, but it is reported for many Danish children (Thomsen, oral information), who often keep using the object pronoun in subject contexts for a long time. To my knowledge, it has not been described in other Swedish children.

For Hugo the pronoun *min* ‘my/mine’ is only quoted twice in the diary, but at 1;8 it is observed that he “for a long time” has said “min” ‘my/mine’ when referring to his toys. At 1;11 the non-target-like form “mins” [mine’s] has been registered several times during one occasion (in the utterance “den e mins” [it is mine’s], when referring to different toys at the municipal library). The object pronoun shows up once with a transitive verb at 1;10 (“tokka mej” [wipe me]) and then more regularly from 2;0. The combination of a preposition and this pronoun is found at 2;1 (*till mig* ‘to me’, three

registrations). The first-person object pronoun is also found once in the Danish holophrase “gi maj et koos” ‘give me a kiss’ (H 2;1).

For Hugo some entries reveal that the deictic direction of the pronouns can cause problems. At 2;2 he said “mo ska hjälpa dej” [mother shall (or will) help you] a couple of times during the same day, when he wanted me to help him. Only a few days later did he get the pronoun right: “mo ska hjälpa mej” [mother shall (or will) help me] (H 2;2). At 2;3 it is reported that he regularly exhorted me to carry him while we were outside by saying, “bära dej” [carry.INF you], target would be *bär mig* [carry.IMP me] or *du ska bära mig* [you shall (or will) carry.INF me]. A month earlier, a target-like construction is nevertheless to be found with the same verb: “mo bä(r)a maj hela tiden” [mother carry me all time.the] (H 2;2; when I was making his gruel in the morning and did not want to carry him at the same time). Naturally, “bära dej” (with the verb in the infinite form) is also possible to interpret as an instance of a post-verbal subject with an object form, meaning ‘you shall/will carry’. An earlier utterance of this type might be “gunga dej” [swing.BAS you] (H 1;8; at the time interpreted as “du (mor) ska gunga” [you (mother) will swing] (when we were at the playground). A plausible linguistic context is my asking him *Ska jag gunga dig?* [shall I swing you] ‘shall I give you a push?’ when at the playground.

8.3.2 Subject pronoun, singular: *jag* ‘I’

The first-person pronoun *jag* ‘I’ is normally pronounced “ja” in colloquial Swedish, and this is how it is normally transcribed in the journals. For both boys the very first instances show up in clearly holophrastic strings and also in a post-verbal position: “tyst, sa ja” [quiet, said I] ‘be quiet, I said’ (H 1;10; uttered in an angry voice); “hä komme ja” [here come I] (B 1;9). Both utterances are followed by a comment that they seem to have been picked up from the other children (at the childminder’s or the day care centre).

For Hugo there are a total of five early sporadic instances of *jag*, registered from 1;10 to the very beginning of 2;1, i.e., over a period of three months. Two of them show the pronoun in clause-initial position, both instances reported as somewhat uncertain: “ja sitta dä” (H 1;11; together with the comment “I think I heard him say this, but I am not sure”), “ja hoppa(r) sängen” (H 2;0; when jumping in the bed; with

the comment that it is uncertain whether or not it was possible to hear the pronoun). Two utterances have the pronoun in a post-verbal position, and I have spontaneously interpreted both as yes/no-questions, with a target-like V1 word order: “pela ja?” [play I] ‘shall/may I play’ (H 1;11; when he was holding his toy guitar in his hand), “klippo bamsen ja” [cut teddy.the I] ‘may I cut the fur of the teddy?’ (H 2;1; with the comment: “again I think that I can hear him say *jag* when referring to himself”). The first utterance seems to be a question for pragmatic reasons; the second utterance lacks enough contextual information to decide. In adult Swedish the V1-question normally has interrogative prosody, but there is no information of this kind in the diary. During one single week in the middle of 2;1, the first-person singular pronoun is registered eight times, and after this the observations are regular.

For Bruno there is only one early observation of *jag* registered (at 1;9, cf. above) before it is reported to be frequently heard both at 1;11 and at 2;0. The entry in the diary notes that

> B now says *Bruno when referring to himself, for instance when he answers the question “Vad heter du?” ‘What is your name?’ Otherwise he talks quite often about himself as “ja” *jag* ‘I’ or “maj” *mig* ‘me’. He very often says “ja (e) lillebo” [I (am) little brother], and he was also very fascinated by the boy who was “little brother” in the Swedish Advent calendar on TV [an annual television show for children starting on the first of December and ending on Christmas-eve]. (B 1;11)

At 2;0 there is an entry that apparently summarises the latest development, noting that Bruno uses quite a lot of supine forms, that he has used the modal *vill* ‘want to’ for a long time and now also has *kan* ‘can’ and *måste* ‘must’, and that he often uses “ja” in clauses. If this observation is correct one may conclude that three types of functional morphemes (functional verbs, pronouns and verbal morphology) seemingly begin to appear or even become relatively frequent more or less simultaneously in Bruno’s productive language and that this happens a couple of months before the onset of the real grammar burst.

Apart from the very first instances in both data sets there are also some later strings that can be regarded as standard formulations. The tag “sa ja” is registered another three times for Hugo (within one week, at 2;1), one of the registrations being “ja ska baan dicka, sa ja, ja ska baan dicka” [I will only drink, said I, I will only drink] (when

I have asked him to come and sit down). The string "jag ska bara" [I will only] + verb phrase is typical of everyday Swedish – perhaps above all child Swedish – when a person wishes to finish what he/she is doing instead of immediately doing what someone else wants them to do. The strange form of the adverb *bara* as well as the tag "sa ja" both indicate that the whole phrase has been picked up from other children. (The main clause starter *jag ska bara* is also found at 2;3 for Hugo. It was registered four times for Bruno between 2;9 and 3;4.) For Hugo "nu kunde ja själv" [now could I myself] 'now I could do it by myself' was registered both at 2;2 and 2;3. For Bruno "ja kunde" or "ja kunde, mamma" [I could, mummy] was reported at 2;2 as frequent. Both utterance types correspond to what one would say in the target language in a pragmatic situation when one has managed to do something successfully and on one's own. For Hugo the first-person singular pronoun is found twice in Danish holophrases: "ja sauner daj, ja sauner daj" 'I miss you' (H 2;3), "jeg gider ikke mer" [I put.up.with not more] 'I am tired of it' (H 2;4).

If the complete set of utterances with the pronoun *jag* is considered, the impression, however, is not that holophrastic strings dominate. Apart from its presence in the formulaic strings examined here, the pronoun *jag* appears above all in a sentence-initial position, as a subject. This tendency is very strong for Bruno, who actually seems to anchor most of his utterances in an initial "ja". The pronoun shows up both with various content verbs as well as functional verbs from early on, and it shows up with verbs in different morphological forms. The impression one gets from the diaries is that the two boys can apply the first-person pronoun in a wide range of linguistic contexts from 2;2 and later.

The acquisition of the first-person pronoun in the singular cannot be completely trivial, because it includes the ability to change the deictic centre of utterances – parents do not speak in the first person by assuming the child's perspective. For Hugo there is an observation worthy of note at 2;5, i.e., when he had already been using *jag* correctly, as a subject pronoun, for a couple of months. According to this entry, he did not want me to say *du* 'you' to him, something that he explained with the utterance "ja e ja" 'I am I'. Even if he had managed to acquire the deictic shift between 'me' and 'you' in his productive language, and he obviously was capable of making a meta-linguistic remark about it, he did not yet understand everything.

8.3.3 Subject pronoun, plural: *vi* 'we'

The first-person plural pronoun is registered, in subject form, from 2;1 and later for Hugo and from 2;2 and later for Bruno. The higher relative frequency of *vi* 'we' for Bruno in comparison to Hugo is due to the fact that Bruno very often talked about the two brothers' joint activities.

For both boys there is a connection between certain verb forms and *vi*, most distinctly for Hugo where the pronoun shows up eleven times with the intentional modal *ska* and eleven times with the past tense. There is only one other registration, with the present tense. This means that for Hugo 96% of the observations have either *ska* or the past tense. Two entries report that the combination of *vi* + *ska* or *ska* + *vi* (in V1-questions) is frequently heard, one at 2;2, the other at 2;4. For Bruno there are fourteen observations with the past tense and five with *ska* (for a total of 76% of the observations). One can also trace a connection to the single verb *leka* 'play'. It appears seven times for Hugo and four times for Bruno together with *vi*. All in all, the pronoun *vi* is above all found in the communicative contexts of planning or recalling joint activities.

Out of the three registrations from 2;1 for Hugo, two clearly appear to be rote-learned strings. The first instance is "kom ka vi tända" [come shall vi turn.the.light.on] 'let us turn the light on' (H 2;1; to turn the light on was a part of the morning ritual for me and H, and the phrase is probably a standard formulation in this pragmatic situation). The second is "vi ska leka" (when he wanted me to play with him). The third is "nu leker vi ijen" [now play we again] 'let us play again' (H 2;1); this string is what Swedish-speaking children typically say when they want to start playing again after an interruption. The following seven registrations (from 2;2 and 2;3) all have vi + *ska*. From 2;3 all seven registrations have *vi* + past tense (four times with *lekte* 'played').

For Bruno the three first registrations are "vi lekte" (twice at 2;2, once repeatedly) and "vi lekte spöke" [we played ghost] (B 2;3), which means that Bruno, in contradistinction to Hugo, starts out with *vi* + past. The combination of *vi* + *ska* is not found until 2;4, when it is reported at three different occasions. Three registrations for Bruno appear to be holophrastic, in that they are standard formulations: "vi ses imorron" [we see.PASSIVE tomorrow] 'see you tomorrow' (B 2;3; when saying good-bye to his daddy at the door); "ka vi gå ne?" [shall we go down] 'shall we go

downstairs' (B 2;5; in the morning; probably something we said every morning; the bedroom was upstairs); "ka vi på dagis ida?" [shall/will we on day.care today?] 'are we going/shall we go to the day care centre today?'.

One may conclude that both boys within the period investigated seem to have acquired the first-person subject pronoun in plural at least in a limited set of contexts. Pragmatically the pronoun is remarkably strongly linked to the contexts of planning joint activities or recalling them, which is reflected in the high frequency of *vi* + *ska* or *vi* + past tense. We find clearly holophrastic strings, but also some variation when it comes to the verb lexemes involved.

8.4 Second person pronouns, singular

The development of second-person pronouns stands out most clearly for Hugo because the data on Bruno is sparse. The object pronoun *dig* 'you' is registered earlier than the subject pronoun *du* 'you' for both boys.

8.4.1 Object pronoun: *dig* 'you'

Hugo produced the object pronoun already during the first verb spurt. The three first instances involve the same verb, *krama* 'hug'. The pronoun appears to have been rather carelessly or weakly articulated: "kamma de" (H 1;6); "kamma (dä)" (H 1;7); "k(r)ama de(j)" (H 1;7) [hug you]. If it were not for the context, the syllable heard could probably equally well have been taken for either the adverb *där* (normally registered as "dä") or the pronouns *den* or *det* 'it/that'. At 1;8 we find the above-mentioned "gunga dej" interpreted as 'you will swing'. Somewhat later we find two constructions without a verb: "bort dej" (1;9; repeatedly; when he was angry with me) and "fy däj" (H 1;9). In the target language we have *bort med dej* [away with you] 'go away' and *fy på dej* [fie on you] 'shame on you', which means that both strings mirror target constructions, but with the preposition left out. The following utterances also seem holophrastic: "läsa fo dej" [read for you] (H 2;1; likely input-string: *Ska jag läsa för dig?* [shall I read for you]); "tänke på daj, sa ja" [think.PRES of you, said I] 'I am thinking of you, I said' (H 2;1; when playing with his teddy, talking gently to him). Two Danish holophrases contain the object pronoun: "bange fo(r) daj" [afraid of you]

(H 2;0; suddenly when playing wildly with his father); “ja sauner daj, ja sauner daj” [I miss you] (H 2;3; when I lifted him out of bed in the morning). (Note that the Danish holophrases are not included in the figures in Table 15A, above.)

From the same period we find observations with the incorrect deictic direction, *dig* ‘you’ for *mig* ‘me’, discussed above. At 2;3 Hugo uttered “ja ska sitta brevid dej” [I will sit beside you] and somewhat later the same day “ja ska sitta till dej” [I will sit to you], which means that he altered the preposition from target-like to non-target-like, while retaining the same meaning. The two final observations are questions with both the subject and the object pronoun in the second person singular: “ha du jömt dej?” *har du gömt dig* [have you hidden you] ‘are you hiding?’ (H 2;4; the string matches the standard formulation in this pragmatic context); “va a du slagit dej?” [where have you hurt you] ‘where did you hurt yourself’ (H 2;4; when he saw that I had a small crust of blood on my hand). The last question is somewhat odd; communicatively appropriate would rather have been *Har du slagit dig?* ‘did you hurt yourself’.

For Bruno the observations are very few, the first instance being “akta dig” [beware you] at 1;9 (probably holophrastic). At 2;4 we find a question parallel to Hugo’s: “va hände du slog dig mamma?” [what happened you hurt you mummy], where Bruno seemingly asks two questions at once ‘what happened’ and ‘did you hurt yourself’. The possessive pronoun in the second person singular can also be found for Bruno, but only once: “ditt uum” *ditt rum* ‘your room’ (B 2;4; when talking to Hugo).

8.4.2 Subject pronoun: *du* ‘you’

The second person singular subject pronoun is observed from 2;0 for Hugo and 2;1 for Bruno, i.e., from the prelude to or the very beginning of the grammar burst. For both boys it is clearly linked to questions and holophrastic strings.

For Bruno five out of seven observations of *du* ‘you’ appear in questions. The first one is evidently holophrastic: “va sa du?” [what said you] ‘what did you say’ (B 2;1). For Hugo seven out of ten observations appear in questions, many of which give the impression of being rote-learned. The first instances involve the Danish holophrase “va(d) lave(r) du?” [what do you] ‘what are you doing?’ (observed twice on different occasions within two days of each other at 2;0 and again at 2;3). Other strings that clearly have identical counterparts in the target language in corresponding pragmatic

situations are: “fötå du?” [understand you] ‘do you understand’ (H 2;1) (also found for Bruno at 2;7); “va jö(r) du?” [what do you] ‘what are you doing’ (H 2;1); “ha du sett?” [have you seen] ‘have you seen this’ (H 2;3); “ha du jömt dej?” [have you hidden you] ‘are you hiding’ (H 2;4). Another Danish holophrase, if not a question, is “de må du gerne” [this may you readily] ‘yes, you may’ ‘by all means’ (H 2;1). Bruno has “va ha du joot pappa?” [what have you done daddy] ‘what did you do daddy’ (B 2;5).

There are only a few utterances that lack evident models in the target language, an early example being “mo, skivo du?” [mummy, write you] ‘are you writing’ (H 2;1; when I had told Hugo that I would write something down and had left the room in order to do so). Apart from questions and (other) holophrases, the pronoun *du* is found with deontic modals, once for Hugo and twice for Bruno, for instance “du måste nalle” (H 2;1; when playing with his teddy); “du ka sova, *Hugo” [you shall sleep, Hugo] ‘go to sleep’ (B 2;4). Only very seldom – and late – do we find the pronoun in statements about the interlocutor, for instance “du hete Cille” [you are.named Cille] ‘your name is C’ (H 2;5; when talking to me; Hugo invented a name game in which he switched the names of the family members; Cille is his female cousin).

When it comes to the second-person pronoun one may conclude that the object form appears – at least sporadically – during the first verb spurt, while the subject form shows up at the beginning of the grammar burst. In comparison to the pronoun *jag* ‘I’, the pronoun *du* ‘you’ is much more restricted to specific contexts, above all questions, many of these with evident models in the target language. A number of possible holophrastic strings other than questions are also found. This means that the data does not give the impression that the second-person subject pronoun, within the period investigated, has become freely available to the child when combining linguistic material into clauses – which was the impression where the first-person subject pronoun was concerned.

8.5 Third-person pronouns, singular

The only third-person pronouns to appear with some frequency in the data are *den* ‘it/that’, *det* ‘it/that’, *hon* ‘she’, *han* ‘he’. For both boys the inanimate pronouns *den* and *det* (subject and object pronouns in the common (*den*) and neuter (*det*) gender)

are clearly more frequent and show up earlier than the animate pronouns *han* 'he' and *hon* 'she' (subject pronouns and, in spoken language, sometimes also object pronouns). Other personal pronouns in the third person occur very infrequently.

In adult Swedish, *den* and *det* can have strong or weak stress. When weakly stressed, the pronouns correspond to the personal pronoun 'it'; when strongly, they correspond to the demonstrative pronouns 'that' or 'that one'. If strongly stressed, the pronoun can also have an attributive function: *den bilen* [that car.the] 'that car'. In the overall lexical analysis all instances of *den* and *det* are grouped together, and the potential difference between 'it' and 'that' in a non-attributive position will be ignored in the following section, because there is no information about the prosodic patterns in the journals. In spoken language the pronoun *det* is normally pronounced "de". Were it not for the contexts in which the syllable "de" occurs, the early instances would have been hard to distinguish from other light elements beginning with [d], such as *dig* 'you' or *där* 'there'.

8.5.1 Inanimate pronouns: *den* and *det*

The development of inanimate pronouns is linked to a limited set of syntactic functions out of which some are clearly connected to holophrastic strings, while others allow for greater variation. The following functions can be distinguished: **A.** As a verb complement – above all an object – in a post-verbal or pre-verbal position: *kasta den* [throw it]; *det ska vi* [it shall/will we] 'we shall/will' (as an answer). **B.** As the subject in copula *wh*-questions, always with a *wh*-word in a pre-verbal position and the pronoun *det* in a post-verbal position: *vem är det* 'who is that', *vad är det* 'what is that'. **C.** As a subject in declarative copula-clauses, the pronoun always being pre-verbal: *den är gul* 'it is yellow'; *det är kallt* 'it is cold'. **D.** As a subject with verbs other than the copula, in pre-verbal or post-verbal positions: *det kliade* [it itched], *nu gungar den* [now swings it]. **E.** As a demonstrative pronoun: *den bilen* [that car.the]. The registrations are summarised in Tables 16 and 17, where the months of the two first registrations within each category is indicated as well.

Table 16. Registration of the pronoun *den* 'it/that', common gender, in different contexts for Hugo and Bruno.

	As a verb complement: post-verbal	As a subject			As a de-monstr. pronoun	∑
		With a copula: pre-verbal	Other verbs: pre-verbal	Other verbs: post-verbal		
Hugo	17	20	4	2	6	49
two first reg.	1;11 1;11	1;11 2;0	2;2 2;2	2;1 2;2	2;1 2;1	
Bruno	16	0	5	1	1	23
two first reg.	2;0 2;2		2;2 2;3	2;7	2;3	

Table 17. Registration of the pronoun *det* 'it/that', neuter gender, in different contexts, for Hugo and Bruno.

	As a verb complement		As a subject			
	Post-verbal	Pre-verbal	In copula *wh*-questions	In other copula-clauses	Other verbs: pre-verbal	
Hugo	6	3	12	16	3	40
two first reg.	1;6 1;7	2;2 2;5	2;0 2;1	2;1 2;1	2;2 2;3	
Bruno	3	1	2	8	3	17
two first reg.	2;3 2;4	2;4	2;2 2;7	2;1 2;3	2;1 2;4	

These numbers are low but it is still possible to detect certain patterns.

Even if there are already two registrations of *det* for Hugo during the first verb spurt (cf. below), both *den* and *det* are otherwise temporally connected to the (beginning of the) grammar burst; they appear from 1;11 and later for Hugo and from 2;0 and later for Bruno. The common gender pronoun *den* is above all used as an object pronoun for Bruno (70% of all instances), and as an object pronoun (35%) or subject pronoun in copula clauses (40%) for Hugo. The neuter gender pronoun *det* is above all used as a subject in copula clauses: 58% for Hugo; 59% for Bruno. There is thus a distributional difference between the common gender pronoun and the neuter gender pronoun – a difference that most likely mirrors patterns in the input.

For both boys we find *den* (but not *det*) in an attributive function. For Hugo there are four instances when a head noun has been given a non-target-like suffix: "den båtet" (once at 2;1; twice at 2;2), "den glasset" (H 2;2); target would have been *den båten* [that boat.the] and *den glassen* [that ice.cream.the], i.e., with agreement between the pronoun and the definite suffix in the common gender form (*-en*). At 2;1

we find “den bil”, which is a target-like Danish NP structure. The Swedish target structure would have been *den bilen*, with a double definiteness marking, with which Hugo eventually conforms: “den bilen” [that car.the] ‘that car’ (H 2;2). For Bruno the only instance registered is also target-like: “mamma köpt den saften” [mummy bought.SUP that fruit.drink.the] (B 2;3).

Many instances of *den* and *det* show up in strings that correspond to standard formulations in different pragmatic or communicative situations; such strings will be commented on specifically in the following section. During the grammar burst the pronouns above all appear in fixed combinations in sentence initial positions, cf. Chapter 12.

It is difficult, not to say impossible, to establish a chronology of the object and subject functions of *den* and *det*. For both boys the pronoun *den* is registered earlier as a verb complement than as a subject, but the temporal difference is less than a week for Hugo. For Hugo *det* is registered first as an object, then as a subject, while the reverse is true for Bruno. A tendency for both boys is that the earliest linguistic strings comprising *den* or *det* show up more than once, in a somewhat stereotypical manner. The earliest observations will be discussed in some detail here.

For Hugo the neuter pronoun is registered already during the first verb spurt as a verb complement, but only in the single linguistic string “toka bot de” *torka bort det* [wipe away it] ‘wipe it off’ (H 1;6); “tokka bott (dee)” (1;7; when it is reported to be frequent as a two- or three-word utterance, the object pronoun obviously being optional). Another early registration of the neuter pronoun is as a part of the interjection “just de” [precisely that] ‘precisely’ (used as an affirmative answer) (H 1;10; the utterance is treated as an interjection in the overall lexical analysis). At 2;0 “defönåt” is found, the target string being “va e de för nåt” [what is that for something], a standard formulation in colloquial Swedish for ‘what is that?’.

For Hugo, *den* shows up as a verb complement at 1;11, when two observations were made on the same day. In the first of these we were discussing, for fun, which of us should finish his bottle of gruel, after Hugo had already had most of it himself. I asked: “Ska far äta upp den?” [should father eat up it] ‘should father finish it?’. Hugo answers: “mo äta opp den” [mother eat up it] ‘mother will finish it’. Later he wanted me to sit on a small chair in his room while he played. According to the journal, “Instead of ‘sitta tolin’ *sitta stolen* [sit.INF chair.the] – which he would have said a couple of days before – he said ‘sitta på den!’ [sit.INF on that]. I had not said a word,

so he did not copy me." Not quite a week later *den* can be found as a subject for the first time, repeatedly in the string "den e mins" [it is mine's] (H 1;11; when referring to different toys at the municipal library). Then there are no registrations until a month later when we find "den e låst" [it is locked] and "Matti köpte den" [M bought.PAST it] (within a period of two days at 2;0).

After the rather temporally scattered initial observations, indicating both object and subject functions, *den* is registered frequently for Hugo from 2;0 and *det* from 2;1 and later; see Table 15A, above.

For Bruno, there are five registrations of *det* before 2;4. They are: "de vingade" [it rung.ed] (B 2;1; when a bell on a toy train has made a ringing sound); "de e mammas" [it is mummy's] (B 2;1; talking about a sweater); "vem e de, mamma?" [who is that, mummy] (B 2;2; frequently, meaning 'what is that'); "de e faktiskt *Hugos" [it is actually Hugo's] (B 2;3; talking about one of Hugo's books that he had found among his own books); "ja ska inte de" [I shall not that] (B 2;3; when I had just asked "Ska vi gå in och säga hej då till pappa? [shall we go in and say hello.then (i.e. 'bye-bye') to daddy]). As can be seen from this, the subject function precedes the object function. The first month with comparatively frequent registrations of *det* is 2;4 (see Table 15B), when it is found eight times as a subject, three times as an object.

The common gender pronoun is registered for Bruno four times before 2;3; once as a subject pronoun and three times as an object pronoun, for instance "ja lånat den" (B 2;0; repeated five times; talking about the sash of my dressing-gown, which he had been playing with); "ja fick den" [I got.PAST it] (B 2;2; two registrations over a period of two days). The string *jag fick den* is what is typically said when a person has managed to catch something. The first instance occurred in a situation where I had pulled down a helium balloon from the ceiling and handed it to him; the notation to the second instance claims that the utterance is heard frequently when he plays with balls and manages to catch them. The last occurrence before 2;3 is "den aa gått sönde" [it has gone.SUP in.pieces] 'it is broken' (B 2;2; talking about a snow man). Almost the same utterance can also be found at 2;3: "den aa gått i sönde(r) nog" [it has gone.SUP in.pieces probably] 'it is probably broken'. From 2;3 there are three instances of *den* as a subject and one where *den* occurs in an attributive function; in 2;4 there are six instances, all of these having *den* as an object, which is the dominant function throughout the rest of the period investigated. This means that it is quite difficult to establish any order of emergence between the subject and the object

function of *den* for Bruno. And perhaps the two functions actually show up more or less simultaneously. The data on Hugo discussed in the following section indicates that this might be the case.

For Hugo there are eight registrations in total from 2;0 with the proper name Martin and the verb *köpa* 'buy'. Many of them refer to the memorable event when Martin gave Hugo, as a gift on his second birthday, a trailer for his big toy car. The actual purchase of the trailer was not a part of Hugo's experience, and it is uncertain whether he knew what *köpa* 'buy' meant at this stage. The verb form is either past tense (*köpte*) or supine (*köpt*). From the month of 2;0 there are four utterances registered on different occasions, all of them consisting of subject + verb, for instance "Matti köpte, Matti köpte" (H 2;0; said first thing in the morning the day after his birthday, when he saw the big box in which the trailer had arrived). In the middle of 2;0 he uttered "Matti köpte den" [M bought.PAST it], referring to a hockey stick that we had borrowed from Martin. A week later we find one of Hugo's very few bedtime monologues,

> Mattin söpt bilen, Mattin söpt bilen, Mattin söpt bilen, Mattin söpt den. Inte takton, bil. En bil, söpte Mattin den. Den e gul, den e vit, den e gul, den e vit [etc.]. Gonatt lille fabbon. Sova fabbon. Äta äppel, den e go [smaskljud]. Gott, gott. Köa bilen, opp i take(t)" [M bought.SUP car.the (repeated three times), M bought it. Not tractor, car. A car, bought.PAST M it. It is yellow, it is white (repeatedly). Good.night little man.the. Sleep little man.the. Eat apple, it is good [chomping noises]. Good, good. Drive car.the, up in roof.the]. (H 2;0)

Here we can actually follow the development closely. Hugo begins with utterances with no complement to the verb *köpa* 'buy'. Then he produces a three-word phrase with the same subject (*Martin*) and verb as in earlier registrations, but now extended with an object pronoun (*den*). In the final registration he is able to vary between the pronoun object *den* and a full NP object (*bilen*), and he also has *den* in the subject function several times. Obviously something has happened between the beginning and the end of 2;0.

8.5.1.1 Inanimate pronouns functioning as verb complements

When the two pronouns *den* and *det* function as verb complements they are typically direct objects to transitive verbs. There is only one example of a verb complement with a preposition ("sitta på den" [sit on it] (H 1;11)) and one or two instances for each boy of verb complements that would have had a preposition in adult Swedish, for instance "sova den" (H 2;1; target *sova i den*); "vem (h)aa joot bokstave den" [who has made letters that] (B 2;4; target: *på den* [on that]. When functioning as a verb complement, the common gender pronoun (*den*) is three times as frequent as the neuter pronoun (*det*). Note that nouns are registered as verb complements with some frequency for both boys from the first verb spurt and afterward, which means that content words precede functional words in this regard. Before 1;11 there are approximately thirty strings for Hugo and twenty for Bruno that fulfil the definitional criteria of VERB + NOUN, where the noun corresponds to a verb complement in the target language.

Even if the earliest utterances are formulaic or at least stereotypical, there is quite a variation of contexts in which *den*/*det* show up as verb complements in the data sets considered as a whole. Hugo has thirteen different verb lexemes and Bruno twelve that have *den* or *det* as a verb complement, some of the verbs showing up in more than a single type of construction (for instance with or without a verbal particle) and in different morphological forms. The combination of verbs and inanimate pronouns thus gives an impression of some degree of productivity at the end of the period investigated.

When it comes to word order, we find that the object pronoun *den* does not occur in a pre-verbal position and that *det* occurs only sporadically – and rather late – in a pre-verbal position. For Hugo, it is found as a topicalised object for the first time in a Danish holophrase (not presented in Table 16): "de må du gerne" [it may you readily] 'yes you may' (H 2;1). Another instance is in "de kan man inte öppna den" [that can you not open it] (H 2;2), that appears to be a mix-up of two possible target strings: *det kan man inte* [that can you not] 'you cannot do that' or *man kan inte öppna den* [one can not open it]). The next and last registration is from 2;5, where we find a short narrative. Hugo and I were talking about an incident some months earlier when Hugo had broken a glass tabletop with a soup ladle while I was taking a shower. The diary relates the following dialogue,

> L: “Den glasskivan som du har slagit sönder.” ‘that glass tabletop that you have broken’ H: “Det få(r) ja inte. Och mo duschade å duschade å duschade. Å kommer mo. Å mo arg på mej. De få inte mo.” ‘That may I not [meaning ‘I am not allowed to do that’]. And mother showered and showered and showered. And comes mother. And mother angry with me. That may not mother.’ (H 2;5)

In Bruno’s case there is one instance, in the following conversation: H to B: “vi ska gå upp” [we will go up(stairs)]; B: “de ssska vi” [that will we] ‘yes, we will’ (B 2;4).

8.5.1.2 Inanimate pronouns functioning as subjects

Even if there are some instances of pronominal subjects already during the first verb spurt, the first instances of subjects are otherwise noun subjects (see Chapter 11). For Hugo the subject function of *den*/*det* is strongly connected to fixed segments that function as main clause starters, i.e., the rest of the sentence then follows such a segment. The segment “den e” ‘it is’ (common gender) has been registered from 1;11 and later, a total of twenty times (for instance “den e gul, den e öö, den e göön” [it is yellow, it is red, it is green] (H 2;0; when pointing at differently coloured fish on his rubber boots; this was a favourite game at the time, even if he did not actually know the colours at this stage); the segment “de e” ‘it is’ (neuter gender) is registered from 2;1 and later, sixteen times in total (for instance “de e kallt, fyså” [it is cold, freeze.PRES)]); the segment “vem e de” is registered from 2;1 and later, seven times in total (often reported to be frequently heard); the segment “va e de” is registered from 2;2 and on, four times in total (also reported to be frequently heard). Bruno did not favour these strings as clearly as Hugo even though some of them were observed; see Chapter 12 for further discussion of this.

While fixed segments consisting of pronoun + copula are frequently observed, other verbs occurring with *den/det* as a subject are rare and not registered as early as the pronoun + copula segments: For Hugo twenty out of twenty-six strings with *den* as a subject has the present-tense copula as the finite verb, with a peak of such registrations found at 2;0 and 2;1 (thirteen registrations in total). Additional verbs occur in the following utterances: “nu gunga(r) den” [now swings it] ‘it is swinging’ (H 2;1); “nu välter den” [now falls it] ‘it is falling’ (H 2;2 repeatedly); “den flygade, gubben flygade” [it flew.ed, man.the flew.ed] (H 2;2; speaking of a lizard jumping from one stone to another on a TV show about animals); “den ska åka till Malmö” [it

will go to Malmö] (H 2;2; speaking of an aeroplane in the sky); “den ska hänga dä” [it will hang there] (H 2;3; speaking of the ceiling lamp); “den sitte(r) fast stjänan” [it sits stuck star.the] ‘the star is stuck’ (H 2;3; speaking of a star-shaped piece in a jigsaw).

For Bruno the segment “den e” does not occur at all. The six instances of *den* as a subject are: “den aa gått sönde” [it has gone in.pieces] (B 2;2); “den aa gått i sönde(r) nog” [it has gone in.pieces probably] (B 2;3); “den tillat nee dä” [it fallen.SUP down there]; “den tilla ne åsså” [it fell.down.BAS too] (B 2;3; on the same occasion as the previous utterance); “den aa tillat” [it has fallen.SUP] (B 2;5); “ja kliade, så gådde den av stellet” [I scratched, so went.ed it off instead] (B 2;7; when I asked him what happened to his fingernail that was a bit frayed). As we can see, it is a limited set of linguistic strings that appear with *den* as a subject. Perhaps it is possible that “den aa” ‘it has’ is a type of fixed main clause starter for Bruno; see Chapter 12.

For Hugo twenty-eight of thirty-one strings with *det* as a subject have the present-tense copula as a finite verb, with a peak of the registrations occurring at 2;1 and 2;2 (fifteen registrations in total). Additional verbs occur in the following utterances: “de(t) kliade” [it itched] (H 2;2); “oj, de kom inte nåt, de kom ingen” [oh, it came not anything, it came nothing] (H 2;3). For Bruno the segment “den e” has not been registered; “de e” is registered four times and “de va” three times. Once the copula is registered with a weak past time inflection: “de vadde” [it was-ed] (B 2;4). The copula is registered once in “vem e de” ‘who is that’ (B 2;2; when it is said to be frequent), once in “vem va de” ‘who was that’ (B 2;7). Additional verbs occur in the following utterances: “de vingade” [it rung.ed] (B 2;1); “de(t) blåse inte” [it blows not] (B 2;4); “de jöö inget pappa” [it does nothing daddy] (B 2;4). For both boys, *det* as a subject in non-copula clauses functions as a formal subject. Some of the strings may be rote-learned, at least *det gör inget* is a standard formulation, meaning ‘it does not matter’ and both *nu gungar den* and *nu välter den* appear to be the most idiomatic alternatives in these pragmatic situations.

As for word order, the subject pronoun *det* only occurs in a post-verbal position in *wh*-strings. The pronoun subject *den* occurs only sporadically in a post-verbal position and later than in a pre-verbal position. Instances of this are quoted above. A bit surprisingly, yes/no-questions with a V1 word order (“e de” or “e den” ‘is it’) have not been not registered in either boy.

8.5.2 Animate pronouns: *hon* 'she' and *han* 'he'

The animate third-person pronouns in singular, *han* 'he' and *hon* 'she', are not prominent in the productive language of the two boys before 2;6. Talking of other people in the third person by means of pronouns does not seem to be communicatively significant.

For Hugo there is a burst of observations from the middle of the month 2;1, i.e., during the very peak of his grammar burst. The diary relates the following information: "Has said '(h)on' [she] and '(h)an' [he] several times today. (Hardly any h in the pronunciation.)" There are four utterances registered on three different occasions on the same day, in which *hon* occurs, but no utterance in which *han* occurs: "(h)on kääk" [she vomits] (when commenting on a picture in an advertising leaflet of a girl smeared with the ice-cream she is eating); "(h)on badar" [she bathes] (when commenting on a photo of himself); "(h)on sittå där" [she sits.PRES there] (when commenting on a photo of himself in a car safety-seat; the utterance is accompanied by the following note: "i.e., with the verb in the present tense when the subject is overt"); "hon äta gokka" [she eat.INF cucumber] and "hon slicka glasset" [she lick.INF ice.cream.the] (when pretending to read aloud to me from a children's book that he knew very well; the child in the picture was a girl; the combination of an infinitive verb and a subject is not commented on). The next registration was noted a month later. This entry is as follows,

> Afternoon at the playground as usual. […] A boy is riding his tricycle. H: "hon ska inte backa" [she will not back up]. H calls everyone "hon" 'she' right now. (How is it that he for a long time has been able to distinguish one hundred per cent between "tant" 'lady' and "gubbe/farbror" 'man' but not "pojke/flicka" 'boy/girl', "han/hon" 'he/she'?). […] We see a girl and her mother riding a bike. H comments: "de en hennes pappa" [it is her daddy]. First registration of "hennes" [her]. (H 2;2)

Obviously his ability to identify the correct sex of adults was not absolute! The observation about *hennes* 'her' is not contradicted by earlier registrations; it is the very first instance of this pronoun in the diary.

For Bruno there are only three registrations of *han* and one of *hon* from the period investigated. The very first registration is in a context similar to those outlined in the

first registrations for Hugo; Bruno commented on a picture in a children's book: "gå ne, gå ne, gå ne! Han [hon?] ska gå ne fån lampan" [go down (repeated three times), he (she?) will go down from lamp.the] (B 2;5). A year later, there a comment was added on the same piece of paper: "must have been *han* 'he', I suppose; B still only says *han* 'he'". Only one registration contradicts this statement: "hon vaknade" (B 2;6; when talking about his grandmother's dog who had just left its place behind the sofa). In the later files on Bruno (after 2;8) the first instance of *hon* was registered when Bruno was 3;5 and he told us about something his girl cousin had done. It seems as if Bruno for a long time favoured the masculine pronoun, while Hugo (for a shorter period of time) favoured the feminine pronoun in the third person.

It is interesting that many of the early utterances including third-person pronouns can be linked to communicative situations where the child is referring to people in books or in pictures instead of actual people. Is this because doing that would require using the past tense? It is not customary to relate what people are doing while they are in the process of doing it.

8.6 Other pronouns

8.6.1 The generic pronoun: *man* 'one' 'you'

Swedish has a special third-person pronoun with a generic or arbitrary meaning, *man* 'you', 'one' (etymologically the same word as *man* 'man'). For Hugo it was noted relatively frequently before 2;5, and it is also explicitly commented on as being frequent. The first instances are from 2;1: "man kan tycka knappen, man kan skua dä, man kan öppna, tänga" [one kan push button.the, one can turn there, one can open, close] (H 2;1; when explaining to me what one can do with the washing machine). For Hugo there is a clear link between the generic pronoun *man* and the modal *kan* 'can'. The segment "kan man" will be examined in Section 12.3.2.

For Bruno the generic pronoun is only found on one single occasion: "öppna man dä, mamma? stänger man dä mamma?" [opens one there, mummy, closes one there mummy] (B 2;2; when playing with a Lego building with a door).

8.6.2 Negative pronouns: *ingen*/*inget* 'nobody', 'nothing', 'no'

The negative pronoun *ingen* is observed ten times for Hugo, from 1;11 and later, always in the form "ingen" (i.e., the singular, common gender). Many of the instances are non-target-like in various ways, for instance "ingen skona" [no shoes] (target: *inga skor*, with plural agreement) (H 2;1; when commenting on a photo where his cousins are barefoot); "takton ingen me(r)" [tractor.the no more] (H 2;0; when he had seen a tractor drive by and then disappear from view; the utterance has no evident model in adult Swedish); "den e ingen lagom" [it is no just.right] (target: *de e inte lagom* [it is not just.right]) (H 2;2; when we were at the swings on the playground and he wanted me to push his swing higher; probably I usually asked: *e de lagom?* [is it just.right] in this pragmatic situation). For Hugo many noun phrases containing the negative pronoun are in a post-verbal position, which matches the pattern in target Swedish, where a negative subject would be placed post-verbally with a pre-verbal formal subject. The first instance has no formal subject: "finns ingen takto, finns ingen takto, finns ingen takto" (H 2;0; when we were going by bike to Lena's and we saw a tractor that then disappeared from view). The next instance (as well as two later ones) has a formal subject: "dä e ingen gubbe sitto takton" [there is no man sits tractor.the] 'there is no man sitting in the tractor' (H 2;1; when commenting on a picture in a book).

For Bruno the negative pronoun shows up in various forms, first as *inga* (i.e., plural; three instances), then as *ingen* (singular common gender; four instances) and once as *inget* (singular, neuter gender). In the first observation he seems to have confused the pronoun with *inte* 'not': "inga bajsat" [none pooed] (B 1;9). The next instance is non-target-like due to incorrect agreement: "inga anka uppe dä" [no duck up there] (target: *inga ankor* [no ducks]) (B 1;10). From 2;2 and later the registrations (five in total) are target-like, for instance "de jöö inget pappa" [it does nothing daddy] 'it does not matter, daddy' (B 2;4); "Matti ha ingen bil" [M has no car] (B 2;5).

One may conclude that the negative pronoun shows up for both boys at approximately the same time as the sentence negation, and that they both seem to have had some problems with it, sometimes perhaps confusing it with the sentence negation and also having difficulties with agreement.

8.7 Conclusion

Both boys seem to have acquired the core components of the Swedish pronoun system before 2;6/2;8. Within the period investigated Hugo has acquired a set of subject pronouns (*jag* 'I', *vi* 'we', *du* 'you', *den* 'it', *det* 'it', *man* [generic pronoun]), a set of object pronouns (*mig* 'me', *dig* 'you', *den* 'it', *det* 'it') and the possessive pronoun in the first person (*min* 'my'). Bruno has at least three subject pronouns (*jag*, *vi*, *det*) and two object pronouns (*mig*, *den*) and probably also the possessive pronoun (*min*). (Second-person pronouns are sparsely registered in Bruno's case.) The bias towards first-person pronouns is very strong, especially for Bruno, who prefers *jag* to any other subject nominal.

It is hard to estimate the degree of productivity within the pronoun system at the end of the period investigated. Most of the pronouns clearly show up in holophrastic or rote-learned clauses or clause segments when they first appear. But especially those pronouns that become frequent also seem to be productively used to some extent, since they can appear with various types of verbs, with various verb forms and also in various positions.

Pronouns are the only functional words (apart from functional verbs) to become frequent during the period investigated. We can discern three stages in the acquisition of pronouns: **A)** Some pronouns are used, but less than 5% of all tokens are pronouns (Hugo: 1;6 to 1;8 and Bruno: 1;8 to 1;9). During this period we find object pronouns rather than subject pronouns. **B)** Pronouns amount to roughly 10% of all tokens (Hugo 1;9 to 2;1 and Bruno 1;10 to 2;1). During this period many new pronoun items show up for the first time. **C)** Pronouns amount to around 20% of all tokens (Hugo 2;2 to 2;5 and Bruno 2;2 to 2;7). When it comes to the production of pronouns, Bruno is apparently as early as Hugo. Pronouns amount to 4% of the lexemes and 13% of the tokens for Hugo, and 7% of the lexemes and 18% of the tokens for Bruno, which may be due to the fact that the data for Bruno is denser in the later period.

Pronouns definitely mark a major change in the productive language of the two boys. As will be shown in the following chapters, this change is closely linked to the emergence of functional verbs and naturally also of clause subjects – since a majority of the pronouns function as subjects.

9 Functional verbs

In this section functional verbs will be analysed on their own. In Chapter 12 ("Main clause starters") the clear link between functional verbs and pronoun subjects will be investigated. In lack of a better term, "functional verbs" are here used to refer to all verbs that can be combined with a main verb.

The following verbs are analysed as functional verbs, the criteria being that all of them appear at least once with a verbal complement in the data: modals (*vilja* 'want to', *kunna* 'can', *måste* 'have to', *skola* 'shall/will', 'be going to'), semi-modals (*få* 'be allowed to', *orka* 'manage'), the copula (*vara* 'be'), the perfect auxiliary (*ha* 'have') and the aspectual marker *sluta* 'stop'.

The copula has the following main forms in written Swedish: *vara* (infinitive), *är* (present tense) and *var* (past tense). In spoken Swedish the forms are reduced, the main forms – in the variety spoken in southern Sweden – being *va* (infinitive), *e* (present tense) and *va* (past tense). The copula can be constructed with a verbal participle as complement, for instance *Väggen är målad* [wall.the is painted.PTC]. Note already here, however, that the copula typically appears in the data in other types of constructions than copula + participial complement.

True modals are not given suffixes in the present tense, and the main forms are: infinitive *vilja* 'want to', present tense *vill*, past tense *ville*; infinitive *kunna* 'can', present tense *kan*, past tense *kunde*; infinitive *skola* 'shall/will', present tense *ska*, past tense *skulle*. Semi-modals display suffixes in the present tense, and the suffix is the general present suffix –r: *får*, *orkar*. The same goes for the perfect auxiliary: *har*.

Swedish modals are not as well defined as a special group of verbs as are, for instance, English modals. Most of them can appear in the infinitive. The verb *orka* 'manage' is a typical Swedish semi-modal; morphologically it is not a modal and semantically it is deviant from other modals since it can take only animate subjects. The modal *skola* has many functions, one of them being the expression of intentional future meaning, for instance *Jag ska åka hem nu* [I will go home now] 'I'm going home now'. All modals and semi-modals take verbal complements in the infinitive. In

adult Swedish there are conventionalised constructions where modals show up without any verbal complements.

In Swedish the perfect construction is a combination of the perfect auxiliary *ha* 'have' (present *har*) and a certain verb form, the supine, that always ends with a –t in written language, for instance *Han har målat väggen* [he has painted.SUP wall.the].

Swedish has no fully grammaticalised aspectual marker but has instead a handful of aspectual auxiliaries and other verb constructions with an aspectual meaning, for instance *fortsätta läsa* [keep.on read] 'keep on reading', *hålla på att/och läsa* [keep on to/and read] 'be (busy) reading', *sitta och läsa* [sit and read] 'be reading' (all three expressions have a progressive meaning); *börja läsa* 'start reading', *sluta läsa* 'stop reading', etc.

9.1 Emergence of functional verbs

All occurrences of functional verbs are presented in Tables 18A and 18B. (Note that *få* and *ha* also occur as main verbs in the data. These instances are not included.)

Table 18A. Occurrences of functional verbs for Hugo (N 158).

	vilja	kunna	måste	skola	få	orka	sluta	vara	ha	∑
1;9	1	1								2
1;10										0
1;11								1		1
2;0	4							7	1	12
2;1	5	7	2	6		2	1	23		46
2;2	2	5	1	17	2			10		37
2;3	1	2		9				12	1	25
2;4		1		2				3	11	17
2;5	5	1			2			3	7	18
∑	18	17	3	34	4	2	1	59	20	158

Key to Tables 18A and 18B:
vilja 'want to'
kunna 'can'
måste 'must', 'have to'
skola 'shall/will' 'be going to'
få 'be allowed to'
orka 'manage to'
sluta 'stop'
vara 'be', i.e., the copula
ha 'have', i.e., the perfect auxiliary

Table 18B. Occurrences of functional verbs for Bruno (N 119).

	vilja	kunna	måste	skola	sluta	vara	ha	∑
1;10					1			1
1;11						1		1
2;0	1	1	1					3
2;1						1		1
2;2		3				2	2	7
2;3	1	2		5		1	6	15
2;4	2			14		9	11	36
2;5		1		9		1	6	17
2;6				2		3	1	6
2;7	1			9		12	10	32
∑	5	7	1	39	1	30	36	119

For Hugo “kan inte” ‘cannot’ and “vill inte” [will not] ‘does not want to’ are said to be common utterance types at 1;9, with an additional remark that “kan inte” has been noted “for a long time”. For Bruno “vill” ‘want to’, “kan” ‘can’ and “måste” ‘have to’ are said to be common at 2;0, with an additional remark that “vill” has been noted “for a long time”. For both boys the first instances of functional verbs thus show up a couple of months after the first verb spurt, but certainly before the second verb spurt. The first modal to appear is either *kan* ‘can’ or *vill* ‘want to’. For both boys modals with heavier semantic content (*vilja*, *kunna*, and for Bruno also *måste*) show up before the more grammaticalised modal *skola* (the intentional future marker).

During the second verb spurt functional verbs exhibit a frequency increase, most intense for Hugo at 2;1 and 2;2, and for Bruno at 2;4 and 2;7. When it comes to the three most frequent functional verbs, i.e., the copula, the intentional future marker and the perfect auxiliary, the data rather indicates individual patterns. For Hugo the token increase of the copula (at 2;1) precedes that of the intentional future marker (at 2;2), which in turn precedes the token increase of the perfect auxiliary (at 2;4). For Bruno the copula, the intentional future marker and the perfect auxiliary appear to become more frequent during the same month, 2;4. However, the pattern for Bruno might partly be due to the scarcity of data from some months. Especially the registrations of the copula for Bruno are suspiciously few. Even so, the intentional future marker and the perfect auxiliary seem well documented, the intentional future marker showing up approximately half a month after the perfect auxiliary. (For details, see 9.5 below.) At least we can conclude that Bruno was as early as Hugo when the perfect auxiliary is considered.

9.2 Morphology

The different forms in which functional verbs appear are presented in Tables 19A and 19B. The forms are quoted directly from the diaries. Forms that in adult language would have required an r-suffix in present tense are still regarded as present tense even if the [r] is missing. The phoneme is difficult to produce and is typically left out in word final position in child Swedish.

Table 19A. Different forms of functional verbs for Hugo (N 158).

	Present	Past	Other
vilja (18)	"vill" (11)		"villa" (7; non-target-like)
kunna (17)	"kan" (15)	"kunde" (2)	
måste (3)	"måste" (3)		
skola (34)	"ska" (29); "ka" (1; first registration)	"skulle" (4)	
få (4)	"få(r)" (2); få (1)	"fick" (1)	
orka (2)	"orka" (2)		
sluta (1)	"sluta" (1)		
vara (59)	"e" (57); "(e)" (1); "ee" (1)		
ha (20)	"ha" (18); "a" (2)		

Table 19B. Different forms of functional verbs for Bruno (N 119).

	Present	Past	Other
vilja (5)	"vill" (5)		
kunna (7)	"kan" (5)	"kunde" (2)	
måste (1)	"måste" (1)		
skola (39)	"ka" (17); "ska" (14), "ssska" (1), "(s)ka" (1); "ska/ka" (1; reported as frequent)	"skulle" (5)	
sluta (1)	"sluta" (1)		
vara (30)	"e" (16); "(e)" (1; first registration)	"va" (11)	"vadde" (1; non-target-like past); "va" (1; infinitive)
ha (36)	"ha" (20); "aa" (6); "(h)aa" (4); "(a)" (2); "haa" (1); "a" (1); "(h)a" (1), "(ha)" (1)		

As may have been expected, functional verbs show up most frequently in the present tense. For Hugo the proportion of past time forms is 4% (7/158); for Bruno it is 16% (19/119). The relatively high proportion for Bruno is probably due to my focus on past tense forms when making entries in his diary. Since all fifty-nine registrations of

the stative copula for Hugo are in the present tense, the registrations of the copula for Bruno actually seem to reflect a later stage in the acquisition of the copula. I take this as an indication that the present copula is simply insufficiently registered for Bruno.

No functional verb is registered with an explicit r-suffix in the journals (perhaps apart from "få(r)" for Hugo). As will be shown later in the study (*Part II: Morphology*), verbal inflection is an important part of the grammar burst. Nevertheless, verbal inflection is not a significant aspect of the early functional verbs. The cue for "present-ness" of functional verbs is not a matter of suffixation, but rather of syntax. Functional verbs in the present tense in early child Swedish are linguistic items appearing in combination with pronoun subjects and main verbs (in the infinitive or the supine) – they are not inflected in the present tense by suffixation.

It should also be noted that functional verbs have a very minimal structure in the productive language of the two boys, the most frequent verb forms in the two sets of data, when considered together, being "e" (seventy-six tokens), "ska" (sixty-four) and "ha" (fifty-six). This means that the major functional verbs all consist of a single and open syllable. In the case of both boys, but above all for Bruno, we see further reductions of the intentional future marker *ska* (to "ka") and the perfect auxiliary *har* (to "a" or "aa"). The three most important functional verbs in the data presented in this study can thus be described – regardless of their (written) adult forms – as highly frequent monosyllabic and open-syllabic linguistic items with no inflectional morphology.

9.3 Complements of functional verbs

An overview of the complements of the functional verbs in the data is presented in Tables 20A and 20B. Note that entries that do not offer any information about the subordinate verb typically just indicate that a certain type of functional verb is heard frequently during a particular period.

Table 20A. Overview of functional verb constructions for Hugo (N 158).

Verb	Total number of occurrences	Construction with target-like subordinate verb	Construction with non-target-like subordinate verb	Target-like construction without subordinate verb	No information about subordinate verb
vilja	18	11	1	5	1
kunna	17	11	0	4	2
måste	3	2	0	1	0
skola	34	29	0	1	4
få	4	1	0	2	1
orka	2	1	1	0	0
sluta	1	1	0	0	0
vara	59	3	3	53	0
ha	20	17	1	0	2
	158	76	6	66	10

Table 20B. Overview of functional verb constructions for Bruno (N 119).

Verb	Total number of occurrences	Construction with target-like subordinate verb	Construction with non-target-like subordinate verb	Target-like construction without subordinate verb	No information about subordinate verb
vilja	5	1	2	1	1
kunna	7	4	0	2	1
måste	1	0	0	0	1
skola	39	29	0	4	6
sluta	1	1	0	0	0
vara	30	1	0	28	1
ha	36	34	0	0	2
	119	70	2	35	12

As we can see, the subordinate verb is mostly target-like in the two boys' productive language, which means that modals are followed by the infinitive, the perfect auxiliary is followed by the supine and the copula is followed by a participle (even if this particular construction type is very rare).

Non-target-like functional verb constructions (six in total) are, for Hugo: "vem ha ita dä?" [who has drawn there] (2;0; the t-suffix is lacking, target would be *rita-t*); "vill inte sovit" [want not slept.SUP] (2;1); "den e sovit, nallen sover" [it is slept.SUP, teddy sleeps] (2;1); "de e *Hugos äta" [that is Hugo's eat.INF] (2;1); "den ee jick isönde(r)" [that is went.PAST in.pieces] (2;1); "orka inte sova nu, orka inte sovå nu" [manage not sleep.INF now, manage not sleeps.PRES now] (2;1). Non-target-like

functional verb constructions (two in total) for Bruno are: “ja vill tycke(r) om X” [I want likes.PRES X] (2;3); “ja vill tål den” [I want tolerates.PRES it] (2;4; Bruno did not tolerate milk and egg when he was a toddler). One may conclude that both boys display some instances where a verbal complement is wrongly inflected in the present tense or the supine. For both boys such registrations show up in the very middle of the grammar burst.

In the following four sections we will look in some more detail at the emergence of the copula construction, the modal construction (modal + infinitive), the intentional future construction (*ska* ‘shall/will’ + infinitive) and the perfect construction (perfect auxiliary + supine).

9.4 The copula construction

The Swedish present copula *är* is pronounced [e:] or [e], which makes it quite easy to miss in some contexts. For Hugo the first registration is uncontroversial, however. It is registered in the string “den e mins” [it is mine’s] ‘it is mine’ (1;11; uttered repeatedly when pointing at different toys at the public library), i.e., in a context where the copula is reasonably easy to distinguish, since the [n] of the pronoun *den* is distinct. At 2;0 there are seven registrations, all of them starting with *den* + the copula. From 2;1 there are twenty-two registrations from a wider range of contexts. Many of them occur in the first half of 2;1, which makes the copula construction Hugo’s first functional construction acquired. Later the same month, the first rogative question with *är*, “e fa tött?” [är far trött] ‘is father tired?’, is registered (cf. below), as well as formulaic *wh*-questions with the copula, especially “vem–e–de” *vem är det* [who is that] meaning both ‘who is that’ and ‘what is that’.

For Bruno the registration of the copula is a bit uneven. This might be due to the fact that I as a diarist focussed more on forms with past time references than on the copula and the modals, which normally occur first in the present tense. The first instance is uncertain due to weak pronunciation: “(e)”. From 2;1 to 2;3 only four instances have been registered, one of them (from 2;2) being the observation that “vem–e–de” ‘who is that’ is frequently used for ‘what is that’. Nine instances of the copula are registered at 2;4; out of these, four are in the present tense, four in the past tense and one instance is in the infinitive.

Syntactically all instances of the copula are found with a predicative complement – except for a single diary entry stating that the past copula is often heard for Bruno (at 2;7). All quoted utterances also include a subject – except for only the utterance "nu e natt" [now is night] (H 2;1), where the formal subject *det* 'it' is lacking.

For both boys there are precursors to the copula construction during the months before it shows up in the data. The clearest instances come from Hugo. Some examples are: "måni botta" [moon gone] (H 1;7); "falia gubba sännen" [dangerous old.men bed], perhaps meaning 'there are dangerous old men in the bed' (H 1;10); "slut välling moo, dickit" [finished gruel mother, drunk.SUP] (H 2;0); "gummi-stövlo(r) snygg" [rubber.boots nice] (H 2;0). During a single day, when Hugo was 2;1, the two following conversations are reported: H: "inte tött" [not tired]; "Mo tött?" [mother tired?]; L: "Nej, jag är inte trött." [no, I am not tired]; H: "E fa tött?" [is father tired]; L: "Nej, far är inte heller trött." [no, father is not either tired]. The second dialogue starts when Hugo sees me yawn: H: "mo tött?" [mother tired?]; L: "Ja, jag är lite trött. Är du trött?" [yes, I am a little tired; are you tired]; H: "Nej, *Hugo inte tött." [no, Hugo not tired] (H 2;1). It is worth noting that he only manages to produce the copula in the rogative main clause, where the finite verb has a clause-initial position.

9.5 The modal construction

At a systemic level the acquisition of the modal construction can be described as a shift from a stage where "root infinitives" in various (semantically) modal contexts are a dominant utterance type (cf. Josefsson 2002) to a stage where the infinitive appears as verbal complement to actual modals. It is meaningless to try to establish when the target modal construction (modal + verbal complement in the infinitive) replaces an earlier system with root infinitives. The reason for this is three-fold: 1) the infinitive in Swedish (for instance *kasta* 'throw' and *springa* 'run') has the same structure as the most frequent verb form for both Hugo and Bruno up to approximately 1;11, 2) this form is not only an infinitive (it can also function as an imperative and as a present-tense form lacking the final suffix –r), and 3) root infinitives definitely have other functions than appearing in modal contexts (cf. Christensen 2003a). There are simply too many verbs that resemble infinitives and

appear in various functions. In comparison, the emergence of the perfect construction can be described as a shift from "root supine" to full perfect, since the supine is unique to the perfect construction. (This, too, will be addressed in next section.)

The emergence of the modal construction is definitely covered best in the files on Hugo. During two months (2;0 and 2;1) he produced several instances of the non-target-like form "villa", a combination of the modal *vill* 'want to' and the a-morpheme, which is typical of the Swedish infinitive. A total of seven entries in the diary, all from 2;0 and 2;1, include a report about the "villa" form. For instance, it is registered five times in combination with *inte* 'not': "villa inte sova egen säng" [want.to not sleep own bed] 'I do not want to sleep in my own bed' (H 2;0) and "villa inte dokton" [want.to not doctor.the] 'I do not want to go to the doctor' (H 2;1). The combination "villa aa" [want.to have] is reported twice. At 2;0 it is noted in the diary that the string "villa aa x" [want.to have x] (where x stands for a noun) is, at the time, heard several times a day as a replacement for the earlier string "vill x" when Hugo wishes to have a certain object. (There is however no earlier entry reporting or quoting the formula "vill x".) At 2;1 he uses "villa aa" several times when offering me a ball to play with. In the diary it is commented that it "almost sounds like 'vill du ha?' [want.to you have]", which is a target-like way of expressing 'do you want to have it?'. When the form "villa" is followed by "aa" [have] it is for obvious reasons hard to tell if the verb actually is expanded with an –a or not, but when it is followed by the adverbial *inte* 'not' it is more tempting to interpret the final –a as the infinitival morpheme. My hypothesis, therefore, is that *villa* is an over-regularisation into the most typical Swedish morphological infinitive form (which is disyllabic, ending with an –a) during a period when almost all of Hugo's verbs appear in this form. Note that modals in the infinitive do occur in adult Swedish, but not frequently. The target-like infinitive *vilja* 'want to' is not registered during the investigated period in either boy. Actually it is neither found in later recordings, which have been checked up to the age of 3;11. The form *villa* also seems to represent a certain stage in the syntactic development of the modals, cf. below.

Syntactically the modals show a quite distinct chronological development. Not surprisingly, the pattern stands out more distinctly for Hugo than for Bruno, but the data on Bruno does at least not contradict that for Hugo.

The very first instances of the modals for both boys have been registered in constructions without subjects and without subordinated verbs. For Bruno it is

reported in the diary at 2;0 that *vill* 'want to' has been registered "for a long time" and that also *kan* 'can' and *måste* 'must' are now heard regularly. Actually it is not stated explicitly whether the verbs have been registered in one-word-utterances or in more elaborated linguistic strings, but I suspect that it has been in one-word-utterances since no entries quote longer segments. For Hugo "kan inte" 'cannot' and "vill inte" [will not] 'do not want to' are said to be common utterance types at 1;9, with the additional information that "kan inte" has been observed "for a long time". A similar utterance type is "kan fälv" [can self] 'I can do it by myself' (H 2;1). As mentioned earlier, *vill* + a noun is also registered (but reported at a later point in time) during this early period.

At 2;0–2;1 the form *villa* is registered seven times in the diary for Hugo, cf. above. This form is not only morphologically interesting, it also seems to represent a mediating level syntactically, since it is the first modal to be constructed with a subordinate main verb but without a subject. Examples: "villa inte sova egen säng" [want not sleep own bed] (H 2;0); "villa aa [x]" [want have x] (H 2;1). The form is also found without a verbal complement, but instead with a nominal complement, as in "villa inte Gurun, Lena" [want not Gudrun, Lena] (probably meaning 'I do not want to go to Gudrun, I would like to go to Lena instead'; Gudrun was Lena's substitute) (H 2;0); "villa inte dokton" [want not doctor.the] (H 2;1).

For Bruno the only utterances that would be possible to interpret as representatives of a mediating level of development are "ja kunde" [I could] (B 2;2) and "ja kunde, mamma" [I could, mummy] (B 2;2). This utterance type is reported as being heard regularly when Bruno succeeded in doing what he intended – without help from anyone. Here we see a subject but no main verb. Both utterances are however target-like, since the main verb can be left out in adult Swedish in this specific context.

The third step in the development is the full modal construction, i.e., a complete modal sentence consisting of both a subject and a complement verb. For Hugo the transition to this stage seems possible to pin down to a very limited period lasting from 18 to 26 March 1994 (when he was in the middle of 2;1). On 18 March he uttered his first complete modal sentence, "kom ka vi tända" [come shall we turn.the.light.on] 'let us turn the light on', which seems to be holophrastic – this is probably exactly what I usually said to him in the morning. On 19 March he uttered the sequence "villa aa?" repeatedly, which I, as mentioned previously, at the time believed to be very close to the question *vill du ha*; this is otherwise the last instance

of the “villa”-form. The same day he uttered the complete modal sentence “gubben måste sitta där” [man.the must sit there], which I do not regard as holophrastic. The next day “ja ska baan dicka, sa ja, ja ska baan dicka” [I will just drink, said I, I will just drink] is registered. This utterance seems to have been influenced by his peers at his child minder’s since the sequence “ja ska bara” is typical for child Swedish and the segment “sa ja” is otherwise found in utterances that seem to have been picked up at his child minder’s. On 21 March the odd “vill inte sovit” [want not slept] is registered, with a supine as the main verb and no subject. (Note that *sova* is a verb that often appears in the supine for Hugo.) This is the last true instance of a modal sentence without subject.

On 23 March the first instance of an utterance with the general pronoun *man* ‘you’ and *kan* ‘can’ is registered: “man kan tycka knappen, man kan skua dä, man kan öppna, tänga” [you can press button.the, you can turn there, you can open, close] (when examining the washing machine). The same day another pronoun subject is found: “du måste nalle” [you must teddy], the lack of a main verb here is target-like. The next day we find yet another subject: “vi ska leka” [we shall play], and on 26 March we find an inverted word order for the first time: “nu ska *Hugo sjunga, nu ska *Hugo telle” [now will Hugo sing, now will Hugo narrate]. After this period there are no instances of modals registered without subjects – apart from one entry noting that the modal *ska* is frequently heard. The only instances registered without subordinate main verbs are target-like (and rare), for example “Mattin inte skulle de” [M not would that] (the word order is non-target-like). One may conclude that Hugo, over a period of eight days, established the complete modal sentence with various subjects and various main verbs in his productive language, and also uttered examples of target-like subject-verb inversion (i.e., XVS word order).

Bruno’s first complete modal sentence is “ja kan inte sätta på locket, mamma” [I can not put on lid.the] ‘I cannot put on the lid’ (B 2;2). My estimate is that the utterance is not holophrastic; there is no given master for it in adult Swedish, even if it is fully target-like. Although we cannot follow the emergence of the full modal construction for Bruno, it seems to be present at 2;2. From 2;3 there are for Bruno a total of seven utterances with the full modal construction.

To sum up, the modal construction has the following developmental stages: **A)** “bare modals”, i.e., modals with no subordinate verb and with no subject (but sometimes in combination with (object) nouns or a negation); **B)** Modal + verbal

complement in the infinitive, but still with no subject; **C)** Full modal construction consisting of subject, modal and verbal complement. Modals with heavier semantic content (*vill* 'want to', *kan* 'can', *måste* 'have to') show up earlier than the intentional future construction (with *ska* 'shall/will').

As has already been mentioned, modals without verbal complements are sometimes fully target-like. During the very last month discussed here (i.e., 2;5 for Hugo and 2;7 for Bruno) the typically Nordic construction with a modal + a directional adverbial (where a directional verb can be said to be left out) is found: "ja vill inte till Serstin" [I want not to Kerstin] 'I do not want to go to K' (H 2;5); "ska vi på dagis" [shall we on day.care.centre] 'are we going to the day care centre' (B 2;7). Both utterances are target-like. One can conclude that this more peripheral use of the modals emerge later than the main use of the modals.

9.6 The intentional future construction

The Swedish modal *skola* 'shall/will' functions as an intentional future marker, and it is evident that it is not just "one of the modals" in the productive language of Hugo and Bruno. It is as frequent or almost as frequent as the copula or the perfect auxiliary (cf. 6.2 "Frequent verb lexemes"). It is registered six times for Hugo at 2;1 and seventeen times at 2;2. A parallel pattern is found for Bruno: five times at 2;3 and fourteen times at 2;4. *Skola* thus shows up later than other modals, but it soon becomes established as a conventionalised expression for the intentional future meaning. Explicit comments on the intentional future marker are found in both diaries. At 2;2 for Hugo it is noted that he "uses a lot of *ska* [shall/will] in the right contexts now". At 2;4 we find that "his most common functional verb is *ska*".

The emergence of the intentional future marker is actually well documented for Bruno. There is a diary entry (at 2;3) noting that "I have today heard Bruno say 'ska' or 'ka' approximately five times. Have never noticed it before." There is no earlier registration of "ska" in the data that contradicts this observation. But on the previous day there is a (first) registration of "skulle", i.e., the same modal in the past tense, and on the same day as "ska" is said to be frequent there are three more registrations of it in different utterances, for instance "pappa ka sitta dä bakom mej" [daddy will sit there behind me] (B 2;3; when speaking of where each person should sit in the car). A

week later there is a note stating, “have heard ‘ka’ for ‘ska’ [shall/will] a couple of times” (B 2;4). From the later parts of 2;4 there are several full modal sentences to choose among, for instance “ja ka inte gööa de igen” *jag ska inte göra det igen* [I will not do it again] (B 2;4) (i.e., go into the swimming pool with his clothes on). In later diary entries we can read “still a lot of *ska* for the intentional future” (at 2;5) and “has a lot of intentional *ska/ka*” (at 2;7).

We may conclude that both boys acquired the intentional future marker in the middle of the grammar burst, that for both boys the modal *ska* shows up sporadically from early on also in past tense, and that the modal *ska* does not appear in functions other than the intentional future. (There are for instance no unambiguous registrations of the deontic *ska* in the recordings.)

Note that if the observations of the intentional future marker are correct for Bruno, which I am inclined to believe, then the perfect auxiliary actually appears somewhat earlier than the intentional future marker since it shows up sporadically already at 2;2 and in the early parts of 2;3. To be exact, there are six observations of the full perfect registered before the very first registrations of *ska* and *skulle*.

9.7 The perfect construction

For both boys utterances with the perfect auxiliary replace an earlier utterance type with bare supines (so called “root supines”, cf. Josefsson 2002; Christensen 2003a), for instance “pillt boodet” *spillt bordet* [spilled.SUP table.the] ‘I have spilled on the table’ (B 2;0). Table 21 shows the development of the root supine vs. the full perfect for both children. A total of 128 supine forms are registered for Hugo and eighty-two for Bruno. The two non-target-like instances of a supine form as a subordinated verb after other verbs than *ha* ‘have’ (i.e., “den e sovit” [it is slept.SUP] (H 2;1); “vill inte sovit” [want not slept.SUP] (H 2;1)) are not included in Table 21. Still, the two utterances are naturally interesting because they reveal that the supine shows up in a non-target-like subordinated position before it shows up in the target-like construction for Hugo.

It seems as if both boys acquired the full perfect construction at more or less the same age, that is at 2;4 to 2;5. But their developmental processes are not identical.

For Hugo the first registration of a full perfect occurs in an imitation of an adult utterance ("vem ha ita dä?" [who has drawn there]; H 2;0). This item is not included in Table 21 because the subordinated form is not a target-like supine form (the suffix –t is missing). The first target-like instance is instead registered at 2;3 ("ha du sett?" [have you seen.SUP]). At 2;5 it is reported to be frequent. Even if the registrations for Hugo end after 2;5, the figures illustrate a rapid switch from single supine forms to the full perfect in Hugo's productive language. At 2;5 it is explicitly stated that Hugo "now uses 'ha' [have] in approximately 50% of all supine-utterances"; already six days later it is stated that "ha" is heard "in almost all supine-utterances".

Table 21. Syntactic function of the supine for Hugo and Bruno.

	Hugo		Bruno	
	Root supine	Full perfect	Root supine	Full perfect
1;9			8	
1;10	1		0	
1;11	3		0	
2;0	31		5	
2;1	44		5	
2;2	14	0	6	2
2;3	10	1	7	6
2;4	4	11	9	11
2;5	0	7	1	6
2;6	—	—	0	1
2;7	—	—	7	8
∑	107	19	48	34

In comparison, Bruno actually started out earlier than Hugo with full perfect constructions (as well as with the root supine), but he then alternated between using bare supine forms and full perfect constructions for a long period of time. An important factor is that many of the quotes have different supplementary notations indicating that the auxiliary was weakly pronounced. At 2;7 there are a total of fifteen registrations of the supine for Bruno. One of them is not a quote but a note on a specific form; six of them are quotes of whole utterances with the supine but with no indication at all of the auxiliary (for instance "ja klippt gääset me pappa" [I cut grass.the with daddy] 'I and daddy have mowed the lawn' (B 2;7); "Ebba cyklit dä" [Ebba cycled there] (B 2;7)); five of them are quotes where the auxiliary is noted as "ha", for instance "ja ha pättat nya bilen" [I have washed new car.the] (B 2;7). The remaining records show the auxiliary either within brackets, indicating that it has been

very weakly pronounced, or in the form “a”, i.e., with the initial [h] left out. At 2;7, the full perfect is explicitly reported as acquired more or less fully for Bruno, even if there actually are later instances of root supines.

It is possible to conclude that what for Hugo seems to be a rapid syntactic switch (from root supine to full perfect), is for Bruno a much more prolonged process where the two variants alternate. The difference may be related to general linguistic developmental pattern of the two boys. Hugo had a much more distinct pronunciation than Bruno did, and he also seems to have acquired different syntactic constructions more rapidly. If and how these general tendencies are related to one another is a question that naturally cannot be elucidated from the diary data.

9.8 Conclusion

Hugo and Bruno acquire four major Swedish functional verb constructions during the period investigated. There is no fixed chronological order among the four functional constructions, however. The only chronological pattern that is parallel between the boys is that the full modal construction (subject + modal + verb in the infinitive) precedes the intentional future marker (which is a type of modal construction).

In Figures 2A and 2B, a graphic representation of the emergence of functional verbs and related phenomena is presented. The emergence of more than sporadic root supines is also indicated, even if this part of the story rather has to do with morphology. It is clear that Bruno was earlier than Hugo when it comes to producing verbs in the supine.

1;8	1;9	1;10	1;11	2;0	2;1	2;2	2;3	2;4	2;5
	First modals				Full modal constr				
				Copula constr					
						Intentional future constr			
				Root supines				Full perfect constr	

Figure 2A. The emergence of functional verbs and related phenomena for Hugo.

1;8	1;9	1;10	1;11	2;0	2;1	2;2	2;3	2;4	2;5
				First modals			Full modal constr		
								Copula constr	
								Intentional future constr	
	Root supines							Full perfect constr	

Figure 2B. The emergence of functional verbs and related phenomena for Bruno.

10 Clauses

In this chapter some early subordinate clause types and a couple of main clause types other than the declarative main clause will be discussed.

Because it is very difficult to establish "watertight" criteria for determining when a syntactic string is a target-like declarative clause in child Swedish (cf. Wikström 2008), I will avoid the question and instead go in the opposite direction by determining linguistic strings that show structural indications of being either specific main clauses (other than declaratives) or subordinate clauses. The analysis takes the verb unit analysis as its starting point, cf. Chapter 7. The number of verb units in Hugo's files is 678; in Bruno's files there are 399 verb units. The number of various non-declarative main clauses is forty-two (6% of all verb units) for Hugo and twenty-nine (7%) for Bruno. The number of (possible) subordinate clauses is twelve (2%) for Hugo and thirteen (3%) for Bruno. What remains is a number of verb units consisting of one-verb-utterances, proto-declaratives of various kinds and (more or less) fully target-like declaratives. For Hugo 92% (624/678) and for Bruno 89% (357/399) of all verb units are of this unspecified type. (These numbers also include explicit comments on isolated verb lexemes or verb forms.) Instead of trying to define which of all these verb units are proper declarative main clauses and which are not, I have carried out an analysis of clause subjects (see the following chapter). This investigation can be said to illustrate the emergence of the full declarative main clause by examining one significant aspect of it – the presence of a target-like subject.

10.1 Main clauses other than declarative main clauses

In Swedish, the following types of main clauses can be identified – more or less unambiguously – by structural criteria: Imperative clauses (with the verb in imperative form), *wh*-questions (with an initial *wh*-word), V1-questions (the Swedish yes/no-question has V1 word order, as in *Sover du?* [sleep you] 'are you sleeping'?), exclamative clauses (with for instance *så* 'so' or *vad* 'what' as the initial word in adult language). Various problems with the structural criteria are discussed below. Note

however already here that one of the most important criterion when distinguishing clause types, namely prosody, have not been considered due to the nature of the data.

Table 22 offers an overview of the registrations of non-declarative main clauses for Hugo and Bruno. (Verb-less counterparts to these structures are not included in the figures, but are sometimes commented on below.)

Table 22. Main clauses other than declarative main clauses for Hugo (N 42) and Bruno (N 29).

	Imperative		*Wh*-question		V1-question		Expr.
	Hugo	Bruno	Hugo	Bruno	Hugo	Bruno	Hugo
1;5	1						
1;6	2						
1;7	3						
1;8	1						
1;9		1					
1;10	1						
1;11					1		
2;0			1				
2;1	4		9	1	4		
2;2	1		3	2	2	2	
2;3	1		1	1	1		1
2;4		1	2	10	3		
2;5				3		1	
2;6	—		—		—	1	—
2;7	—		—	1	—	5	—
∑	14	2	16	18	11	9	1

The imperative clause is distinguished by the presence of a verb in an unambiguous imperative form, and will not be discussed further. In fact, imperative clauses are surprisingly rare for both boys, and I have no hypothesis concerning why this is so. One exclamative clause is reported for Hugo: “titta högt uppe ja e” (H 2;3; when he is climbing a tree at the playground). The target string would have been *titta så högt uppe jag är* [look so high up I am].

10.1.1 *Wh*-questions

The development of the *wh*-question exhibits a parallel pattern in both data sets, Hugo, however, being clearly earlier than Bruno, since he uses many *wh*-questions already at 2;1. For Bruno there is no frequency increase until 2;4. For both boys it is possible to detect a frequency peak when it comes to *wh*-questions, however.

The very first instance for Hugo is an imitation of what I had said a couple of hours earlier: “vem ha ita dä?” (H 2;0). Two weeks later the verb-less utterance “defönåt?” (H 2;0) was registered (when Hugo found a broken toy bucket at the playground) with the comment that this is his first question with an interrogative form. (Because it is verb-less it is not included in Table 22.) The target-like string is “va e de för nåt?” [what is that for something] ‘what’s that’, where the typical tag “för nåt” can be more or less expanded in spoken Swedish, variants being “för något”, “för nånting” and “för någonting”. At 2;1 “(v)em e de?” ‘who’s that’ is registered within two days in similar situations: when we were looking at pictures and when we were watching the Moomins on TV. Hugo asked this question when he wanted to know the name of a person or a character. Two days later “vem e de?” (2;1) was uttered when I had given him some biscuits he had not seen before. In the same entry it is noted that “vem e de” ‘who’s that’ is often heard in contexts where *vad är det* ‘what’s that’ would have been appropriate. Later the same month it is reported that “vem e de fö nånting?” [who is that for something] ‘who’s that’ (2;1) is used whenever Hugo wants to know the word for something. During 2;2 “va e de fö(r) nånting?” [what is that for something] ‘what’s that’ is registered twice, once with the comment that the question is used also for animate referents, and once with the comment that he poses the question so often that it is impossible to answer it every time. In total, most of the *wh*-questions closely follow standard adult Swedish interrogatives, another example being “va jö(r) du?” (2;1) [what do you] ‘what are you doing’. A somewhat less formulaic utterance is “vem e de pizza?” (target: *vems pizza är det?*) ‘whose pizza is that?’ (2;1). In “va e fa henne?” [where is father somewhere] ‘where is father’ (2;1) he mixes Swedish and Danish (Swedish target: *var är far nånstans?*; Danish target: *hvor er far henne?*). In total, eight instances of *vem* ‘who’, five of *vad* ‘what’ and three of *var* ‘where’ were registered for Hugo.

Bruno’s first *wh*-question seems clearly holophrastic: “va sa du?” *vad sa du?* [what said you] ‘what did you say?’ (B 2;1). At 2;2 “vem e de, mamma?” is registered with the comment “often used for ‘what’s that’”. More creative is “va e mina kuckeliku?” [where is my.PLUR cook-a-doodle-doo] (B 2;2; when referring to a picture of a rooster). The target-like question ”Vad hände?” [what happened.PAST] ‘what has happened?’ is registered three times for Bruno (on three different occasions): “va hände mamma? va hände mamma? va hände mamma?” [what happened mummy] (B 2;3); “va hände du slog dig mamma?” [what happened you hit yourself mummy]

'What happened, did you hurt yourself, Mummy?' (B 2;4); "vad hände pappa?" [what happened daddy] (B 2;4). The context is very specific and always the same: when someone in the family has hurt him- or herself. In the diary on Hugo there is an explanation for this use: When I heard Hugo whimper in his room I asked "Vad hände?", and Hugo then answered by explaining that he had hurt his foot when treading on some toys. All three instances of "Vad hände?" for Bruno were noted in exactly the same context: When he could hear someone in the family calling out or saying "ow". Obviously the verbal reaction in this pragmatic situation had become a family routine.

Even if there are clearly some holophrastic *wh*-questions also for Bruno, he still exhibits greater variation than does Hugo. This is probably due to the fact that Bruno's data reflect a later stage of development and perhaps also because I might have overseen the earlier and – for me as a second-time diarist – less interesting instances of this linguistic feature for Bruno. Above all, there are many *wh*-questions with the supine or the full perfect for Bruno (a total of nine, from 2;4 and later), while there are only two for Hugo (the first *wh*-question, which is an imitation, cf. above, and the last registration, at 2;5: "va a du slagit dig?" [where have you hit yourself]; when seeing that I had a small crust of blood on my hand). For Bruno, three *wh*-questions with full perfect were registered on the same occasion, when he was talking about a picture that Hugo had made: "vem (h)aa joot den? vem (h)aa itat den? vem (h)aa joot bokstave(r) den? [who has made that.one? who has drawn that.one? who has made letters [on] that.one] (B 2;4). At 2;7 he uttered a *wh*-question with the copula in the past tense: "vem va de?" [who was that] (when a girl had held the door open for us at the local store; the utterance is accompanied by the comment that "he is in general very good at asking questions".) In total, nine instances of *vem* 'who', seven of *vad* 'what' and one of *var* 'where' have been registered for Bruno. He also provides one instance of 'when': "nä komme pappa igen?" 'when is daddy coming back?' (B 2;4; when I had been angry with him and he longed for his father; the string might have been rote-learned – from Hugo).

One may conclude that both boys to some extent produce *wh*-questions within the period investigated; that many of them, above all during the earliest period, seem to be holophrastic; that both boys confuse animate and inanimate *wh*-words; that the *wh*-questions appear to be more creative from 2;4 (at least for Bruno); that both boys are reported to have intense periods of questioning many things. For Hugo it is explicitly

mentioned that he wants the adult in question to answer by supplying the name or word for something.

For a comprehensive account of the acquisition of the *wh*-question in Swedish, see Santelmann 1995 and Santelmann 2003.

10.1.2 V1-questions

The V1-question is found half as often in the files as the *wh*-question, but it appears for both Hugo and Bruno and presents a parallel pattern. It is impossible to detect any peak in the emergence of V1-questions in either boy – as was the case for the *wh*-question for both boys. As with *wh*-questions, there are instances that might have been rote-learned (in that the strings entirely coincide with standard adult formulations in specific pragmatic situations), for instance: "fötå du?" [understand you] 'do you understand' (H 2;1); "ha du sett?" [have you seen] 'have you seen this/it' (H 2;3); "ha du jömt dej?" [have you hidden yourself] 'are you hiding' (H 2;4); "ka vi gå ne?" [shall we go down] (B 2;5; a standard question in the morning when we go downstairs to the kitchen and living-room); "föstå du mamma?" 'do you understand, Mummy' (B 2;7). No specific V1-question is reported to have occurred particularly frequent, however.

Note that the V1-question coincides structurally with other V1-strings. In the diary, questions are marked with question marks and the pragmatic context is usually described in detail. Very few of the V1-utterances are explicitly discussed as borderline cases in the diary. I have obviously been quite certain of my interpretation of some utterances as questions and others as non-questions, which might be because of prosodic features (that are not commented on). The analysis here relies on this first impression made by me as a diarist.

The very first instance of a V1-questions for Hugo is "pela ja?" [play I] (H 1;11; when showing me a toy guitar; interpreted by me as 'may I play?'). The next occasion, at 2;1, reveals two instances. When Hugo was playing that he was cutting the fur on his teddy bear with a pair of scissors he says: "klippo bamsen ja?" [cut teddy I] (H 2;1; at the time interpreted as 'may I cut teddy's fur', but naturally another option is 'I am cutting teddy's fur'). After this utterance I almost immediately left the room to find some paper and register the utterance (because of the early present-tense

form “klippo”), and I told Hugo that I was going to write something down. When I was in the other room where he could not see me, he asked: “mo, skivo du?” [mother, writes you] ‘are you writing’ (H 2;1), producing a new V1-question and a new present-tense form. An instance without a finite verb is “sovit gott?” [slept.SUP well) (H 2;1; a question to his father in the morning; the target-language phrase would be *har du sovit gott* [have you slept well]), but it is very likely that this phrase occurs in the reduced form also in adult Swedish, i.e., without the starter “har du” [have you].

Two weeks later the following conversations were registered on two different occasions during the same day,

> 1. H: “inte tött” [not tired] “Mo tött?” [mother tired?] L: “Nej, jag är inte trött.” [no, I am not tired] H: “E fa tött?” [is father tired?] L: “Nej, far är inte heller trött.” [no, father is not either tired]. 2. (Later the same day) I yawned and Hugo reacted to that. H: “mo tött?” [mother tired?] L: “Ja, jag är lite trött. Är du trött?” [yes, I am a little tired. Are you tired?] H: “Nej, *Hugo inte tött.” [no, Hugo not tired].

According to the diary, the verb-less question “mo tött” was uttered twice and the target-like version “e fa tött” once, but naturally it can be very difficult to judge whether the copula “e” is audible or not in this context. The whole scene seems to be quite well rehearsed; this conversation probably recurred on a more or less daily basis.

Note that the same conversation has been discussed in the section on the second-person pronoun *du* ‘you’ (8.4.2) and in the section on the copula construction (9.4). It is not unreasonable to hypothesise that there is a link between V1-questions and the second-person pronoun in the acquisitional process. Normally people pose questions to their interlocutors one at the time. And a copula V1-question definitely needs the copula to be well formed. The “are-you-tired” conversation illustrates a connection between a certain pronoun, a certain functional verb and a certain clause type with a certain communicative function. All these linguistic items and levels are involved at the same time, and the conversation can be taken as a snapshot of what the grammar burst is all about: pronouns, functional verbs, clause types and communicative types. (As in the rest of this part of the study, I neglect verb morphology, which is a significant part of the grammar burst – so significant that it requires a section of its own.)

Also for Bruno the first registration of a V1-question shows up with a content verb, in a non-formulaic string: “öppna man dä, mamma? stänger man dä mamma?” [opens one there, mummy, closes one there mummy] (B 2;2; when playing with a Lego building with a door). For both boys clauses with functional verbs dominate the later registrations. For Hugo the six latest registrations (out of a total of nine) begin with *kan* ‘can’, *har* ‘have’ or *ska* ‘shall/will’ (from 2;2 to 2;4). One instance is “kan man båta den båtet, mo?” [can you boat that boat, mother] (H 2;2; the verb ‘boat’ is a neologism in Swedish, probably he means ‘sail’). The string “ska ja X” [shall/will I X] (where X stands for a content verb in the infinitive) is reported to be very frequent at 2;4. For Bruno four (out of nine) registrations from 2;5 to 2;7 begins with *ska* ‘shall/will’ and one with *har* ‘have’ (at 2;4).

Even if the data is very sparse, it seems to exhibit the same pattern: The very first V1-questions appear with content verbs and in one-verb-units. After a while, V1-questions typically show up in two-verb units, perhaps with a certain preference for the intentional modal *ska* in the first position. For Bruno we find, for instance, the following utterances, registered on different occasions, when he wanted to know the plans for the day: “ka vi på dagis ida?” [will we on day.care.centre today] ‘are we going to the day care centre today?’ (B 2;7); “ska mommo hämta mig idaa?” [will grandma pick.up me today] ‘is grandma going to pick me up at the day care today’ (B 2;7). (Both questions are structurally target-like.) Another target-like instance is “ska ja hoppa?” [should I jump] (B 2;7).

10.1.3 Hugo’s Danish holophrases

In the data for Hugo there are in total eight registrations of utterances that correspond to six different target-like Danish clauses (or in one case, a phrase). Already when taking notes, I regarded these as clearly holophrastic (and naturally originating from his Danish-speaking father), and they are neither discussed in the lexeme analysis nor as verb units. They are: “va(d) [hvad] lave(r) du?” ‘what are you doing’ (2;0); “bange fo(r) daj” ‘afraid of you’ (2;0; when Hugo and his father were playing wildly in bed); “gi maj et koos” ‘give me a kiss’ (2;1); “de må du gerne” ‘yes, you may’ (2;1; repeatedly); “ja sauner daj, ja sauner daj” ‘I miss you’ (2;3); “va lave(r) du?” ‘what are you doing’ (2;3); “jeg gider ikke mer” ‘I don’t feel like it anymore’ (2;4;

frequently). These utterances show up temporally just before or during the grammar burst. These phrases indicate, even more clearly than holophrastic Swedish clauses, that one of the ongoing processes during this stage is that the child connects holophrastic strings (complete and target-like sentences) to specific pragmatic situations, often in an entirely adequate way.

Hugo shows some kind of meta-linguistic interest or understanding for the differences between Danish (his father's mother tongue) and Swedish from 2;3 and later. When he spontaneously uttered "ja sauner daj, ja sauner daj" 'I miss you' (2;3; in the morning when I picked him up from the bed), it took me a while to understand what he had said. When I did, I repeated the Danish sentence and then Hugo uttered: "de e danska" 'it is Danish'. This sentence is registered three times more (during the same month), once when he commented on a Danish expression (namely *hvad laver du* 'what are you doing'), but also twice as a comment on Swedish expressions. (A much later note, at 3;0, reports Hugo's comment when he hears a Dane speaking Swedish on the radio: "han pratar svenska och danska" 'he speaks Swedish and Danish'.) It is obvious that from early on he was aware of the differences between Swedish and Danish, even if he was not always correct in his judgements.

10.2 Subordinate clauses

Before the end of the period investigated only a very few regular subordinate clauses were registered for Hugo and Bruno, but the initial state of the development of subordination can nevertheless be detected. Both boys started out with utterances consisting of a possible matrix clause and a possible subordinate clause, in which the subordinator is lacking. Naturally it is difficult to tell the difference between two juxtaposed main clauses and a combination of a matrix clause and a subordinator-less subordinated clause, but I have nevertheless registered instances that I have interpreted as showing subordination: for Hugo, mainly of relative clauses, for Bruno, mainly of *when*-clauses. For both boys isolated but well-formed subordinate clauses, i.e., including a subordinator but not having a matrix clause, are found, as are possible subordinate clauses lacking the copula. These strings (consisting only of verb units) are presented in Table 23.

Table 23. (Possible) subordinate clauses for Hugo (N 12) and Bruno (N 13).

	Matrix clause but no subordinator		No matrix clause but subordinator		Matrix clause and subordinator	
	Hugo	Bruno	Hugo	Bruno	Hugo	Bruno
2;1	1					1
2;2						
2;3	3		2		1	
2;4		4	2		1	
2;5		2			2	
2;6	—	1	—		—	1
2;7	—	3	—	1	—	
∑	4	10	4	1	4	2

The first of Hugo's utterances that appears to consist of a relative clause is "dä e ingen gubbe sitto takton" [there is no man sits tractor] 'there is no man sitting in the tractor' (H 2;1). At 2;3 there is a subordinate clause with a subordinator but lacking a matrix clause: "precis som Pippi gör med sina pappa" [exactly as Pippi does with her.PLUR daddy]. The same month we find a relative clause lacking the copula: "nej de e bebin som lessen" [no it is baby.the that sad] (not included in Table 23 because it is not a verb unit). The first target-like subordinate clause is relative: "de e en krokodil som e arg" 'that is a crocodile that is angry' (H 2;3). The only instance of another subordinator than *som* (relative or comparative 'that') is found at 2;5: "ja berättade fö gubben att ja trillade igå" [I told to man.the that I fell yesterday] 'I told the man that…' (at the beach, when Hugo had been talking to a man sitting nearby).

For Bruno the first possible subordinate clause is the remarkable utterance "mamma sjunga natten möökt (nå) *Bruno sova sej" " [mummy sing night.the dark, (when) B sleep himself] (B 2;1) where a subordinator may or may not have been discernible. (This utterance is also discussed in Section 2.3.) At 2;4 there is an instance of reported speech: "Ebba sa de va takto" [Ebba said it was tractor] (B 2;4). The following instances show semantically plausible *when*-clauses, which however lack the subordinator: "ja ka gå in dä ja ätit" [I will go in there I eaten] 'I will go in there (i.e., in the broom cupboard) when I have finished eating' (B 2;5); "ja kan inte ha napp, ja ska äta" [I can not have comforter, I will eat] 'I cannot have the comforter when I am going to eat' (B 2;5). The first convincingly target-like subordinate clause is relative (with a locative adverb): "*Hugo ska hoppa dä ja ha målat" [H shall jump where I have painted] (B 2;6; he actually wanted Hugo to jump on Bruno's painting). At 2;7 the following strings are reported to be heard frequently: "ja tagit sönde den ja

liten" [I take.SUP into.pieces that.one I little] and "ja liten tagit sönde den" [I little took.SUP into.pieces that.one] (when talking about a book that he had torn a piece from when he was younger). Here we find possible *when*-clauses lacking the copula. The same month we find an isolated *when*-clause with a subordinator: "nä vi skulle till bilen" [when we would to car.the] 'when we were going to the car' (B 2;7; as part of a narrative, but not clearly as part of a matrix clause). Later the same month we find another possible *when*-clause, this time with the copula: "ja skik (då), ja va liten" [I screamed (then), I was little] (B 2;7).

As has previously been mentioned, we can detect the first indications of subordination in the data. The main parts of this process nevertheless occur during a later period than the one here investigated, i.e., after the age of 2;6. For accounts of subordinate clauses in child Swedish, see Lundin 1988 (1987) and Waldmann 2008.

10.3 Conclusion

From the body of unspecified verb units that were registered before the grammar burst for each child, we can begin to sort out some specific clause types by structural criteria from approximately 2;0 and later. The *wh*-question is the most frequently occurring type, for Hugo from 2;1 and for Bruno from 2;4. Most instances of the *wh*-question are partly or wholly holophrastic. Some true V1-questions seem possible to distinguish, even if there are not many of these. Some very sporadic target-like subordinate clauses can also be discerned. The majority of the verb units do not belong to either of these clause types, however; instead, they are either one-word utterances (or comments on specific verb lexemes or verb forms), proto-declaratives of various types, or proper declaratives. In the following chapter, I will investigate one important constituent of the declarative main clause – the clause subject. Subjects of other clause types are naturally also discussed. Even so, the declarative is clearly the dominant clause type in the data, and the emergence of the subject can therefore be seen as an important aspect of the development of the declarative main clause.

11 Clause subjects

Swedish is a language in which it is obligatory to express the subject of a clause. During the period investigated, the productive language of Hugo and Bruno developed from a stage where no verb units have subjects to a stage where approximately 80% of all verb units have subjects. The emergence of clause subjects thus constitutes a major change in the two boys' productive language during the period investigated.

11.1 Analytical method

The subject analysis is in the first instance a simple division of the material into utterances that have and those that do not have a subject. The analytical unit is the verb unit, cf. Chapter 7. The following labels have been used in the analysis:

Null: the verb unit contains no noun phrase/pronoun that can be interpreted as a semantic and syntactic subject. Note that I make the general assumption that all clauses are in the active voice. If there is a nominal this would have been an object (or a part of another type of verbal complement) in a corresponding adult construction, for instance "tappa buuk" [drop book] (B 1;8); "äta bilu" [eat bun] (B 1;8); "plocka päälo" [pick pearls] (B 1;8); "gå bila" [go car] (H 1;6; when he wanted us to go to our car); "leka banin" [play children] (H 1;6; when he did not want to leave his child minder because he wanted to continue playing with the other children); "licka otin" [lick foot.the] (H 1;6). Note that records that do not quote actual utterances but only comment on the presence or frequency of certain verb lexemes or forms are also discussed among the null subjects.

Subject: the verb unit contains a noun phrase or a pronoun that can be interpreted as a syntactic subject, the guiding principle being whether or not this nominal could have been taken for a subject in a target-like (and active) clause (even if somewhat oddly placed in the actual linguistic string).

In some early instances, a nominal that can be regarded as a semantic subject is not pronounced within the same prosodic curve as the verb. Example: "akka, bita, akka,

bita" [duck, bite, duck, bite] (B 1;7; when commenting on a picture where a duck is biting a duckling). Here the noun is still identified as a subject. A tricky question has sometimes been to disambiguate between addressees and subjects, when the nominal refers to the interlocutor. Normally a nominal referring to the addressee is separated from the rest of the utterance by a comma in the diary, but not always. Borderline cases, of which there are a handful, are dealt with as subjects. Examples: "sova fabbon" [sleep man.the] (H 2;0; in a bed-time monologue; it is impossible to tell if Hugo was talking to the man or about the man); "rita mo bil" [draw mother car] (H 2;1, when he wanted me to draw a car). Even if a majority of potential subjects have a target-like placement, their position has not been used as a criterion for identifying them; also, a handful of strangely placed nouns or pronouns that appear to be (semantic) subjects are regarded as such. Examples: "åka bil, åka bil Mattit" [ride car, ride car Martin] (B 1;9) (the proper name Martin is identified as a subject; from the context it is clear that Bruno is talking about Martin, not to him); "nötte(r) äta man kan" [nuts eat one can] (H 2;1) (the pronoun *man* 'one' is identified as a subject), etc. The verb *få* 'get' has been registered several times for Hugo at an early stage in combination with a noun referring to a person who has given Hugo a gift. Since the verb is construed with the receiver as the subject in adult Swedish – not the giver – these instances are not included in the subject analysis. (For a short digression on the interesting verb *få* 'get', see Section 11.4 below.) Note that the clauses where a subordinator is reported are treated as subordinate clauses in the subject analysis, whether or not there is a matrix clause present in the same utterance (eight instances for Hugo and three for Bruno; cf. Table 23, above).

In the second step of the analysis, subjects were classified according to structural type, the following categories being employed:

Noun phrase (NP). Three types of noun phrases occur as subjects in the data:

A) noun phrases with a common noun as a head, the noun most often being the only word of the noun phrase; example: "nalle tilla" [teddy fall] (H 1;7);

B) noun phrases with a 'family word' (i.e., a word denoting a member of the family) as a head (the most frequent by far are *mor* 'mother', *far* 'father' for Hugo, and *mamma* 'mummy', *pappa* 'daddy' for Bruno), the noun always being the only word of the phrase; example: "e fa tött?" [is father tired] (H 2;1);

C) noun phrases with a proper name as a head, the noun always being the only word of the phrase; example: "Matti laga bilen" [Martin mend car.the] (H 1;7).

The three types emerge equally early and are equally well represented: Hugo's data includes one hundred and forty-seven noun phrase subjects, out of which forty-five are common noun subjects (twenty-six animate; nineteen inanimate), fifty-three are family word subjects and forty-nine are proper name subjects. Bruno's data includes ninety-three noun phrase subjects, out of which thirty-four are common noun subjects (seventeen animate; seventeen inanimate), thirty-two are family word subjects and twenty-seven are proper name subjects. The different types of noun phrase subjects will not be discussed.

Pronoun: All types of pronouns are grouped together in the structural type analysis, but first-person pronouns (*jag* 'I' and *vi* 'we') are also dealt with as a separate subset. In addition to this, non-referential pronoun subjects are treated as a discrete semantic type, cf. below.

In the final step of the analysis, subjects were classified according to semantic type, with the following categories being employed:

Animate: The subject nominal refers to humans, (toy) animals or fictitious characters; the subjects are always referential.

Inanimate: The subject nominal refers to objects or masses; the subjects are always referential. Also vehicles that constitute a significant subgroup of non-animate subjects (cf. Section 5.1), are considered inanimate, even if "semi-animate" would have been a possible label, at least when such subjects are used with directional verbs.

Formal: In this category different kinds of more grammatical subject categories are grouped together, for instance *wh*-words (*vem* 'who', *vad* 'what'), formal or expletive subjects (*det* 'it', *där* 'there'), subordinators (*som* 'that' [relative subordinator]). What they have in common is that they function as syntactic subjects but do not refer to specific entities in and of themselves. Strictly speaking, this category is both semantic and syntactic.

Furthermore, all subjects have been divided into two word order types: those in a post-verbal position and those in a pre-verbal position. (See Section 11.3.)

11.2 Chronological development

In this section the chronological development of utterances with subjects will be discussed. The data for Hugo consists of 678 verb units (i.e., linguistic strings

including at least one verb). The data for Bruno consists of 399 verb units. For details of the verb unit analysis, see Chapter 7. The chronological development of subjects is presented in Tables 24A and 24B (absolute numbers) and 25A and 25B (percentages).

The two data sets are not parallel in an overall perspective: Hugo has more zero subjects than Bruno (48% compared to 28%). This circumstance can most likely be explained by differences in the diary recordings. For Hugo, 446 (66%) of the verb units are registered before 2;2, and 232 (34%) units are registered from 2;2 to 2;5. For Bruno, 122 (31%) verb units are registered before 2;2, and 277 (69%) are registered from 2;2 to 2;7. This means that the data on Bruno partly reflects a later stage of development than the data on Hugo. In spite of this, the emergence of subjects is parallel, a process that involves three stages. Hugo's development of clause subjects can be summarised as follows:

A) the number of clauses with subjects is less than 10% (from 0;10 to 1;7);

B) the number of subjects varies, but is approximately 45% (from 1;8 to 2;1);

C) the number of subjects is more than 80% (from 2;2 to 2;5).

For Bruno the picture is a little less homogeneous, but if we neglect some deviant months (typically with very sparse data), his development can be described as follows:

A) the number of clauses with subjects is less than 30% (from 1;3 to 1;9);

B) the number of subjects varies, but is approximately 50% (from 1;10 to 2;1);

C) the number of subjects is more than 80% (or even 90%) (from 2;2 to 2;7).

It seems possible to conclude that both boys show the same developmental pattern where clause subjects are concerned; extra noteworthy is the fact that they reach stage C at the same age, at 2;2. Note that for Bruno, out of sixteen null subjects at 2;7, fourteen indicate comments on specific verb forms, i.e., the diary entries do not quote whole utterances. This means that 19% of null subjects is a misleading figure.

Table 24A. Chronological development of semantic/syntactic subjects for Hugo (absolute numbers).

Age	Verb units	Subject or not (N = 678)		Structural type of subject (N = 350)			Semantic type of subject (N = 350)		
		Null subj.	Subj.	NP	Pron.	*1 p.*	Anim.	Inan.	Form.
0;10	1	1							
1;0	7	7							
1;3	2	2							
1;4	11	11							
1;5	5	5							
1;6	24	24							
1;7	52	47	5	5			5		
1;8	14	6	8	7	1		7	1	
1;9	4	4							
1;10	10	7	3	2	1	*1*	2	1	
1;11	16	9	7	4	3	*2*	6	1	
2;0	89	52	37	28	9	*1*	24	12	1
2;1	211	114	97	49	48	*12*	68	19	10
2;2	100	16	84	37	47	*26*	70	10	4
2;3	68	11	57	7	50	*32*	41	9	7
2;4	35	8	27	3	24	*16*	23		4
2;5	29	4	25	5	20	*16*	23	1	1
∑	**678**	**328**	**350**	**147**	**203**	***106***	**269**	**54**	**27**

Table 24B. Chronological development of semantic/syntactic subjects for Bruno (absolute numbers).

Age	Verb units	Subject or not (N = 399)		Structural type of subject (N = 288)			Semantic type of subject (N = 288)		
		Null subj.	Subj.	NP	Pron.	*1 p.*	Anim.	Inan.	Form.
1;3	2	2							
1;6	3	3							
1;7	9	6	3	3			3		
1;8	25	23	2	2			1	1	
1;9	37	27	10	6	4	*1*	9	1	
1;10	7	4	3	3			2	1	
1;11	5		5	3	2	*2*	4	1	
2;0	9	4	5	4	1	*1*	5		
2;1	25	9	16	9	7	*4*	14	1	1
2;2	28	4	24	6	18	*14*	22	1	1
2;3	58	6	52	14	38	*32*	43	8	1
2;4	68	5	63	11	52	*34*	44	8	11
2;5	25	2	23	5	18	*12*	20	1	2
2;6	13		13	7	6	*3*	8	5	
2;7	85	16	69	20	49	*45*	66	2	1
∑	**399**	**111**	**288**	**93**	**195**	***148***	**241**	**30**	**17**

Table 25A. Chronological development of semantic/syntactic subjects for Hugo (percentages).

Age	Verb units	Subject or not (N = 678)		Structural type of subject (N = 350)			Semantic type of subject (N = 350)		
		Null subj.	Subj.	NP	Pron.	*1 p.*	Anim.	Inan.	Form.
0;10	1	100							
1;0	7	100							
1;3	2	100							
1;4	11	100							
1;5	5	100							
1;6	24	100							
1;7	52	90	10	100			100		
1;8	14	43	57	88	12		88	12	
1;9	4	100							
1;10	10	70	30	67	33	*33*	67	33	
1;11	16	56	44	57	43	*29*	86	14	
2;0	89	58	42	76	24	*3*	65	32	3
2;1	211	54	46	51	49	*12*	70	20	10
2;2	100	16	84	44	56	*31*	83	12	5
2;3	68	16	84	12	88	*56*	72	16	12
2;4	35	23	77	11	89	*59*	85		15
2;5	29	14	86	20	80	*64*	92	4	4
∑	**678**	**48**	**52**	**42**	**58**	***30***	**77**	**15**	**8**

Table 25B. Chronological development of semantic/syntactic subjects for Bruno (percentages).

Age	Verb units	Subject or not (N = 399)		Structural type of subject (N = 288)			Semantic type of subject (N = 288)		
		Null subj.	Subj.	NP	Pron.	*1 p.*	Anim.	Inan.	Form.
1;3	2	100							
1;6	3	100							
1;7	9	67	33	100			100		
1;8	25	92	8	100			50	50	
1;9	37	73	27	60	40	*10*	90	10	
1;10	7	57	43	100			67	33	
1;11	5		100	60	40	*40*	80	20	
2;0	9	44	56	80	20	*20*	100		
2;1	25	36	64	56	44	*25*	88	6	6
2;2	28	14	86	25	75	*58*	92	4	4
2;3	58	10	90	27	73	*62*	83	15	2
2;4	68	7	93	17	83	*54*	70	13	17
2;5	25	8	92	22	78	*52*	87	4	9
2;6	13		100	54	46	*23*	62	38	
2;7	85	19	81	29	71	*65*	96	3	1
∑	**399**	**28**	**72**	**32**	**68**	***51***	**84**	**10**	**6**

Key to Tables 24A, 24B, 25A and 25B:
1 p. – first-person pronouns (*jag* 'I' and *vi* 'we'); this category is a subset of all subjects
Anim. – subjects with an animate reference
Inan. – subjects with an inanimate reference
Form. – various types of formal subjects (such as *vem* 'who', *vad* 'what', *som* 'that')

Noun phrase subjects referring to animate referents are the first subject type to appear. They show up for the first time at 1;7 for both boys, i.e., during (or for Bruno even before) the first verb spurt. Four out of five registered subjects for Bruno from 1;7 and 1;8 are of the type where the subject and the verb have been pronounced with a short pause between the words: "akka, bita, akka, bita" [duck, bite, duck, bite] (B 1;7); "mamma, aka" *mamma, åka* [mummy, ride] (B 1;7; when commenting that I had just gone on the playground slide); "mamma, åka" (B 1;7; ten days later, when he wanted me to go on the slide; here the noun can also be referring to the addressee); "be, be, kia" [leg, leg, itch' (B 1;8; when his leg was itching). The corresponding instances for Hugo occur at more irregular intervals: "gawko, kippa gäs, kippagäsbil" [tractor, cut grass, cut.grass.car] (H 1;8; the quotation is interesting because it indicates that he managed to pronounce the complex noun – a neologism – with a single word accent, while he did not pronounce the parts of the clause within one prosodic curve); "cykel, duffit" [bicycle, taken.a.shower] (H 2;0); "*Hugo, slo, huven, govlet" [Hugo, banged, head.the, floor.the] 'Hugo banged his head on the floor' (H 2;2). At 2;0 there is a corresponding example where there has been a pause before a verb complement instead: "mamma kööt, bilen" [mummy driven, car.the] (H 2;0; when speaking of another child's mother).

Pronoun subjects show up sporadically from 1;8 for Hugo and from 1;9 for Bruno, but noun phrase subjects are the dominant structural type up to 2;1 for both boys. For Hugo pronoun subjects clearly dominate from 2;3, making up more than 80% of the subjects. With 2;6 as the sole exception (a month with very sparse data), pronoun subjects amount to 70% or more from 2;2 and later for Bruno. This means that the increase of overt subjects (from approximately 50% to 80%) coincides with the increase in pronoun subjects (for Hugo from around 50% to over 80%, for Bruno from around 40% to over 70%). To be exact, the increase of pronoun subjects to a level of 80% of all subjects (at 2;3) occurs one month after the increase of subjects to 80% (at 2;2) for Hugo, while the two phenomena coincide for Bruno (at 2;2).

The four pronoun subjects for Bruno at 1;9 consist of one instance of the holophrastic utterance “hä komme ja” [here come I] ‘here I come’ and of three instances of the syllable “me” in a preverbal position, as in “me gunga” [me (or more?) swing] and “me dickat” [me (or more?) drunk.SUP or drink.the]. I have analysed “me” as the object pronoun *mig/mej* ‘me’ used as a subject, even if the analysis is somewhat uncertain. For Hugo there is one instance of an object pronoun that can be identified as a semantic subject: “gunga dej” [swing you] (H 1;8; when he wanted me to swing myself rather than him). Danish-speaking children have been observed to use the object pronoun *mig* ‘me’ as a subject in early recordings (cf. Section 8.3: “First-person pronouns”).

The dominant pronoun subject for both boys is *jag* ‘I’ (83 instances for Hugo; 123 for Bruno). In Tables 24A, 24B, 25A and 25B the two first-person subject pronouns *jag* ‘I’ and *vi* ‘we’ have been treated as a subset of all subjects. For Hugo first-person pronouns amount to 30% of all subjects (52% of all pronoun subjects). For Bruno first-person pronouns amount to 51% of all subjects (76% of all pronoun subjects). From 2;3 for Hugo and 2;2 for Bruno, first-person pronouns amount to more than 50% of all subjects (the month 2;6 for Bruno being the sole exception).

When it comes to semantic subject types the boys also show a consistent pattern: Animate subjects appear earlier than other semantic types and clearly dominate throughout the period investigated (H 77%; B 84%). Inanimate subjects are found more than just sporadically from 2;0 for Hugo and from 2;3 for Bruno (see the numerical overviews in Tables 24A and 24B); inanimate subjects are slightly more frequent for Hugo than for Bruno (H 15%; B 10%). Formal subjects are found more than sporadically from 2;1 for Hugo and from 2;4 for Bruno; they are equally infrequent for both boys (H 8%; B 6%). Hugo, but not Bruno, produced many instances of *den* ‘it’ [common gender] and *det* ‘it’ [neuter gender] used as subject pronouns.

11.3 Subjects and word order

Swedish is a V2 language, and SVX is generally considered to be the standard sentence type, even if this varies to a large extent according to text type. Josefsson (2003:104) finds that children produce more strings with SVX and fewer with XVS

word order than adults in the same recordings. SVX word order is clearly the dominant pattern in both Hugo and Bruno (see Table 26).

Table 26. Subjects and word order for Hugo and Bruno. (Subordinate clauses (eight for Hugo, three for Bruno) are not included.)

	Hugo (N 342)	*%*	Bruno (N 285)	*%*
SV	282	*82*	253	*89*
VS	60	*18*	32	*11*
	342		285	

For Hugo there are sixty subjects in a post-verbal position (18% of all subjects); for Bruno there are thirty-two subjects in a post-verbal position (11%). Due to methodological differences and differences in the time span of the data, it is somewhat difficult to compare these figures with those for the children investigated by Josefsson. Nevertheless, the main patterns do not contradict each other.

Josefsson's averages for XVS-word order, during the entire period investigated for each of the children in her study are 8% for Sara, 12% for Harry and 11,5% for Markus (Josefsson 2003a: 111). However, as Josefsson points out, the average is not as interesting as the fact that there is a clear shift from fewer to more examples of XVS word order in at least two of the children. Harry displays approximately 20% XVS word order from 2;7 and later, and Markus displays a little less than 20% XVS word order already from 1;11 and later. (Harry is a later speaker; Markus is a very early one.) My data is too sparse to allow for any solid conclusions about a change in the word order frequencies, but it seems as if Hugo managed to attain a higher proportion of XVS word order within the period investigated, while Bruno did not.

Note that this analysis is a quite blunt instrument, since it divides the data into only two categories – one in which the subject occurs in a pre-verbal position and one where it occurs in a post-verbal position. Other clause elements, or their positions, have not been considered. This means that we find many different clause patterns among the VS-verb units. Some examples, that will not be further analysed, from Hugo:

> "kommå Matti" [comes Martin] (H 1;7); "finns ingen takto, finns ingen takto, finns ingen takto" [is no tractor] 'there is no tractor' (H 2;0); "en bil, söpte Mattin den" [a car, bought Martin it] (H 2;0); "klippo bamsen ja?" [cuts teddy.the I]

‘may I cut teddy’s fur’ (H 2;1); “mo, skivo du?” [mother, write.PRES you] ‘are you writing’ (H 2;1); “va e fa henne?” [where is father somewhere] (H 2;1); “nu leker vi ijen” [now play we again] ‘let us play again’ (H 2;1); “nu ska *Hugo sjunga, nu ska *Hugo telle” [now will Hugo sing, now will Hugo narrate] (H 2;1); “sen ska vi se på Mumin” [later will we look at Moomin] ‘later we will watch Moomin’ (H 2;3); “ha du jömt dej?” [have you hidden yourself] ‘are you hiding’ (H 2;4)

Among the SV-instances there are a couple of utterances with non-target-like V3 word order, i.e., clauses where two clause elements precede the verb. For Hugo there are eight instances and for Bruno there are six instances of SAV-word order, as in “mo åssså ita bil” *mor också rita bil* [mummy also draw car] (H 2;1); “ja inne pillde” *jag inte spillde* [I not spilled] ‘I did not spill’ (B 2;4). There is one instance of ASV word order for Hugo and three for Bruno, as in “igå ja spingde” [yesterday I ran] (H 2;4) and “nu ja kan gå ne” [now I can go down] ‘now I can go downstairs’ (B 2;3).

One may conclude that SV is clearly the dominant pattern, that the VS-pattern is represented by different syntactic sub-types or clause types, and that the violation of the Swedish V2-pattern is an infrequent – although not non-existent – phenomenon.

11.4 The verb *få* ‘get’

The verb *få* ‘get’, as a main verb (the modal verb not being dealt with here), is interesting because Hugo for a long time treats it in a non-target-like manner. In adult Swedish the verb is typically construed as in *Lasse fick en bok av Gunilla* [Lasse got a book from Gunilla], which means that the referent who is the receiver (of a gift, for instance) is expressed by the subject of the clause, while the giver (and actually the agent in the pragmatic situation) is expressed by an adverbial. (Note that Danish has the same construction of the verb in this meaning.) This pattern escapes Hugo, who initially seems to treat the giver as the subject: “Lena fått” [Lena got] (H 2;0; when speaking of a toy car that his child minder Lena gave him for his birthday); “fått den tomte” [got that.one santa.claus] (H 2;1; when speaking of a jigsaw that he got at Christmas); “fått Ise” [got Louise] (H 2;0; reference uncertain); “dokton fått” [doctor got] (H 2;1; about a sticker that a nurse gave him at the child health clinic). The first

four instances thus all have only one nominal, and this nominal refers to the giver of a gift. The verb is always in the supine form.

In the next instance an expressed object appears for the first time: "fick en tomte, fick en tomte, fick en tomte, fått den tomte" [got.PAST a santa.claus] (repeated three times) [got.SUP it santa.claus] (H 2;1; 'it' refers to the same jigsaw that is mentioned above; obviously it was a memorable moment when the children celebrated Christmas at Lena's place and a "real" Santa Claus gave him the jigsaw). A target-like string here would have been *jag har fått den av tomten* 'I have got it from Santa', and we can see that he increasingly uses something approaching this structure. Even if too much emphasis should not be put on this, it is worth noting that he uses the past tense when there is no object expressed, but the supine when there is an object. While writing the diary on Hugo, for a long time I identified a specific "property past", i.e., an utterance type using the supine and referring to objects that had undergone some kind of change in the past. (Cf. Christensen 2003a.)

The following example has a receiver other than Hugo – who has been the implicit receiver in all the earlier instances. Hugo saw his father in a new sweater, and said, "ny töja fått" [new sweater got.SUP] (H 2;1). Later the same month he said, "fick de" [got.PAST it] (H 2;1; speaking of a chestnut that his father has given him some time earlier). Obviously the past tense can show up with an object of the verb as well. In the following month we find the first target-like utterance with both a subject and an object: "Tanja fick mat" [Tanja got.PAST food] (H 2;2; speaking of the dog Tanja). Another instance without a subject, where the implicit subject is not himself, is "fått banan" [got.SUP banana] (H 2;2; when he saw the children next door eating bananas). At 2;3 he again spoke of the jigsaw that he got for Christmas (which was by then almost four months in the past): "fått tomten" [got.SUP santa.the] (H 2;3) and "fick pussel" [got.PAST jigsaw] (H 2;3). The final registration of the verb is the bare supine form "fått" (H 2;4) accompanied by the comment that he still uses the supine to express "property past". As we can see from these examples, there is, however, no strict division of labour between the past and the supine.

One can conclude that for a long time Hugo treated the verb *få* 'get' as if the giver, in a situation where an object is transferred to a receiver, should be expressed by the subject. Although he manages to produce a target-like string (about the dog getting food), later entries again reveal non-target-like usage. Most examples have Hugo himself as the implicit receiver. An interpretation is that at this stage he was getting

used to expressing subjects, subjects that should refer to the agent of a situation. Because the verb in adult Swedish has another construction, he got it wrong.

For Bruno there are five registrations of *få* 'get'. The two first instances are "ja fick den" [I got.PAST it] (B 2;2; when speaking of a helium balloon that I had pulled down from the ceiling and handed to him); "ja fick den" [I got.PAST it] (B 2;2; often, when he managed to catch a ball). The string *jag fick den* is exactly what I would have said in the corresponding situations, and is therefore likely be rote-learned. The following instance is more creative: "ja fick ingen puss kam" [I got no kiss hug] 'I did not get a kiss and a hug' (B 2;3; when his father had left for work and had forgotten to kiss Bruno goodbye). The two last instances are "va (a) *Hugo fått?" [what (has) Hugo got] (B 2;4; asking about Hugo's O'boy, a Swedish chocolate milk drink) and "han fick en sten i hovodet" [he got a stone in head.the] 'a stone hit him on the head' (B 2;7; talking about a character on a children's TV-programme). The final utterance may sound odd but it is actually entirely target-like. When somebody is hit suddenly by a flying or falling object, this is the correct way in which to speak of the incident.

We can conclude that Bruno had much less trouble with the difficult verb *få* 'get' than Hugo did. Naturally, this can be a result of negligence on the part of the diarist. I may have missed earlier instances of the verb for Bruno. Nevertheless, individual acquisition strategies are also conceivable reasons for the difference. It might be the case that if a person starts out later with a complicated linguistic item, and to a large extent uses standard formulations when using it, he or she will get things right from the beginning. On the other hand, if he or she starts out earlier and make mistakes, then they may actually learn from those mistakes. The general impression is that Bruno showed less syntactic variation than Hugo, and that Hugo was more rapid in his development than Bruno.

Note that the ditransitive verb *ge* 'give', which in many respects is the opposite verb of *få* 'get', is only found twice, and only for Bruno: "vem ha gett mej den?" [who has given me that.one] (B 2;5; speaking of a toy spade which was new to him); "mommo ge mej tomte" [grandma give.BASE me santa.claus] (B 2;7; speaking of a Christmas decoration). The first utterance corresponds to a standard formulation in the given context. The second utterance is target-like apart from the verb form. The past form of *ge* 'give' is *gav* 'gave', i.e., a strong verb form.

11.5 Conclusion

In spite of the numerical differences, the development of subjects illustrates a similarity in both boys. In Figures 3A and 3B the main findings are summarised. Here I have focused on the major tendencies, which means that isolated divergent months have been ignored; for details, see Tables 24A, 24B, 25A and 25B. The first row in Figures 3A and 3B indicates the proportion of subjects in the boys' entire number of verb units. The second row indicates the proportion of pronoun subjects. The third row indicates when first-person subjects amount to more than 50% of all subjects. The fourth row indicates the months when the proportion of formal subjects has been 9–10% or more.

1;7	1;8	1;9	1;10	1;11	2;0	2;1	2;2	2;3	2;4	2;5
less than 10% subj	around 45% subj	>>>	>>>	>>>	>>>	>>>	more than 80% subj	>>>	>>>	>>>
<<<	<<<	<<<	<<<	<<<	less than 30% pron subj	50% pron subj	50% pron subj	more than 80% pron subj	>>>	>>>
<<<	<<<	<<<	<<<	<<<	<<<	<<<	less than 50% first person subj	more than 50% first person subj	>>>	>>>
						more than 10% formal subj		more than 10% formal subj	more than 10% formal subj	

Figure 3A. The emergence of subjects for Hugo.

1;7	1;8	1;9	1;10	1;11	2;0	2;1	2;2	2;3	2;4	2;5
<<<	<<<	less than 30% subj	around 50% subj	>>>	>>>	>>>	more than 80% subj	>>>	>>>	>>>
<<<	<<<	<<<	<<<	<<<	<<<	less than 45% pron subj	more than 75% pron subj	>>>	>>>	>>>
<<<	<<<	<<<	<<<	<<<	<<<	less than 50% first person subj	more than 50% first person subj	>>>	>>>	>>>
									more than 9 % formal subj	more than 9 % formal subj

Figure 3B. The emergence of subjects for Bruno.

Noun phrases referring to animate referents are the first subjects to appear, and they are found already in connection with the first verb spurt. A handful of early utterances with a short pause between the nominal and the verb point in the direction of young children having a communicative urge to make statements about persons (and later objects), an urge that is not fully matched by a child's linguistic capacity. Lacking the means to produce a full clause, the child creates a semantic constellation simply by adding one component to the other. In general, animate subjects clearly dominate throughout the period investigated. This is not surprising, because activity verbs unequivocally make up the majority of verbs; see *Part III: Semantics*. The dominant word order pattern is clearly SV, i.e., with the subject before the verb.

Subjects become more frequent than null subjects at 2;2, at more or less the same time as pronoun subjects become more frequent than noun phrase subjects. First-person pronouns establish themselves as the most common subject type somewhat later. First-person pronouns hold an exceptional position among animate subjects; they amount to more than 50% of all subjects from 2;2 (for Bruno) and 2;3 (for Hugo) and later. The subject analysis as a whole shows that both the tendency to focus on

human activities, and thus on animate subjects, and the egocentric tendency are very strong. Both boys talk to a large extent about their own past, ongoing or intended activities. Third-person animate subjects are remarkably infrequent. This circumstance may be in part a consequence of the type of data I have collected; I have more often registered the children's spontaneous and independent contributions to the conversation than, for instance, their responses to adult utterances.

One can conclude that the emergence of clause subjects constitutes a major shift in the boys' productive language. Earlier utterances with null subjects are later replaced by utterances with subjects, subjects that to a large extent are pronouns in the first person. Interestingly, Bruno is not later than Hugo when it comes to expressing overt subjects. In general, his use of subjects is, however, more monotonous than his brother's. Bruno seems to stick to a special technique of beginning most of his utterances with a sentence-initial "ja", while Hugo displays more variation, both in his choice of subject nominals and in his choice of word order. To Bruno "ja" *jag* 'I' is certainly the preferred main clause starter. Still, he has the capacity to vary his subjects, which the following example shows: "ja blubba lite, *Bruno blubbade, lillebo blubbade" [I bubble.BASE little, Bruno bubbled.PAST, little-brother bubbled.PAST] (B 2;2; when playing with a straw in a glass of fruit drink). A reasonable translation into English might be 'I am bubbling, I made some bubbles'. Here he varied the subjects, from his favourite *jag* 'I', to his own name and then to the family noun that describes him and of which he is very fond, the word for 'little brother', which is a conventionalised compound in Swedish.

12 Main clause starters

In this chapter I will investigate the relationship between functional verbs and subjects of various types. All functional verbs seem to have a strong link to pronoun subjects. The connection is strongest in the case of the copula, and is least strong where modals are concerned. Furthermore, most combinations between pronoun subjects and functional verbs are disyllabic (monosyllabic pronoun + monosyllabic functional verb), and they occur sentence-initially. They can thus be regarded as a rather well-defined set of main clause starters. Typical examples are "den e" [it is] (common gender), "de e" [it is] (neuter gender), "vem e" [who is], "ja vill" [I want.to], "ja ska" [I shall/will], "vi ska" [we shall/will], "ska du" [will you], "ja ha" [I have].

In Tables 27A and 27B the basic data is presented. All subject categories are defined in Chapter 11. Note, however, that the category "null subject" consists of both quoted verb units that can be regarded as true null subject utterances and entries that contain information about, for instance, the frequency of specific items. With few exceptions, only the (earliest) modals, *vilja* 'want to', *kunna* 'kan' and *måste* 'must', seem to occur in true null subject clauses. For Hugo most such instances are found together with *vill*.

Table 27A. Combinations of functional verbs and subjects for Hugo (N 158).

	null	jag	vi	du	han hon	man	den	det	other prons	NPs
vilja (18)	10	7								1 anim
kunna (17)	2	3			1	11				
måste (3)		1		1						1 anim
skola (34)	2	7	11		2		2		1 dom	9 anim
få (4)		1				1				2 anim
orka (2)	2									
sluta (1)	1									
vara (59)	1	2					21	20	7 vem 4 som	3 anim 1 inanim
ha (20)	2	10		5					1 vem	2 anim
∑	20	31	11	6	3	12	23	20	13	19

Table 27B. Combinations of functional verbs and subjects for Bruno (N 119).

	null	jag	vi	du	han hon	den	det	other prons	NPs
vilja (5)	1	4							
kunna (7)	1	5							1 inanim
måste (1)	1								
skola (39)	4	17	6	2	1			1 vad	8 anim
sluta (1)									1 anim
vara (30)	1	6	2				8	2 vem 1 vad	4 anim 6 inanim
ha (36)	2	16				3		6 vem 2 vad 2 nån	5 anim
∑	10	48	8	2	1	3	8	14	25

Key to Tables 27A and 27B:
Vertically
vilja 'want to'; kunna 'can'; måste 'must', 'have to'; skola 'shall/will' 'be going to'; få 'be allowed to'; orka 'manage to'; sluta 'stop'; vara 'be' (the copula); ha 'have' (the perfect auxiliary)
Horizontally
null – verb unit without a subject nominal
jag 'I'; vi 'we'; du 'you' (second person singular); han 'he'; hon 'she'; man 'you/one' (third person singular; generic pronoun); den 'it' (common gender); det 'it' (neuter gender)
other prons – other pronouns (i.e., dom 'they' (here referring to inanimate referents); vad 'what'; vem 'who'; nån 'somebody', som 'that')
NPs – various types of noun phrase subjects (i.e., anim – animate noun phrase subjects; inanim – inanimate noun phrase subjects)

First, one may conclude that functional verbs mainly take pronoun subjects. For Hugo, null subjects amount to 13% (20/158), noun phrase subjects to 12% (19/158) and pronoun subjects to 75% (119/158). For Bruno, null subjects amount to 8% (10/119), noun phrase subjects to 21% (25/119) and pronoun subjects to 71% (84/119). For Hugo there are 138 verb units containing both a functional verb and a subject; for Bruno there are 109 verb units of the same type. In the following section we will concentrate on these subsets of the data.

As with all verbs, animate subjects are more frequent than inanimate subjects together with functional verbs, but the distribution is uneven. There is a clear bias, in that modals tend to take animate subjects to a much higher extent than non-modals, i.e., the copula and the perfect auxiliary. The data is presented in Tables 28A, 28B, 29A and 29B.

Table 28A. Semantic subject types and functional verbs for Hugo (absolute numbers; N 138).

	Animate pronoun	Animate noun	Inanimate + formal pron	Inanimate noun
Total	63	18	56	1
Modals (62)	46	13	3	0
Copula and perfect aux (76)	17	5	53	1

Table 28B. Semantic subject types and functional verbs for Bruno (absolute numbers; N 109).

	Animate pronoun	Animate noun	Inanimate + formal pron	Inanimate noun
Total	59	18	25	7
Modals (46)	35	9	1	1
Copula and perfect aux (63)	24	9	24	6

Table 29A. Semantic subject types and functional verbs for Hugo (percentages).

	Animate subjects	Inanimate or formal subjects
All functional verbs	81/138 = 59%	57/138 = 41%
Modals	59/62 = 95%	3/62 = 5%
Non-modals	22/76 = 29%	54/76 = 71%

Table 29B. Semantic subject types and functional verbs for Bruno (percentages).

	Animate subjects	Inanimate or formal subjects
All functional verbs	77/109 = 71%	32/109 = 29%
Modals	44/46 = 96%	2/46 = 4%
Non-modals	33/63 = 52%	30/63 = 48%

Since animate subjects clearly dominate among subjects for all types of verbs (see Chapter 11), one can conclude that the copula and the perfect auxiliary stand out. These functional verbs seem to introduce in the productive language of the two boys a means of speaking of things other than agentive animate referents. This is thus a new communicative capacity – which is temporally related to the grammar burst.

In the following section we will take a closer look at the different main clause starters, beginning with main clause starters involving the copula.

12.1 Main clause starters with the copula

For Hugo, inanimate or formal subjects occur fifty-three times with the copula, which means that 91% of the copula subjects are inanimate or formal; the same categories of

subjects occur only twenty-eight times with other verbs than the copula, which means that only 9% of the subjects to non-copula verbs are inanimate or formal. The corresponding figures for Bruno is 55% inanimate or formal subjects with the copula, whereas 12% of these subjects occur with non-copula verbs. Apparently there is a (strong) connection between inanimate or formal subjects and the copula.

There is, however, another angle from which the same set of data may be viewed. Instead of distinguishing subjects according to their function and semantic type, we can focus on the phonetic patterns in which the copula is involved. Such an approach reveals that in the data on Hugo fifty-seven out of fifty-nine utterances with the copula have an initial monosyllabic item, a pronoun or an adverb. This means that a majority of copula utterances start with a disyllabic anacrusis or upbeat, i.e., a particular phonetic pattern. Most common is the combination "den e" 'it [common gender] is' (twenty instances; first registration at 1;11; the ten first registrations of the copula are found in this string). The rest of the instances are: "de e" 'it [neuter gender] is' (sixteen instances, first registration at 2;1); "vem e" 'who is' (seven instances, reported to be very frequent; first registration at 2,1); "va(r) e" 'where is' (two instances, first registration at 2;1); "dä(r) e" 'there is' (one registration), used as a formal subject in "dä e ingen gubbe sitto takton" [there is no man sits tractor.the] 'nobody is sitting in the tractor' (H 2;1); "nu e" (one instance at 2;1); "va e" 'what is' (four instances, reported to be very frequent, first registration at 2;2); "som e" 'that [relative subordinator] is' (four instances, first at 2;3); "ja e" 'I am' (two instances, first at 2;3). (The remaining two registrations are "e fa tött" [is father tired] (H 2;1) and "den bilen e lagom fo pojken" [that car.the is suitable for boy.the] (H 2;2).)

All these disyllabic combinations are typical for everyday spoken Swedish, and the impression we get when considering the data is that Hugo did not acquire the copula per se, but rather different combinations, including the copula. And these combinations seem to represent different ways of beginning sentences in order to express certain communicatively significant types, for instance statements about objects or situations ("den e" and "det e" 'it is') or different types of questions ("vem e" 'who is', "va(d) e" 'what is', "va(r) e" 'where is') and eventually also subordinate clauses ("som e" 'that/which is', the relative clause being the only subordinate clause showing up more than once for Hugo before 2;6).

With respect to the questions, some of them seem to be entirely holophrastic. Details pointing in this direction are, for instance, the fact that Hugo also uses

extensively “vem e de” when referring to inanimate entities, or the observation that rather long segments, such as “va e de fö nånting” [what is that for something] ‘what is that’ (the question has an idiomatic form in Swedish) (from 2;2) are also used very frequently and always in the same form. Other segments are formulaic only as starters, while the rest of the sentence can vary. All in all, the majority of these segments contain subjects, but it seems clear that the relationship between certain verbs and certain subject types cannot be given a purely semantic explanation. The manner of beginning sentences with disyllabic upbeats with the copula in the second position – and linking these patterns to different acts of communication – seems to be a contributing factor. Communicatively, the copula provides a possibility to talk about the world in a more objective manner, by means of copula sentences with inanimate subjects.

For Bruno the registration of the copula is somewhat uneven, which, as mentioned earlier, may be due to the fact that I as a diarist, when making notations for my second son, focussed more on past-tense forms than on the copula, which is most frequent in the present tense in everyday conversation. The subjects are distributed in the following way: “ja” ‘I’ (six instances, the first registration being “ja (e) lillebo” [I am little.brother], at 1;11; the sentence is said to be very frequent, even if the copula is sometimes hard to distinguish due to weak pronunciation); “de” ‘it [neuter gender]’ (eight instances, first at 2;1); “vem” ‘who’ (two instances, first at 2;2 when it is reported to be frequent); noun phrases with animate references (five instances, first at 2;2); noun phrases with inanimate references (five instances, first at 2;4); “va” ‘what’ (one instance at 2;4); “vi” ‘we’ (two instances at 2;7). In addition, “va e” ‘where is’ is found once at 2;2. One registration, at 2;7, only conveys the information that the copula in the past tense is frequently heard.

One can conclude that before 2;4 all registrations have the copula with monosyllabic pronoun subjects, but this has only been registered five times. Bruno completely lacks Hugo’s preferred opening “den e”, however. Another difference is that Bruno already from 2;4 uses the copula in the past tense, both in the target form *va* and once in the over-regularised form *vadde*. This circumstance contributes to the impression that Bruno’s use of the copula is not formulaic in the same way as Hugo’s is. The only fixed combination reported to be frequent for Bruno is “vem e” ‘who is’. One can conclude that Bruno either does not explore the technique of beginning copula-sentences with *den e* or *de e* ‘it is’ from early on, or that the habit has been

neglected by me when taking notes. (For detailed accounts of pronouns as such, see Chapter 8.)

12.2 Main clause starters with the perfect auxiliary

One can also observe with the perfect auxiliary the tendency, most distinct in Hugo's case, of opening the sentence with a disyllabic formula. The perfect auxiliary *har* has a reduced pronunciation for both children. In both diaries it is most often cited as "ha", and this form will be used in the following section, regardless of how the verb is registered in each separate instance. (For details, see Table 19, above.)

Out of twenty registrations of the perfect auxiliary for Hugo, eighteen are combined with monosyllabic items: "ja ha" [I have] (nine instances), "nu ha ja" [now have I] (one), "ha du" [have you] (three; in yes/no-questions), "du ha" [you have] (one), "vem ha" [who has] (one), "va ha" [what/where has/have] (one), "fa ha" [father has] (two). (The remaining two registrations only note that the perfect auxiliary is frequent.) As we can see, the variation is greater than with the copula, but all combinations are still very typical for everyday spoken Swedish.

For Bruno, twenty-nine out of thirty-six registrations of the perfect auxiliary show up in combination with monosyllabic items: "ja aa" [I have] (fourteen times), "nu ja aa" [now I have] (once; the ASV-word order is non-target-like), "dä ja aa" [there I have] (once; in a subordinate clause); "den aa" [it (common gender) has] (three times), "vem aa" [who has] (six times), "nån aa" [someone has] (twice), "va aa" [what has/have] (twice). (Five registrations have animate noun phrase subjects; two registrations only note that the perfect auxiliary is frequent.)

Interestingly, the formal and inanimate subjects that for Hugo are typically connected with the copula, show up with the perfect construction in Bruno's case. Out of all six registrations of *den* 'it' as a subject, five occur with the supine or the full perfect, two with the verb phrase *gå sönder* 'break', three with the verb *trilla* 'fall', for instance "den aa gått sönde" [it has gone broken] (B 2;2); "den aa tillat" [it has fallen] (B 2;5). The pronoun *vem* 'who', apart from being found twice with the copula, has only been registered with the perfect construction: six times with the full perfect, once with a bare supine, for instance: "vem (h)aa itat den?" [who has drawn that.one?] (B 2;4); "vem tagit pappas glas?" [who taken daddy's glass?] (B 2;4); "vem

ha jett mej den?" [who has given me that.one?] (B 2;5). Generally, Bruno uses *den* and *vem* as subjects mainly in connection with the full perfect or the bare supine (twelve out of fifteen times, to be exact). Even if the data is sparse, we can at least put forward the hypothesis that "den (h)aa" 'it has' and "vem (h)aa" 'who has' function as a kind of main clause starter for Bruno, just as "den e" 'it is' does for Hugo.

Note that for Bruno the perfect constructions that take inanimate or formal subjects mainly have subordinate verbs with a clearly transitional meaning (i.e., accomplishments or achievements). The semantic type expressed here is what can be called "inferred post state perfect", i.e., a post state can be observed, but the speaker has not observed the event that has preceded the post state. Two related examples contain the general pronoun "nån" *någon* 'somebody': "nån aa latt gus dä" [somebody has put gravel there] (B 2;3; speaking of a pile of gravel on the playing ground) and "nån ha tatt in den, pappa" [somebody has taken in it, daddy] 'somebody took it into the house' (B 2;5; speaking of a toy train that we found on a playground a couple of weeks earlier).

For Hugo referential and animate subjects clearly dominate with the perfect auxiliary (94%). He has only one sentence starting with "vem har" 'who has' and none with "den har" 'it has'. The first registration of the full perfect for Hugo is the string "vem ha ita dä?", uttered at 2;0, as much as three months earlier than the second registration of the full perfect construction. The utterance is a direct imitation of what I had said: When finding a book in which he had been drawing with a pencil I asked him, a bit severely, "Vem har ritat där?" [who has drawn there]. A couple of hours later he found another book with scribbling in it, repeated my question, found an eraser in my desk drawer and started to erase the pencil marks. In the days following this, the scene and the utterance were repeated – for fun – in situations where he found his own scribbling on different items. Note that the supine "ita" 'drawn' lacks the final –t; the target form is *ritat*. This circumstance can be due to conjunction between dental sounds – [t] and [d]. But because this is the only example for Hugo of a lost final –t in a supine context, this detail might as well indicate that the whole utterance is an imitation. The occurrence of the formulaic "vem + perfect"-question at a very early stage in Hugo's linguistic development might support an interpretation of Bruno's "vem (h)aa" questions as partly formulaic.

Keeping in mind that the set of data is very limited, it is possible to identify a structural pattern – a connection between the perfect auxiliary and monosyllabic items

in the sentence opening. Most frequent for both boys are combinations with *jag* 'I'. With regard to semantic correlations the language use of the two boys exhibits different patterns. Hugo primarily uses referential animate subjects with the perfect auxiliary, while Bruno's language usage also provides evidence of a sentence type where the perfect auxiliary is combined with non-referential or inanimate subjects in semi-formulaic statements or questions expressing the specific semantic type "inferred post state perfect". We can conclude that Hugo's utterances about the world that do not focus on a known and animate agent are connected to the copula, while Bruno's utterances that refer to states caused by an unknown agent are connected to the perfect construction. Because state verbs are very rare in the data (cf. *Part III: Semantics*), it is most interesting that both boys, within the period investigated, find ways to express observations about prevailing states and conditions by using inanimate pronoun subjects in combination with functional verb constructions. I regard this as a new communicative capacity, which is clearly temporally connected to the grammar burst.

12.3 Main clause starters with modals

For both boys there are more animate pronoun subjects with modals than with all other verb types. For Hugo there are a total of 350 verb units with subjects, out of which 62 verb units contain a modal. For Bruno there are a total of 288 verb units with subjects, out of which 45 verb units contain a modal. For Hugo there are a total of 141 animate pronouns subjects. For Bruno there are 165 animate pronoun subjects. For Hugo animate pronouns subjects amount to 74% (46/62) of all subjects found with modals and to 33% (95/288) of all subjects found with non-modals. For Bruno animate pronoun subjects amount to 78% (35/45) of all subjects found with modals and to 53% (130/243) of all subjects found with non-modals. These figures may indicate that there is more than a chronological relation between the occurrence of modals and the occurrence of animate pronoun subjects. They may all be acquired in a unified process. Still, formulaic main clause starters do not seem to appear as often with modals as with other types of functional verbs. There are some frequent combinations between monosyllabic items and modals, but the patterns are not as distinct as those involving the copula (or the perfect auxiliary). Modals appear with a

greater variety of subject types than do other functional verbs, perhaps because they show up earlier and perhaps because animate subjects as a whole are, to some extent, established already before the modals appear. Note also that many of the animate noun subjects that show up with the modals for Hugo are actually the two family words "fa" *far* 'father' and "mo" *mor* 'mother', i.e., monosyllabic and open-syllabic items structurally very similar to the pronoun "ja" *jag* 'I'. It is not evident that there is a strong demarcation line between these nouns and the first-person pronoun for Hugo's linguistic system at the time of the investigation. And mother, father and Hugo are definitely the main characters in his productive language as well as in his everyday universe during this stage.

Furthermore, there is a connection between the modals and the sentence negation *inte* 'not': For Hugo, there are fifty registrations of the sentence negation *inte* 'not'; twenty-eight of these occur together with a modal. This means that 36% of the verb units that contain a modal occur with *inte*, and that only 4% of the verb units that do not contain a modal occur with *inte*. For Bruno the pattern is less distinct but perhaps still detectable: there are twenty-two instances of *inte*, seven of these in combination with a modal, meaning that 13% of modal verb units occur with *inte*, while 4% of non-modal verb units contain *inte*. (These observations are supported by the findings in Håkansson & Collberg 1994.)

12.3.1 The modal *vill* 'want to'

For both boys, the modal *vill* 'want to' appears exclusively, with one exception (a third-person noun phrase subject for Hugo, cf. below), with the first-person pronoun *jag* 'I' as a subject. The data is, however, very limited; "ja vill" [I want.to] shows up seven times for Hugo and four times for Bruno. As mentioned, bare modals, i.e., modals without a subject and a verbal complement, are found above all with *vilja* 'will/want to', a condition which is probably due to the fact that it is the earliest modal registered more than just sporadically. It is found ten times for Hugo without a subject, either in combination with the negation or in combination with *have*. In seven of these registrations the form is non-target like: *villa* instead of *vill*.

At a systemic level, the modal *vill* is the most subject-oriented modal, since someone's volition cannot be located elsewhere than in that person. In comparison,

modals like *can*, *must* and *shall* can be connected with external sources or circumstances. This difference between *vill* and other modals might explain both the earliness of *vill* and its connection to the first-person pronoun. Maybe the shift from a stage where the first-person subject is understood to a stage where it is overtly expressed involves the modal *vilja* as a stepping-stone? A clue that points in this direction is the repeated registrations of the non-target-like form *villa* for Hugo, a form that, with its disyllabic structure, matches the majority of verbs registered during the earlier stages for Hugo. (For details on the form *villa*, see 9.5.)

The only instance of a subject other than *jag* 'I' to the verb *vill* 'want to' is registered at 2;2 for Hugo:

> We are on the playground. Two children with whom we are not acquainted are there for a while and then leave. Hugo says: "pojken gräva, pojken vill inte sitta hästen" [boy.the dig.INF, boy.the wants.PRES not sit horse.the]. That is, he recalls what the boy did in the infinitive. (H 2;2)

The comment is misleading, since Hugo uses both the infinitive and the present tense in this short narrative with a main character other than himself. Such narratives are very rare in the data. (My interpretation of his short story is something in the direction of 'the boy was digging, he did not want to sit on the horse'.)

12.3.2 The modal *kan* 'can'

In the files on Hugo it is possible to see a connection between the modal *kan* 'can' and the generic pronoun *man* 'you, one, anyone'. The modal is found eleven times (out of a total of seventeen registrations) in combination with *man*, or, seen from another perspective: Out of thirteen instances of *man*, eleven occur with the modal *kan*. This is also explicitly commented on in the diary as being a frequent combination. Utterances containing *man* + *kan* have a generic or potential meaning.

The first instance is "man kan tycka knappen, man kan skua dä, man kan öppna, tänga" [one can press button.the, one can turn there, one can open, close] (H 2;1; when examining the washing machine); the next one is, "man kan dicka medicin, man kan äta inte de" [one can drink medicine, one can eat not it] (H 2;1), supposedly meaning 'you can drink medicine, you cannot eat it'. Note that the word order is non-

target-like, cf. *man kan inte äta det* [one can not eat it]. The next observation also has a non-target-like word order: "We are looking at a picture of some nuts in a book. H: 'vem e de?' [who is that]. L: 'de e nötter' [it is nuts]. H: 'nötter äta man kan' [nuts eat one can]" (H 2;1). It is possible that the word order is a consequence of "man kan" being a fixed segment. The segment "man kan" is also explicitly commented on in the diary as being a frequent combination, and all six registrations from 2;1 have this word order.

At 2;2 the reverse word order is registered: "kan man båta den båtet, mo?" [can one boat that boat.the, mother] (H 2;2; when seeing an old-fashioned sailing boat in a Pippi Longstocking movie; the verb *båta* 'boat' is a neologism in Swedish; I answer that you can sail on it, and Hugo is satisfied with that); "kan man inte smaka de?" [can one not taste it] (H 2;2; when finding candy paper on the sofa table). The next observation is:

> When talking about the rainwater drain outside our house: "den e stängd, den e stängt, de kan man inte öppna den" [it is closed, it is closed, it can one not open it] 'it is closed, you cannot open it'. Uses "man kan" [you/one can] as standard formulation in generic statements. (H 2;2).

At 2;2 the combination is thus reported as being frequent in the word order "kan man", in spite of the fact that the V1 word order – which is typical of Swedish yes/no-questions – expresses a statement. Håkansson (1994) also describes this phenomenon. Interestingly, this use for Hugo is noted later than the two instances of pragmatically obvious yes/no-questions, cf. above. In fact, it is quite a mystery why Swedish children at all make the connection between the segment "kan man" (with the V1 word order typical to yes/no-questions) and generic statements.

From 2;2 there is a somewhat vague entry stating that

> Hugo watches Pippi Longstocking on the video. She is dancing on the table, which I tell him that you may not do [i.e., "inte får" 'not may']. H: "(man?) dansa govlet." [(you?) dance floor.the]. H is often interested in what "man får" [you/one may] and may not. Makes statements about it that he apparently wants me to corroborate or contradict. (H 2;2).

Probably the quotation marks indicate that he has actually used the words “man får”, but this is a bit uncertain. In any case, this notation shows that things one is allowed or not allowed to do – according to a (social) norm – was a matter that was communicatively important to him at this age. And apparently this semantic type shows up later than the generic type. He talked about what people usually do earlier than he talked about what people are supposed to do.

My hypothesis is that Hugo grasped the combination “man kan” and its usefulness for expressing generic sentences. A generic sentence is a state sentence, and temporally it shows up somewhat later than the copula clause (which is another type of state sentence), but somewhat earlier than the full perfect construction (which is also a type of state sentence). A new communicative strategy is thus acquired just by adopting a disyllabic item – which can be structurally decomposed into a personal pronoun and a functional verb – and using it in the right pragmatic context. It is not self-evident – or even likely – that Hugo at this stage possessed a rule-based capacity that allowed him to use the linguistic elements involved more freely, but by using them in the most prototypical way, he managed quite well all the same.

The combination of *man* ‘you/one’ and *kan* ‘can’ is not found for Bruno until 2;11, i.e., a couple of months after the end of the period investigated. The next observation does not occur until 3;3. This circumstance cannot be due to a scarcity of data. Obviously, the two brothers had different communicative needs – or at least different ways in which to cope with them.

12.3.3 The intentional future marker *ska* ‘shall/will’

Among the modals, the intentional future marker *ska* ‘shall/will’ – that becomes frequent later than *vill* [want.to] and *kan* ‘can’ – involves the most varied use of subjects for both boys, even if first-person pronouns naturally are the most frequent type. There are a total of thirty-four instances of *skola* for Hugo and thirty-nine for Bruno. Fifty-three percent (18/34) of them have a first-person pronoun subject for Hugo; 59% (23/39) have a first-person pronoun subject for Bruno. The following combinations are found for Hugo: “ja ska” [I shall/will] (6); “ska ja” [shall/will I] (1); “vi ska” [we shall/will] (8); “ska vi” [shall/will we] (3); and for Bruno “ja ska” (14); “ska ja” (2); “vi ska” (2); “ska vi” (3). (For Bruno there is one additional instance of

"jag skulle" [I should/would] and one of "vi skulle" [we should/would].) The only disyllabic segments that appear with some frequency are thus "ja ska" and "vi ska". The pronunciation, especially for Bruno, is often reduced to "ka". This means that this modal is not so clearly linked to a limited set of specific main clause starters.

Most noteworthy is the fact that *ska* is found eleven times with the first-person plural pronoun *vi* 'we' for Hugo and six times for Bruno. The pronoun *vi* 'we' is not found with any of the other modals. Obviously, "joint intention" is a semantic type with some communicative importance. At 2;2 there is a notation in Hugo's diary: "Uses the combination 'vi ska' [we shall/will] more and more. Don't think I have ever heard 'ja ska' [I shall/will]." (This impression was wrong, "ja ska" had been registered at 2;1; nevertheless, the entry tells us something about the frequency of the segment "vi ska".) At 2;4 there is an additional note: "His most frequent functional verb: 'ska ja' [shall/will I] and 'vi ska' [we shall/will], appear in each and every utterance at the present time." I have not commented explicitly on the combinations between pronoun and functional verbs here, but I obviously considered such combinations to be significant.

12.4 Conclusion

For both boys, but most clearly for Hugo, there is a limited set of frequent main clause starters consisting of monosyllabic items, most typically pronoun subjects and functional verbs.

If we isolate the semantic factor, we can see that there is a connection between animacy and modals and non-animacy and the copula. Modals actually behave more like activity verbs than other functional state verbs do: They show up – to some extent – before subjects have become frequent; when they are eventually linked to subjects, these are animate. The copula on the other hand rather seems to represent something different. When the copula is acquired, the child at the same time learns to talk about the world in a more objective manner. This is reflected in the high proportion of inanimate (or formal) subjects that are found with the copula. The semantic correlation between the copula and certain subject types cannot be understood in isolation, however.

For both boys it has been possible to find certain main clause starters consisting of monosyllabic pronouns and functional verbs (often with reduced pronunciation), such as “den e” and “de e” ‘it is’, “vem e” ‘who is’, “va e” ‘what is’, “vem ha” ‘who has’, “den ha” ‘it has”, “ja (s)ka” ‘I shall/will’ and “vi ska” ‘we shall/will’, many of which are both registered frequently and explicitly reported to be frequent. A guess is that the general production increase that can be observed at the time of the grammar burst can above all be connected to the emergence of the main clause starters; entire holophrastic utterances (such as *vem e de* ‘who is that’) are frequent (and reported to be very frequent), but they do not dominate the data to the same extent as do clauses with typical main clause starters. When it comes to inanimate and formal subjects, they are found only sporadically outside these more or less fixed segments.

The circumstance that certain subjects appear in combination with certain verbs cannot be due to semantic properties alone; rather, it is a part of a more general acquisition principle according to which parts of, or whole sentence patterns, are acquired as prefabricated chunks (Peters 1983; Bates et al. 1988; Bates et al. 1994; Lieven 2008, Corrigan et al. (eds. 2009)). The chunks can, however, vary in size. Some chunks are entire main clauses, the clearest instances in the data being formulaic *wh*-questions (for instance *vem e de* ‘who is that’ and the ‘what happened’-question for Bruno) and the Danish holophrases for Hugo (for detailed descriptions see Chapter 10). Other chunks can be characterised as main clause starters, i.e., more or less fixed beginnings of clauses that allow for variation in the rest of the clause, specifically involving main verbs and verb complements. Both entire formulaic clauses and clause starters can often be connected to specific acts of communication or specific semantic types. It is noteworthy that the main clause starters can all be described as different means of expressing state clauses. Modal constructions express modal states, i.e., states that can be linked to animate referents, above all first-person referents. The copula, and to some extent the perfect construction, express states that can be linked to inanimate referents. By using these the child acquires the ability to speak of the world in a more objective manner. (It should be noted that state verbs other than modals, the copula and the perfect auxiliary are very rare in the data from the period investigated, see *Part III: Semantics*.)

Intrinsically interwoven with the emergence of main clause starters is the development of clause subjects. The two processes overlap even if they cannot be collapsed into one process. When it comes to subjects, the most general change in the

children's productive language within the period investigated can be described as a development consisting of two main parts:

A) Already established content verbs (typically agentive ones) acquire animate subjects. This process begins during the first verb spurt. Noun phrase subjects precede pronouns as subjects, but at the end of the period investigated, pronouns, above all first-person subjects, are the dominant subject type.

B) Functional (state) verbs show up in more or less holophrastic sentences or in formulaic sentence-initiating segments in combination with monosyllabic pronouns, out of which a majority function as subjects. The segments appear above all from 2;0 and later for Hugo and somewhat later for Bruno, and they are connected with different communicative acts. The data clearly indicates that there is more than a chronological link between functional verbs and certain pronoun subjects.

How can the two parts of the subject acquisition process best be understood? My interpretation is that the first part might be seen as being driven mainly by a communicative need. From early on, the child has the communicative urge to make statements about persons (and, later, objects). The early utterances with a short pause between the nominal and the verb point in the direction of such a mechanism: The child does not have the linguistic means to produce a full clause, but makes the semantic combination by simply adding one component to the other. (Generatively speaking, this is a grammar without functional categories, cf. Platzack 1990, 1992.) Perhaps the fact that noun phrase subjects dominate the first part of the development is also an indication of the underlying communicative intention. In colloquial Swedish, pronouns are more common as subjects than nouns, still the children focus on content words first. Another aspect of this mechanism is the fact that many of the noun phrase + verb combinations registered seem to be rather creatively produced; they are not copies of any given master or model. Even if the set of frequent subjects is limited, the child can combine these subjects with a range of different verbs from early on.

The second part of the subject acquisition process seems to rely on the capacity for imitative learning to a much larger extent than the first part, in combination, naturally, with the communicative capacity for applying the rote-learned items in the right pragmatic situations. There is an association between, on one hand, a communicative act and/or pragmatic situation and, on the other, a structurally simple phonetic pattern (light and short elements in the upbeat of the clause). In terms of my interpretation of

the data, this association is a force of its own in the developmental process. This is what the child starts out with. The decomposition of the main clause starter into its components (a functional verb and a pronoun subject) does not have to be there from the beginning.

So, where does syntax come in? When do Swedish children acquire a rule-based capacity that forces them to, for instance, never violate the V2 rule? My guess is that a rule-based capacity is present from the very beginning of productive language, but in a weak or rather limited version. The dominant word order pattern is SVX, but this pattern also needs to be rule-generated in some sense, otherwise the data would have included more deviant word orders than it actually does. However, when it comes to word orders other than SVX, the data presented has only a few indications of a productive syntax being activated within the period investigated. Most instances of VS word order appear in a limited set of contexts, many of which are wholly or partly holophrastic. The contexts where the V2 rule needs to be applied actively (other than SVX) are thus very limited. The first XVS instances are clearly linked to fixed segments, i.e., the limited set of main clause starters or entirely holophrastic clauses. We do not find heavy elements (such as adverbials other than monosyllabic adverbs, noun phrases consisting of more than the head noun or objects other than pronoun objects) in a pre-verbal position. Naturally, we do not know when the rule-based production begins, but there is no need for a fully established syntactic rule that tells the child never to violate the V2 condition in order to produce the patterns that dominate the data. Less is enough. If the child relies partly on the SVX-pattern and partly on the main clause starters, he or she will manage to construct most clauses in a target-like manner. A true or strong rule-based capacity, involving for instance the V2-rule, does not have to be acquired until later, when the chunks have been firmly established and when variations and expansions of them have begun to emerge.

13 Summary

The result of this study is quite a distinct picture of how verbs and verb-related phenomena emerged in the productive language of two Swedish boys up to the age of approximately 2;6. At the most general level, we can detect a two-peaked pattern with an early verb spurt and a late verb spurt, i.e., periods when the registrations of new verb lexemes intensified. Especially the late verb spurt was accompanied by the emergence of several other verb-related phenomena, and it can therefore be equally well described as a grammar burst. Between the two verb spurts there was a period, here called "the lacuna between verb spurts", when relatively few things seemed to happen in the productive language of the two boys. Nevertheless, the events that did occur during this stage definitely appear to have prepared the boys for the grammar burst.

The productive language of the two boys was characterized by content words during the first verb spurt (that occurred at 1;6–1;7 for Hugo, the elder brother, and at 1;8–1;9 for Bruno, the younger brother). The functional words that occurred during this period did so infrequently; they were typically complements to verbs, and the strings in which they appeared were mostly holophrastic. During the lacuna between the verb spurts more and more functional words emerged, for instance functional verbs, (personal) pronouns and adverbs, but these types of lexemes were still infrequent in the overall production of word tokens. During the grammar burst (that peaked at 2;1 for Hugo and at 2;3–2;4 for Bruno), the productive language of the two boys underwent a multifaceted transformation. Functional words, above all pronouns, functional verbs and adverbs, became frequent, at the same time as the main clause began to find its target-like shape. At the end of the grammar burst most main clauses had clause subjects, the majority of which were personal pronouns, with the first person pronoun *jag* 'I' as the most frequently registered subject. Main clauses other than the declarative main clause, especially *wh*-questions, were to a large extent holophrastic. The declarative main clauses had much more lexical variation than the *wh*-questions; nevertheless, it was possible to detect a rather limited set of main clause starters, i.e., fixed segments that open a declarative main clause. These segments

consist of a monosyllabic pronoun subject in combination with a monosyllabic functional verb, most typically "e" ('is/are'; the copula), "ska" ('shall/will'; the intentional future marker) or "ha" ('has/have'; the perfect auxiliary).

During the grammar burst both boys used entire holophrastic main clauses of various types and declarative main clauses with certain main clause starters in a communicatively appropriate way in various pragmatic situations. During this period the boys acquired a linguistic repertoire that allowed them to refer to the referential world in a variety of ways. An earlier utterance type consisting of a single activity verb with variable or somewhat vague semantic content and pragmatic function was to large extent replaced by a later utterance type consisting of a pronoun subject, a functional state verb and a target-like main verb phrase, all with a more specific semantic content and pragmatic function.

This research indicates that Hugo and Bruno acquired their verb systems in a similar fashion. The two boys definitely exhibit the same overall pattern and there were striking parallels in many details between the two brothers, for instance in their accumulated lexica (i.e., the sets of all lexemes that were registered during the period investigated) and in the chronological order of the emergence of different types of lexemes. Nonetheless, there was a developmental/temporal displacement between the boys. Hugo had a more rapid and, it seems, also a smoother linguistic development; Bruno was both somewhat slower in his development and a bit more uneven. It seems clear that there were actual developmental differences between the two brothers, even if some of these differences can be explained better by differences in the recordings. The registrations for Hugo were more numerous as well as richer than those for Bruno. The reader should keep this in mind when reading the following summary of the findings that have been made in this study.

Introduction to Tables 30A and 30B

The linguistic development for Hugo and Bruno during the period investigated will be summarised in Tables 30A and 30B, and then described in some detail and commented on in the following sections. Tables 30A and 30B consists of five main columns: production, new lexemes, pronouns, verbs and clauses, and clause subjects. Note that morphology, which is a significant part of the linguistic development in the two boys during the period investigated, has not been considered in this part of the

study. It needs to be investigated in its own right. (This will be done in Part II of this study.)

In the **production** column are indicated all months in which the proportion of tokens is higher than 5% of all tokens registered during the entire period investigated, the percentages being indicated in bold. For Hugo, for instance, 11% of all registered tokens were registered during 2;0. This column also indicates the shift in the ratio of new lexemes per token. For both boys, the average ratio is .24 lexemes per token registered, and for both boys there is a shift from a higher ratio (> .24; before this, the new lexeme per token ratio is higher than .24) to a lower ratio (< .24; after this, the new lexeme per token ratio is lower than .24). The shift in the ratio indicates a general change from a stage when many new lexemes are characteristic of the data collected, to a stage when high production is characteristic of the data collected. The month when 50% of all tokens had been registered is also indicated. (For details on production and number of tokens, see Chapter 3.)

In the column for **new lexemes**, all months when the proportion of new lexemes exceeds 5% of all lexemes registered during the entire period investigated are marked (in bold). For Bruno, for instance, 15% of all lexemes were registered for the first time during 2;7. The month when 50% of all lexemes reached at the end of the study had been registered is also indicated. The vocabulary spurts (i.e. periods when the registration of new lexemes intensified, and as defined by the lexical spurt score that was introduced in Chapter 4) are indicated as follows: noun spurts (NS) and verb spurts (VS; in bold) are discussed when the spurt score is higher than ten; for other categories (i.e., AjS – adjective spurt; AvS – adverb spurt; PS – pronoun spurt) only the month when the highest spurt score was reached is indicated. Some significant adverbs, i.e., adverbs that reach a high accumulated frequency during the period investigated, are also indicated – when the tenth or twentieth or thirtieth instance of a particular adverb has been observed. For Hugo, the sentence negation *inte* 'not' has been observed ten times by the end of 2;0 and 20 times by the end of 2;1, etc. The following adverbs are included in the tables: *där* 'there', *inte* 'not', *upp* 'up', *ner* 'down', *bort* 'away', *nu* 'now'. The first registration (FR) of the sentence negation *inte* 'not' is also indicated. (Adverbs are dealt with in detail in Chapter 5.)

In the column for **pronouns**, percentages indicate the proportion of pronoun tokens of all word tokens during a certain month. For Hugo (Table 30A), < 5 % indicates that the proportion is less than 5% up to and including a particular month; ≈ 10% indicates

that the proportion is around 10% (or has an average of 10%); > 20% indicates that the proportion is more than 20% from a particular month and later). For Bruno (Table 30B), the same method is employed but with the intervals < 10%, ≈ 15% and > 20% instead. Significant pronouns are indicated when reaching the tenth, twentieth, thirtieth (etc.) registration, the same way that significant adverbs were indicated in the second column. The following pronouns are included in the tables: *jag* 'I', *mig* 'me', *vi* 'we', *den* 'it' (common gender), *det* 'it' (neuter gender), *du* 'you' (second person subject pronoun; singular), *dig* 'you' (second person object pronoun; singular), *man* 'one/you' (generic pronoun), *ingen* 'nobody'. For Bruno, for instance, the fortieth instance of *jag* 'I' was registered at 2;3, while the seventieth instance was registered at 2;4. (Pronouns are discussed in Chapter 8.)

In the column for **verbs and clauses**, the first registration (FR) of all functional verbs that have been registered more than just sporadically is indicated. The following verbs are included: *kunna* 'can', *vilja* 'want to', *vara* 'be', *få* 'be allowed to' or 'get', *ha* 'have', *måste* 'must', *skola* 'shall/will', *bli* 'become'. (Note that *få* 'get' and *ha* 'have' can function as main verbs as well. Here the first registration of each lexeme, regardless of function, is indicated; cf. Chapter 6.) The month when each boy started to show more unique verbs in relation to the other boy is also presented (cf. Table 10). It is further indicated when the four most significant functional constructions were established: the copula construction, the full modal construction, the intentional future construction and the perfect construction. (Functional verbs are discussed in Chapter 9.) Two clause types, *wh*-questions (WHQ) and V1-questions (V1Q), are indicated during the month when they were registered for the tenth time. For Bruno the V1-question only reaches nine registrations during the period investigated and this happened at 2;7. (Clause types are discussed in Chapter 10.)

The final column, **clause subjects**, is divided into four categories: S – proportion of subjects; Ps – proportion of pronoun subjects; 1P – proportion of first-person subjects; F – proportion of formal subjects. All figures are percentages. (The different types of subjects are described in Chapter 11.)

In the S-column, the proportion of verb units that include subjects is indicated. (The verb unit as an analytical unit is described in Chapter 7.) The same system is used as with the proportion of pronouns. For Hugo (Table 30A), < 10 indicates that the proportion of subjects is less than 10% up to and including a particular month; ≈ 45 indicates that the proportion is around 45% (or has an average of 45%); > 80

indicates that the proportion is more than 80% from a particular month and later). For Bruno (Table 30B), the intervals are < 30%, ≈ 50% and > 80%.

In the Ps-column, the proportion of pronoun subjects of all subjects is marked by the same "less than", "approximately" or "greater than"-method, the intervals being < 30%, ≈ 50% and > 80% for Hugo. For Bruno there are only two periods; a period with less than 45% pronoun subjects (< 45) and a period with more than 75% pronoun subjects (> 75). The third subcolumn, 1P, indicates the proportion of first-person pronouns of all subjects. Here only the change from less than to more than 50% is marked. In the final subcolumn, F, months when the proportion of formal subjects has been more than 9–10% of all subjects are included.

Table 30A. Linguistic development for Hugo up to 2;5.

H	Produc-tion	New lexemes	Pronouns	Verbs and clauses	Clause subjects			
					S	Ps	1P	F
1;4		**7%** NS 10 *där*						
1;5		**5%** NS						
1;6		**11%** NS; **VS**						
1;7	**6%**	**9%** NS; **VS**			**< 10**			
1;8		**6%** NS	**< 5%**		≈ 45			
1;9		FR *inte*	≈ 10%	FR *kunna, vilja*	≈ 45			
1;10		**6%** 50% of all lexemes	≈ 10%		≈ 45			
1;11			≈ 10%	FR *vara*	≈ 45			
2;0	**11%** > .24	**12%** **VS**; AjS 10 *inte*	≈ 10% 10 den	FR *få, ha* copula constr root supine	≈ 45	**< 30**		
2;1	**26%** < .24 50% of all tokens	**18%** **VS**; AvS; PS 20 *där, inte* 10 *upp, bort, nu*	≈ 10% 20 *den* 10 *det, jag*	FR *måste, skola* full modal constr 10 WHQ	≈ 45	≈ 50		10%
2;2	**14%**	**7%** **VS** 30 *där, inte* 20 *nu*	**> 20%** 40 *den* 30 *jag* 20 *det* 10 *mig, man*	intentional future constr	**> 80**	≈ 50	**< 50**	
2;3	**11%**	**6%** 40 *inte*	50 *jag* 30 *det* 10 *dig, vi, ingen*	FR *bli* more unique verbs		**> 80**	**> 50**	12%
2;4	**5%**		60 *jag* 20 *vi*	full perfect constr 10 V1Q				15%
2;5	**5%**	50 *inte*	80 *jag* 40 *det* 10 *du*					

Table 30B. Linguistic development for Bruno up to 2;7.

B	Produc-tion	New lexemes	Pronouns	Verbs and clauses	Clause subjects			
					S	Ps	1P	F
1;6		NS						
1;7								
1;8		**7%** **VS**						
1;9	**8%**	**11%** NS; **VS**		root supine	**< 30**			
1;10		10 *där* FR *inte*	**< 10%**		≈ 50			
1;11			≈ 15%	(FR *vara*)	≈ 50			
2;0		**VS**	≈ 15%	FR *kunna, vilja, måste*	≈ 50			
2;1	**5%**	**6%** **VS**	≈ 15% 10 *jag*	FR *vara*	≈ 50	**< 45**	**< 50**	
2;2	**6%** > .24	**7%** 50% of all lexemes	**> 20%** 20 *jag*	FR *få, ha*	**> 80**	**> 75**	**> 50**	
2;3	**15%** < .24	**13%** **VS**; AvS 20 *där* 10 *inte*	40 *jag* 10 *vi*	FR *skola* full modal constr more unique verbs				
2;4	**19%** 50% of all tokens	**13%** NS; AjS; PS	70 *jag* 10 *den*, *det*	copula constr, intentional future constr, full perfect constr 10 WHQ				17%
2;5	**7%**	**5%** 10 *ner*	80 *jag*					9%
2;6		20 *inte* 10 *nu*						
2;7	**22%**	**15%** NS; **VS** 30 *där*	120 *jag* 20 *den*, *vi* 10 *mig*	FR *bli* 9 V1Q				

In the following description of the two boys' development of verbs and verb-related phenomena, I will employ the division into periods that was established in Chapter 4. The temporal limitations of the periods have been slightly revised as a result of the pronoun and subject analyses, which means that Period 3 for Bruno begins at 2;2. I have also set an initial limit to Period 1, since verbs were only registered sporadically in the period preceding 1;4 for Hugo and 1;6 for Bruno. The period of early verb development investigated in this study thus comprises fourteen months for each boy. The three periods are now defined as follows:

Period 1: Up to and including the first verb spurt (four months in total)

Hugo:	1;4–1;7	(first verb spurt: 1;6–1;7)
Bruno:	1;6–1;9	(first verb spurt: 1;8–1;9)

Period 2: Lacunae between verb spurts (four months in total)

Hugo:	1;8–1;11
Bruno:	1;10–2;1

Period 3: From production increase and later (including the second verb spurt and the grammar burst) (six months in total)

Hugo:	2;0–2;5	(grammar burst peak: 2;1)
Bruno:	2;2–2;7	(grammar burst peak: 2;3–2;4 + 2;7)

Period 1 (including the first verb spurt)

Period 1 for **Hugo** (1;4 to 1;7) is characterised by a small, but noticeable production increase at 1;7, many new lexemes in general during 1;4 to 1;8, a long-lasting noun spurt from 1;4 to 1;8, and a distinct verb spurt at 1;6 to 1;7. The only adverb registered more regularly is *där* 'there'. We find no functional verbs, and pronouns are found only sporadically.

Period 1 for **Bruno** (1;6 to 1;9) is characterised by a similar production increase at 1;9, many new lexemes in general at 1;8 to 1;9, a noun spurt that is most evident at 1;6 and 1;9, and a distinct verb spurt at 1;8 to 1;9. The only adverb registered ten times is *där* 'there' (at 1;10, just after the end of Period 1). We find no functional verbs and only sporadic pronouns. The root supine is registered with some frequency

already at 1;9. (The supine is a particular morphological form that is used as second verb in the Swedish perfect construction. It has a distinct morphological form as it always ends with a [t] in written Swedish and in the variety of Swedish spoken in the south of Sweden.)

The boys show a very similar picture of linguistic development during Period 1. The production is low, but many new lexemes are registered: nouns for a long-lasting period and verbs during a two-month peak that stands out clearly for both boys. Bruno's first verb peak occurs two months later than Hugo's, and this temporal displacement between the two brothers can be observed for many, but not all, phenomena observed during the rest of the period investigated. For both Hugo and Bruno the first verb spurt coincides with a boom of two-word utterances, above all verbs + complements. Before 1;11 there are approximately thirty strings for Hugo and twenty for Bruno matching the pattern [verb + noun], where the noun corresponds to a verbal complement in the target language (either an object or an adverbial). For Hugo two non-verbal structural types are reported to be in some sense productive – in that the noun can vary – at 1;7 (see 5.2 "Adverbs"). The first period thus contains a grammar burst of its own, although certainly a minor one compared to the grammar burst that characterises Period 3.

Period 2 – the lacuna between verb spurts

During Period 2 for **Hugo** (1;8–1;11) some significant functional verbs show up for the first time: *kunna* 'can', *vilja* 'want to', *vara* 'be'. Fifty percent of all of Hugo's lexemes have been registered by 1;10, which means that he has a vocabulary of around 300 registered lexemes before he enters into the grammar burst period. The proportion of pronouns of all tokens is around 10%, while verb units with subjects amount to approximately 45%. This means that the development to a stage where clause subjects are always expressed, most frequently by a pronoun subject (as in adult Swedish), has definitely begun, but noun phrase subjects still dominate the scene. The first registration of *inte* 'not' is found at 1;9 (in connection with modals).

During Period 2 for **Bruno** (1;10–2;1) some significant functional verbs show up for the first time: *kunna* 'can', *vilja* 'want to', *måste* 'must', *vara* 'be'. Note that the first registration of the copula for Bruno (at 1;11) is uncertain due to weak pronunciation; the second registration is therefore also indicated in Table 30B (at 2;1).

The proportion of pronouns of all tokens is approximately 15%, while verb units with subjects amount to approximately 50%. Bruno resembles Hugo in this respect. A difference is that the pronoun *jag* 'I' is frequently registered for Bruno during Period 2. It is reported to be frequent already at 1;11 and 2;0, but not many verb units with subjects are registered after all. The percentage figures are partly misleading, as the number of subjects is still very low. But it seems clear that the pronoun *jag* 'I' is early for Bruno, and he uses it extensively from 2;2 and later. The first registration of *inte* 'not' is found for Bruno at 1;10 (not in combination with modals, however).

The 50% level of all of Bruno's lexemes was not reached until 2;2. This means that he at least had a vocabulary of about 170 registered lexemes during the first month of the grammar burst period. Naturally, the size of his vocabulary depends entirely on what the diarist has registered, and I was most likely lazier when taking notes on Bruno than on Hugo. Nevertheless, it is probable that Bruno had a smaller vocabulary than Hugo at this stage, and it is possible that this factor influenced the developmental process in general, Hugo being an early speaker, Bruno being not as early.

Apart from this, Period 2, the lacunae between the two verbs spurts, are largely parallel in the two boys. The production is not so high, and there are not so many new lexemes registered, but some significant items show up during this period. In the lacuna between the first and the second verb spurt, the first modals (*vill* 'want to' and *kan* 'can') appear, normally in isolation, i.e., without a main verb. The copula, "e" *är* 'am/are/is' is also registered sporadically in this period for both boys, and the negation *inte* 'not' shows up (frequently for Hugo, often in combination with bare modals; more sporadically for Bruno). This means that the period with less frequent data for both boys seems to cover the same developmental stage: Not so many new content words are registered, but instead some new grammatical or functional items are registered for the first time, even if they do not become frequent until later. This period can thus be regarded as a stage preliminary to the grammar burst. During the four months of the lacunae the two children seem to prepare themselves for the radical events that will occur during the grammar burst.

In general, we can conclude that functional words appear sporadically from 1;6 for Hugo and from 1;8 for Bruno (i.e., from the first verb spurt), most typically in utterances that clearly seem to be holophrastic; that some very significant functional words (modals, copula and negation) show up for the first time during the lacunae;

and that most lexemes within the functional categories are registered with some frequency only from the beginning of Period 3 and later.

Period 3 – the grammar burst

Period 3 for **Hugo** (2;0 to 2;5) is characterised by a great number of changes in his productive language, many of which are fully implemented already by the end of 2;2 or 2;3. There is a clear production increase from 2;0 and later; especially at 2;1 the number of tokens seems to explode, and 50% of all tokens had been registered by the end of 2;1. Naturally, this is in part a result of my weakened interest in keeping his diary after the extraordinary month of 2;1. We know nothing about his actual production after 2;1. All we can rely on with some degree of certainty is the production increase at 2;0 and 2;1, compared to earlier months. The proportion of new lexemes per tokens changes from above .24 to below .24 between 2;0 and 2;1, which is also an indication of the production increase. Along with the token spurt comes a general lexeme spurt, and many lexemes were registered for the first time from 2;0 to 2;3.

For Hugo there is a distinct verb spurt from 2;0 to 2;2. Furthermore, the proportion of verbs unique to him increases at 2;3, which probably tells us both that his verbal lexicon is now so extensive that I missed several items from it, and that the two brothers developed individual verbal lexica to some extent during the later parts of the period investigated. Root supines show up with increasing frequency at 2;0 for Hugo, which is much later than the first (small) peak of root supines for Bruno.

Word classes other than nouns and verbs have their highest peaks in the beginning of Period 3. There is an adjective spurt at 2;0 (clearly related to the emergence of the copula), and an adverb spurt at 2;1. From this month and afterward, adverbs such as *där* ‘there’, *inte* ‘not’, *upp* ‘upp’, *bort* ‘away’ and *nu* ‘now’ are frequent. There is an a especially strong increase in instances of *inte* ‘not’.

The most revolutionary change during the grammar burst involves pronouns and functional verbs. There is a pronoun spurt at 2;1, when the pronouns *den* ‘it (common gender), *det* ‘it’ (neuter gender), *jag* ‘I’, *mig* ‘me’, *man* ‘one/you’ (generic pronoun), *dig* ‘you’ (second person singular), *vi* ‘we’, *ingen* ‘nobody’ become frequent. The production of pronoun tokens stabilises at a level of 20% of all tokens from 2;2 and later. This event can be linked to the final stages of the emergence of clause subjects,

since they stabilise at 80% of all verb units at the same time (2;2). The following month (2;3), the pronoun subject stabilises at 80%, and during this month more than 50% of all subjects are first-person pronoun subjects. Formal subjects are found with some frequency from 2;1 and later, and they almost always occur in chunks that can be regarded as holophrastic, for instance in the *wh*-question, of which ten observations had been made by the end of 2;1 – some of them including the comment that the "vem e de" 'who is that' is frequently heard.

As for functional verbs, the full modal construction (i.e., consisting of a subject, a modal and a verbal complement in the infinitive) were registered regularly from 2;1. The copula construction seems to have been acquired somewhat earlier, from the end of 2;0, while the intentional future construction appears at 2;2, and the full perfect construction not until 2;4. The V1-question is detectable, but not frequent. The first ten registrations were not made until the end of 2;4.

To sum up, Period 3 for Hugo involves a rapid shift from a stage when pronouns and functional verbs are rare, to a stage when utterances with both pronouns and functional verbs clearly dominate his linguistic production. As has been shown in the detailed analyses in the preceding chapters, these structural changes are simultaneous with – and intrinsically interwoven with – an increasingly rich repertoire of communicative types that are correctly applied in a wide range of everyday pragmatic situations. Note that this shift is at the same time a shift from a period when bare activity verbs are the dominant type of verb units, to a stage where functional verbs embed the activity verbs in state clauses: modal states, copula states and perfect states. In fact, this is a new way of approaching the referential world.

Period 3 for **Bruno** (2;2–2;7) is characterised by a production increase that is noticeable from 2;1 and later, but which is especially strong at 2;3, 2;4 and 2;7. Fifty percent of all tokens have been registered by the end of 2;4, and the proportion of new lexemes per tokens, which is a clear indication of the productivity increase, changes from above .24 to below .24 between 2;2 and 2;3, two months later than the corresponding change for Hugo. With respect to many of the phenomena that show up during Period 3, Bruno lags behind Hugo by approximately two months, although there are some distinct exceptions from this temporal pattern.

In general, many new lexemes are found from 2;1 and later, but especially at 2;3, 2;4 and 2;7. Fifty percent of all of Bruno's lexemes were registered by 2;2. A main

difference between the two brothers is that there is no clearly discernible second verb spurt for Bruno. It rather seems as if Bruno had a long-lasting (and not so even) "verb tendency" from 2;0 to 2;7 – in comparison to Hugo's long-lasting (and rather even) "noun tendency" from 1;4 to 1;8. Months with many new verb lexemes for Bruno are 2;3 and 2;7. This pattern may be due partly to variations (or even lacunae) in the registrations, but an individual developmental pattern is naturally also to some extent a possible explanation. The proportion of verbs unique to Bruno increases at 2;3, which is important because this indicates that in Bruno's case the registrations during the later months do not just compensate for infrequent registrations during the earlier months, by "filling in the gaps" in the diary on Bruno.

Adjectives make up a minor category for Bruno, but a small spurt can be detected at 2;4. It is possible that the small number of adjectives is related to the small number of present-tense copulas for Bruno. Nevertheless, it is impossible to know if the low numbers are a result of the neglect of the diarist, or to the fact that Bruno did not focus on the copula construction in the same way that Hugo did.

In comparison, the adverb spurt seems almost as distinct for Bruno as for Hugo, and adverbs like *där* 'there', *inte* 'not', *ner* 'down' and *nu* 'now' become frequent at 2;3. As was discussed in Chapter 4, I am inclined to see the lexeme increase of adverbs as a good indication of (the most intense parts of) the grammar burst. Nevertheless, the grammar burst in general, for Bruno as well as for Hugo, has to do above all with the breakthrough of pronouns and functional verbs. There is a clear pronoun spurt at 2;1, when pronouns such as *jag* 'I', *vi* 'we', *den* 'it', *det* 'it' and *mig* 'me' become frequent. Pronouns stabilise at a level of 20% of all tokens at 2;2 and later, which is in exactly the same month as for Hugo. In the same month (2;2) subjects stabilise at 80% and pronoun subjects stabilise at 75%, while more than 50% of all subjects are first-person pronoun subjects (which is one month earlier than the corresponding events for Hugo). Formal subjects are found with some frequency only at 2;4 and 2;5, and they are above all connected to the *wh*-question, of which ten instances have been registered by the end of 2;4. It seems as if Bruno is clearly later than Hugo when it comes to this type of clauses and subjects. Much of the development of pronoun subjects for Bruno can be linked to the first-person pronoun, *jag* 'I', with which he tends to begin most of his utterances from 2;2 and later. In his choice of subjects and their placement in the clause he displays much less variation than his elder brother.

For Bruno, the full modal construction shows up earlier than other functional constructions. It can be observed regularly from 2;3. All other functional verb constructions provide evidence of a breakthrough at 2;4. When it comes to the full perfect construction and the intentional future construction, the diary is exhaustive and probably reliable, the full perfect construction actually being registered with some frequency before the intentional future construction. When it comes to the copula construction in the present tense, it is so rare in the data that I suspect that it might have been unfairly neglected by me as a diarist. The V1-question has only been sparsely registered for Bruno; there are a total of nine registrations by the end of 2;7 (compared to ten registrations in total for Hugo by the end of 2;4).

Similarities and differences between Hugo and Bruno

Overall, Period 1 and Period 2 display parallel development in the two boys investigated. Period 1 is characterised by the first verb spurt, consisting of only content verbs, and Period 2 by the first emergence of functional verbs. The major events of Period 3 are similarly parallel, but we nevertheless find more patterns that are individual to each boy during this period. This is not surprising since so many things happen during this period. A factor that has been almost entirely left out of the discussion, the emergence of verbal morphology, would complicate the picture even more, because there are some differences between the two boys when it comes to this feature (as will be shown in next part of the study). However, leaving verbal morphology aside for now, the major events of the grammar burst can be described as follows.

For both boys, the declarative main clause pattern in Swedish with SVX as the dominant word order, and thus target-like V2 word order in most utterances, is established. The declarative main clause becomes the predominant clause type, but there are well-formed main clauses of other types as well, mainly *wh*-questions, but also some V1-questions. It seems that the XVS word order (i.e., target-like subject-verb inversion) becomes established to a greater degree for Hugo than for Bruno in the period investigated. Personal pronouns become frequent, both in the subject and the object function, i.e., the two boys develop a limited but seemingly efficient pronoun system. Hugo's pronoun system is richer than Bruno's, but the proportion of pronoun tokens out of all tokens is 20% for both boys from 2;2 and later. The main

difference is above all that Bruno retains his favourite pronoun *jag* 'I', while Hugo's pronoun usage shows more variation.

Both boys acquire four major Swedish functional verb constructions during Period 3. There is no fixed chronological order among the four functional constructions that the two boys acquire. The only chronological pattern that is parallel between the boys is that the full modal construction (subject + modal + verb in the infinitive) precedes the intentional future marker (which is a type of modal construction).

Many new adverbs seem to characterise the peak of the grammar burst, even if the relative number of all adverbs does not increase over time. Grammar burst adverbs are, above all, *inte* 'not', *nu* 'now', and somewhat later also *så* 'so'.

It is evident that the two boys acquire more and more communicatively and semantically diversified utterance and clause types, as well as the ability to apply them in the appropriate pragmatic contexts. It is equally evident that many of these utterance types are first acquired as rote-learned chunks, either entire clauses/ sentences or parts of clauses. The core ingredients of the grammar burst can thus be described as a trinity of functional words (pronouns and verbs), more or less fixed clause types or clause segments and pragmatic situations in which these clause types fulfil specific communicative functions.

It is very clear from the data (especially for Hugo) that main clause starters are a factor that must be considered on its own terms. All functional verbs seem to have strong links to pronoun subjects. The connection is strongest where the copula is concerned, and least strong for the modals. Most combinations between pronoun subjects and functional verbs are structurally very simple; they are disyllabic (monosyllabic pronoun + monosyllabic functional verb), and they occur sentence-initially. They can be regarded as a rather well-defined set of main clause starters. Typical examples are "den e" [it is] (common gender), "de e" [it is] (neuter gender), "vem e" [who is], "ja vill" [I want.to], "ja ska" [I shall/will], "vi ska" [we shall/will], "ska du" [will you], "ja ha" [I have]. A high proportion of the utterances registered at the peak of the grammar burst include main clause starters from this limited set of combinations, especially for Hugo, but also to some extent for Bruno. At the same time, there are utterances that appear to be productive or creative, for instance clauses with full noun-phrase subjects. The data thus – and not surprisingly – shows that clauses can either be constructed from smaller items (i.e., from words) or be delivered

as pre-fabricated chunks, where the internal structure might not be clear to the child when he or she first begins producing these chunks.

The limitation of the data to approximately 2;6 has turned out to be very appropriate. At this age, both children had developed a restricted but target-like syntax within their main clauses, but they did not produce subordinate clauses or connect main clauses with conjunctions more than (very) sporadically. Prepositions were registered somewhat more regularly, but it would be an overstatement to claim that the children had acquired a preposition system, even in a restricted sense, by the end of the period investigated.

The patterns are, to a large extent, parallel in Hugo and Bruno, although the process is more protracted and uneven for Bruno. This circumstance can just as well be the result of lacunae in the registrations as of individual developmental patterns. The data for Bruno is not so extensive from 2;5 and actually scant from 2;6. However, even if 2;3 and 2;4 seem to constitute the peak of the grammar burst for Bruno in many respects, its development does not seem to be complete until 2;7. It is for obvious reasons impossible to tell exactly what these variations in the data reflect. Are there developmental spurts in the child being investigated, or does this perhaps indicate the diarist's fluctuating interest? During 2;7, when the data is dense, the registrations clearly provide evidence of a target-like declarative main clause syntax for the first time. At the end of 2;7 it is possible to conclude from Bruno's diary that he has reached a grammatical level that can be found in Hugo's diary at the end of 2;3.

Interestingly enough, there are some indications that as a diarist I may have reacted spontaneously to the developmental stage that is described here for both boys. For Hugo the data is rather scant from 2;4 and 2;5, and it is extremely sporadic from 2;6 and later. From 2;7 and 2;8 a handful of well-formed *when*-clauses are nevertheless registered. In the data on Bruno the single month of 2;8 has only a few registrations – among which no new verb lexemes are included. After this the data slowly becomes more dense, successively including more and more subordinate clauses, most often subordinator-less, as well as the development of a target-like system for connecting main clauses with adverbial connectors and conjunctions. At 3;2 the data is very rich, making it possible to reconstruct the breakthrough of the temporal *when*-clause. (When it comes to the acquisition of subordinate clauses, it therefore seems as though the extent to which Bruno lags behind Hugo increases rather than diminishes over

time.) If the variations in the notations actually reflect the fact that as a diarist I have reacted to the children's developmental level, this would indicate that my interest weakened when the main clause syntax had been unambiguously developed by each boy, and that it increased again when the development of subordinate clauses became more intense.

Final remark

When Hugo was two and a half years old, I intuitively regarded him as a very fluent speaker of Swedish. Naturally this was a gross exaggeration. Nevertheless, it is most interesting that a young speaker of Swedish, with good and distinct pronunciation, an observed lexicon of around 550 words, a limited but well-functioning pronoun system, a basic but target-like inflectional system for verbs, an almost perfect feeling for when a particular utterance is communicatively appropriate, who as well has the major functional verb constructions of Swedish under control and the declarative main clause in reasonable shape, can give his main interlocutor this impression. Obviously this is the result of the grammar burst: acquiring a linguistic capacity that encompasses the most crucial parts of the Swedish lexicon and grammar. When someone has acquired this core body of his or her L1 language system, nothing can stop his or her further linguistic development. To some children this comes easy – as it did for Hugo. For other children, it takes a little more time and perhaps some more effort – as it did for Bruno.

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