# Two routes to language: stylistic variation in one child*

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ABSTRACT

This paper reports the early language development of a German-speaking girl who produced referential as well as expressive utterances. Expressive speech style is illustrated by the use of babbling strings with target intonation, universal words, filler syllables, pivot constructions and a smooth transition to syntax. Referential style is characterized by the gradual development of phonology, the gradual elaboration of words, distinct articulation, telegraphic speech and a distinct increase of vocabulary at one point in time. The child produced expressive style, e.g., holistic utterances, in situations of communicative urgency and when dealing with complex linguistic material. It is assumed that the child tried to compensate for poorly developed production capacities when there was too much information to be processed at the same time. Expressive speech served as a conversation-maintenance strategy. It provided the girl with provisional substitutes to maintain conversation and thus had a distinct function for this child.

INTRODUCTION

When examining the literature on language acquisition we see that different ways to learn and handle words are mentioned. Stern & Stern (1928) compared their daughter Hilde with their second child Günther. They found that the boy, in contrast to the girl, scarcely produced single words but combined demonstratives with nouns at an early age. He used universal words (one form 'referring' to everything interesting),

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*jargon* (babbling sequences with target intonation contours) and filler syllables, and was sensitive to rhythm and rhyme. He did not try to achieve a correspondence between his utterances and those of adults. For Günther, expressing ideas and feelings seemed to be important, and no energy was left to achieve articulatory correctness (Stern & Stern 1928).

Nelson (1973) analysed the first 50 words of 18 children and observed that some children tended to learn predominantly general names and to concentrate on formal aspects of language, while others learned more personal-social words and names of people, and were more interested in social interaction. Nelson termed the first group *referential*, the second *expressive*. Nelson's expressive children produced phrases at a later stage than referential children and produced fewer phrases before reaching the 50-word vocabulary level. The expressive learners also used more stereotyped phrases and directive expressions. Grammatically complete parts were frequently found in the phrases of expressive learners whereas telegraphic two-word utterances were often produced by referential children. Referential children acquired more words and had higher acquisition rates than expressive children. Furthermore, referential children tended to be first-born, came from rather well educated families and seemed to be more precocious. Nelson proposed that the differences between referential and expressive children can be seen as a continuum, with only a few children at the extreme ends. In this study, Nelson's measures of style-difference will be discussed.

Peters (1977) mentioned the possibility of different strategies for different situations in one child. Her subject, Minh, used analytic speech, corresponding to referential style, as well as an extremely high number of unintelligible utterances. The latter could be interpreted only with the help of the mother or with context information. He regularly produced certain intonation contours which made his utterances sound target-like. Peters called this kind of speech *Gestalt* (often labelled *holistic processing*), corresponding to expressive style. As a substitute for unanalysed parts of sentences, Minh used filler syllables. He was sensitive to rhythm and intonation and produced sentences rather than single words. Bates, Bretherton & Snyder (1988) proposed that expressive children typically concentrate on whole forms and broad outlines and deal with details of words and sentences only later. Peters pointed out that Minh used a clear and recognizable speech style, the referential one, in naming situations. The Gestalt speech, however, appeared in communicative contexts. This 'trying-to-take-part' function of expressive style was also mentioned by Bates *et al.* (1988), who

investigated whether the same underlying mechanisms could be found continuously in various modules of language over time. The 'two-strand theory', the hypothesis that it is possible to divide children into expressive and referential learners, could not be sustained by their longitudinal data on 27 children, collected at four age levels (10, 13, 20 and 28 months). At least for one group they postulated that their findings pointed to comprehension as an additional factor to referential and expressive style.

Pine & Lieven (1990) and Pine (1992) criticized the findings of Bates *et al.* and emphasized 'the dangers of using age-dependent cross-sectional measures to investigate style differences so early in language development' (Pine & Lieven 1990: 631) because of variations in developmental levels. They found that referential vocabulary scores, especially the number of common nouns, did not reflect differences in style. Pine (1992) hinted at possible relationships between the context in which vocabulary is acquired and individual differences in early vocabulary composition.

In summary, there seem to be at least two strategies of how to acquire language. One way is to segment and analyse the units of language first, in order gradually to construct more complex expressions. Another way is holistic processing or expressive speech, in which whole forms are produced first and details are worked out later. The second type of language has often been ignored by researchers because it is frequently unintelligible (Bates *et al.* 1988, Peters 1977). One aim of this paper is to present data on the expressive speech style of a girl learning German.

Hampson & Nelson (1993) observed children in free-play and meal-sessions at 1;1 and 1;8. They found that no child was categorized referential in one and expressive in another situation. Four children at 1;8 were classified as referential, ten as expressive and four as in between in the play session, but five children were classified differently in the food context. That is, some children switched from expressive or referential style to the in-between classification or vice versa (Hampson & Nelson 1993). As each session lasted 15 minutes or less, one must take into account that even more variation is possible when larger language samples are obtained. Indeed, most studies try to categorize expressive or referential *children* and very few consider the interplay of caregiver behaviour or situation and expressive or referential *language* (cf. Goldfield 1985/86). The child in this study used both referential and expressive speech. A further aim of this paper will be to investigate possible reasons for variation in style. Pine (1992) supposed that functional differences should be viewed as properties of the interaction.

Similarly, Goldfield (1985/86) assumed, that 'referential and expressive language reflect the kinds of contexts which the child and caregiver jointly construct' (Goldfield 1985/86: 129). Peters & Menn (1993) indicated that a child's limited attention span in the face of too much information is often restrictive to language acquisition.

In the case of the child to be studied here (Annalena), it will be suggested that the use of style was often functionally determined. She applied expressive speech as a conversation-maintenance strategy which provided her with provisional substitutes when dealing with complex linguistic expressions. She tried to fulfil communicative demands when there was no need, or no processing energy left, to focus on the elaboration of formal aspects. Annalena used expressive speech to maintain and direct interaction. She applied referential speech when talking about things in her surroundings.

Although some investigators criticize the value of maternal report vocabulary data (Pine 1992, but see Pine & Lieven 1990), they were found useful by others (cf. the work of Bates and colleagues, Hampson & Nelson 1993). Furthermore, data of diary studies are now widely accepted in the literature. A method of dealing with the problem of functional classification in early vocabularies has also been discussed (cf. Dromi 1987). In spite of unavoidable shortcomings such as the neglect of comprehension data and the impossibility of gaining information on token numbers, we nevertheless use diary data because they are the only source of continuous information on several linguistic aspects over a longer period of time, and thus provide valuable insights into transitional phenomena and possible interrelations between various linguistic and non-linguistic factors of development (cf. Elsen 1994, 1995, in press).

METHOD

For this paper data are taken from a diary study of a German-speaking girl, Annalena, an only child. Both parents have university degrees. The mother was the only caretaker and observer-recorder. Notes were collected periodically from birth to the girl's first word at 0;8.23. Then data on pronunciation and essential linguistic and non-linguistic situations were collected continuously. All new items and novel pronunciations of established items were documented. Imitations were distinguished from deferred imitations and spontaneous productions. Notes were transferred to filing cards twice a day with additional comments on situation, frequency of use and changes in articulation when necessary. The entire corpus was cross-checked three times a

month. Daily notes ended when Annalena was 2;5 and had completely acquired the phonological system (Elsen 1991). As the mother and child were always together throughout the study, a complete recording of items and phonological development during this period was obtained and the corpus became quite voluminous. Although the study concentrated on phonology, striking facts about situation and referents, comments on frequency and mortality of individual lexical items and notes on morphology and syntax were recorded. Additionally, audio-recordings were taken from the age of 0;4. Some early audiotaped data were verified by sonagrams and a trained phonetician. Interjudge agreements were over 80%. Audio-recordings, as well as handwritten notes, were used to describe the babbling-period and to allow checks on later development. After 2;5, data were collected periodically. Detailed data on phonological and lexical development are given in Elsen (1991).

RESULTS AND DISCUSSION

In this section, production data on early phonological, lexical-semantic, morphological and syntactic development are investigated. In each case referential and expressive strategies are found. Various features said to be typical of expressive style are listed and discussed: jargon (babbling strings with target intonation contours), sound play, invention of forms, universal words, filler syllables, relatively low number of general nominals, smooth transition to syntax. Possible reasons for the differences in processing are given.

*Jargon, sound play, invention of forms, universal words*

After a period of cooing, vocal play and repetitive babbling, Annalena used some proto-words at the age of 0;8. She usually produced variegated babbling strings, e.g. [daɪdmablə...] (0;9). A distinct adult-like prosody was not yet recognizable (cf. Elsen 1991). Clear cases of jargon babbling, although often whispered, emerged at 0;9 in dialogues with her mother, e.g., [dapədɛdapədɔ̄] (0;9.26), [dɪkwal'əldɯ] (1;0.23), [dɛhɪjœmbva] (1;0.27), [abdᵊdīmbdədədva) (1;1.3) with German intonation (superscript letters indicate less distinctive articulation). These utterances were used in conversations when 'answering' the mother's questions or remarks. Thus, turn-taking sequences were created.

Until 0;11, Annalena's production of jargon increased. At the end of 0;11, when her lexicon contained about 40 words, words outnumbered babbling sequences. At 1;6/1;7, Annalena often uttered long babbling sequences with words in addition to phrases consisting of up to four,

rarely five words. The girl's language development here was similar to that of Günther (Stern & Stern 1928). With time, the ratio of babbling to words in a sentence shifted. At 1;8 only parts of some utterances consisted of jargon. At 1;9 sentences contained babbling strings, e.g. [das? – õsdəbə<sup>n</sup>dəbədəfɪɳa] *das? - oh's ??? (der?) Finger* 'that? – oh is ??? (the?) finger' (1;7,23); [dəʁõmsdədəvīdadã] *der Strom ist ?? wieder da,* 'electricity is ?? back again' (1;9) (dots above consonants indicate ambisyllabicity). Often, Annalena produced words or phrases in dialogues and used the last utterance as a model for long jargon strings which gradually grew to songs (sound-play). Finally, during the middle of 1;9, babbling ceased. The child continued to play with language and make up fantasy-songs.

If Annalena lacked a lexical item she formed one, e.g., [bagba] for ducks (0;11.15), or [bɔa], articulated with a hoarse voice, for crows (0;11.15). Similar to Günther (Stern & Stern 1928), her vocabulary included several onomatopoeic words, even a kind of sniffing for hares and rabbits (0;10–1;2) (cf. Elsen 1994). Some of her inventions could not be related to words, e.g., [dɔɪkɐ] (0;10), [gɛk̇o] (0;11), which were successfully applied in conversations to refer to a toy woodpecker, or [buɪ̇ɪ] (1;11.19 ff.), for which the meaning could not be traced. When asked the names of the children she had drawn, she immediately invented [βɔ̃xnæ], [ʃtɔɳ̇æ], [dʁɔɳ̇æ], [ʃtœṅənæ<sup>a</sup>] (3;0.28) ([ɐ] indicates a more than half-open central vowel.).

Initially, the girl used structure and sound detached from meaning as a means to maintain conversations (cf. Peters 1977). Her limited vocabulary prevented her from articulating words as quickly and as suitably as needed. Therefore, she created utterances. A comparable strategy was to answer her mother's comments with [da] at approximately 0;9, similar to Günther's *ja* (Stern & Stern 1928). This was a precursor of the demonstrative *da,* 'there', which was used to keep dialogues going and enabled the construction of several turn-taking sequences. Some weeks later Annalena, like Günther, produced universal words to label everything interesting: *Mama,* 'mummy' (0;11), *Bild,* 'picture' (0;11). In general, however, her phonological system developed gradually and was comparable to that of other referential children. Early sounds and sound combinations were avoided with the help of *deletion, substitution, reduplication, occlusion, assimilation, metathesis, vowel-epenthesis,* often resulting in *resyllabication.* The number of sounds and syllables and syllabic complexity grew steadily (cf. Elsen 1991).

We see that Annalena used sounds very early in (proto-) communications. When linguistic abilities increased, the proportion of

jargon in dialogues and sentences gradually decreased. To keep conversations going, i.e., applying language in correct and required circumstances, she often used invented utterances. She made up lexical items when target words were not at hand or were too difficult to manage (cf. Elsen 1994). Thus, she was almost always successful in talking about her topics with the help of expressive speech as a provisional substitute. The need to participate in 'conversation' was strong. Producing any sound seemed to be better than remaining silent. As Bates *et al.* (1988) remark, often children talk for the sake of talking. As Annalena's linguistic abilities increased, empty sound was less often required as a substitute and was used only in sound play.

*Filler syllables*

To accommodate the rhythmic patterns of her mother tongue, Annalena – similar to Minh (Peters 1977) and Günther (Stern & Stern 1928) – used filler syllables and filler words consisting of sounds from the surrounding text as a substitute for unanalysed or unmemorized parts in children's songs and rhymes. She thereby succeeded in producing the target number of syllables and in placing stress correctly (1a–h) ([n̩] means the syllabic nasal).

(1)  a.  [… ʁaθ̣ə ʁọ̄ ʁọ̄], [… ʁaθ̣ə vɯ dɯ̄  ]…*raschelt im Stroh* (1;8.5), (1;8.23)

         'rustles in the straw'

     b.  [lɔp lɔp lɔp fɛd̄ɛn lɔ̣p̣a lɔp] *Hopp, hopp, hopp, Pferdchen lauf Galopp* (end of 1;10)

         'hop hop hop horsie go gallop'

     c.  [ʁɪŋlaɪn ʁɪŋlaɪn dɯ̄ ɣ̄ vanda] *Ringlein, Ringlein, du mußt wandern* (1;11.9)

         'little ring, little ring, you must wander on'

     d.  [bʁɯ̄ ta jakō̄ vīlə dɔŋʃ, vīlə dɔŋʃ] *Bruder Jakob, schläfst du noch, schläfst du noch* (1;11.5)

         'brother Jack, are you sleeping, are you sleeping'

         (the song ends *ding ding dong*; perhaps [vīlə dɔŋʃ] means *viele Dongs*, 'many dongs', and the child contracted the song)

     e.  [ʔā bē θē katsə nə̣n̥̣ə nē] *ABC, die Katze lief im Schnee* (1;11.5)
         'ABC, the cat ran in the snow'

     f.  [bẹ̄ḅē̄ bɛθdɛj jɯ̄jɯ̄] *Happy birthday to you* (1;11.27)

    g.  [... mʏnʃn̩ ʔə ʔa ʔamstɐdam]  ... *von München bis nach Amsterdam* (2;1.27)

          'from Munich to Amsterdam'

    h.  [... ʔū̇ ʔū̇ ʔanɐn] ... *zu dem andern* (2;1)

          'to the other one'.

For unanalysed parts of sentences Annalena used filler syllables. At an early age, fillers were often approximations of some neighbouring sounds (2 a–c).

(2)  a.  ['bʊtɪtɪ 'ta] *kaputt ist die da* (1;3.11)

         'this one is broken'

    b.  ['bapaɪsɪ 's̩a] *Papa ist nicht da* (1;3.12)

         'daddy is not there'

    c.  [dədədas?], [dəsədas?] *was ist das?* (1;5)

         'what's that?'

Later, several examples of [ðə], [də] were found. The utterance contexts in which these were produced indicate that these may have been precursors of the definite article, which has many forms in German (3 a–f). Occasionally, Annalena used [ə], [e], etc., which resemble the prefix for participles *ge* (3 g–i). More about the use of filler syllables as protomorphemes is found in Peters & Menn (1993). It is important to note that in the part of Germany in which Annalena lives, articles are usually placed before proper names.

(3)  a.  [ð̩ə fant ðɪtθ] *der Elefant sitzt* (1;7,4)

         'the elephant is sitting'

    b.  [ð̩ə nɛk̇ə] *die Schnecke* (1;6)

         'the snail'

    c.  [ð̩ə bat] *das Blatt* (1;6)

         'the leaf'

    d.  [ð̩ə paṗa zaɪnz] *dem Papa seins* (1;7:11)

         'the father's one'

    e.  [d̩ə maṁa lɛ̄ft da] *die Mama schläft da* (1;6.5)

         'the mummy is sleeping there'

    f.  [da d̩ə baṗa vīdɐ] *da (ist) der Papa wieder* (1;5.30)

         'there the daddy (is) (back) again'

   g. [dɐ papa ʔḙmaxt?] *der Papa gemacht?* (?)
           '(what has) the daddy done?'

   h. [hapə̰zḙn kōnvēkʃ] *hab' gesehn Cornflakes* (1;10.19)
           '(I) have seen cornflakes'

   i. [patʁītsɪa ɪn ʔūᵃlaʊpə̰gḗt] *Patrizia in Urlaub 'gegeht'* (2;1,22)
           'P. (is) "goed" on holiday'.


With the exception of (1d), all substituted syllables were unstressed and
preceded a stressed one. Sometimes the filler syllables were not
interpretable (4 a–b).

(4)  a. [n̲d̲n̲bodn̄̍ gaĪ] *?? Boden kalt* (1;6,0)
           '?? ground cold'

   b. [ʔagḗ m̲̄ wœvḷ] *André ?? Löffel* (1;5,5)
           'André ?? spoon'.


Further fillers in sentences (mainly at 1;6/1;7) were [dabada], [dabəda],
etc., (cf. Peters 1977), or [lˀdlˀdlˀdl], e.g., [daɪvia̲d̲a̲v̲ə̲d̲ā̲q̲] *drei vier ???*
'three four ???', meaning 'many' (1;7.23). Annalena often put [ðəðə],
[dədə], [drdr], [mələ] at the beginning of sentences. These nonsense
syllables appeared to be vestigial traces of by now diminishing jargon.
Similarly, Günther often produced [ə], which he used as a substitute for
particles, articles, unstressed prefixes and conjunctions. He even used
the sound in places where no word or sound was needed (Stern & Stern
1928, and cf. Peters & Menn 1993).
   In addition to omitting unstressed syllables, Annalena replaced them
with [a] or [ldl], etc., word-initially. They sometimes contained target
sounds, e.g., [dɛldld...dḗ] *André* (name) (1;3.12), [ldl...ɔan] *verloren*
'lost' (1;6/1;7), [lōdlɛtə] *Toilette* 'toilet' (1;9.15), [kḷkḷgāmə] *Reklame*
(ad.) (2;0.11), [ʔazōnə] *Zitrone* 'lemon' (1;6.17), [lˡʳlˡ ʳona] (1;5.5) (later
often [ʔalōnə]) *Melone* 'melon', [ʔadāna] *Laterne* 'lantern' (1;5.6), and
[ʔabɔada] *Transporter* (lorry) (1;4/1;5). This was similar to Amahl's [ri]
as first syllable in, e.g., attack, exhaust, conductor, infection (Smith
1973) or Edmond's [q̄] for the initial syllable in French *costume* 'dress',
*éponge* 'sponge' (Grégoire 1937). Note that the substituted syllables in
all three languages are not stressed and precede a stressed syllable.
Obviously, children at an early age cannot cope with long forms and
instead master less salient parts of words with easily manageable
*universal syllables* to maintain syllable number and position of stress.
   Annalena also added [aja], [ala], [alal], etc., to the first syllable of a

three syllable item with initial stress. At 1;4/1;5 she uttered forms such as [metajaɪ] *Schmetterling* 'butterfly', [buɪθaja] *Hubschrauber* 'helicopter', [mɪçajaɪ] *Michael* (name), [huɪθajaɪ] *Hustensaft* 'cough syrup', [bɛnajaɪ] *Benjamin* (name), [auɪfajaɪ] *aufräumen* 'to tidy up'; at 1;6 [kɪʂajaɪ] *Christian* (name, brother of Benjamin); at 1;8 [diːtsajaɪ] *Patrizia* (name), deleting the first (unstressed) syllable. She produced too many syllables in [ʔɪtalalala] *Gießkanne* 'watering can', [mɔtajaja] *Motorrad* 'motor-bike', [dɛbəlaja] *Zeppelin*, [wɪlaja] *Zwieback* 'biscuit', and even [mɪçajajajajaɪ] *Michael* (name), when she was excited and urgently awaiting him. Fillers were used as the general last part of a word following the stressed syllable.

To maintain syllable number and rhythm Annalena not only used filler syllables but also reduplicated parts of the word, e.g., [mamamamalɑ̄də] *Brombeermarmelade* 'blackberry jam' (2;0.24), [manɪmanɪ] *Badewanne* 'bath-tub' (1;6.3), [balbaɪ̇ō], [babaɪ̇ō] *Luftballon* 'air-balloon' (1;3), [halsʔɑ̄ʁəʔōʁəʔɛᵃstɪn] *Hals-Nasen-Ohren-Ärztin* 'lady-otolaryngologist' (2;4.17), [ðuɪðuɪbaʊm] *Purzelbaum* 'somersault' (1;9.15), [sɑ̄nsanjə] *Lasagne* (Italian dish) (2;4.2).

Sometimes the girl mainly remembered rhythm. Some sounds were omitted, for others the exact position was lost, but position of stress and syllable number were correct (cf. Sophie in Fletcher 1985). This was recorded in [malɑte] *Tomate* 'tomato' (1;3.12), [vuɪtatak] *Hustensaft* 'cough syrup' (1;4.18), [gīnana] *Gießkanne* 'watering can' (1;4.27), [taksono] *Taschentuch* 'hanky' (1;6.4), [mɛnama] *Melanie* (name) (1;6.11), [daɪᵛ'luɪs] *Reißverschluß* 'zipper' (1;8.13), [dabədōl] *Sanostol* (a vitamin-syrup) (1;9.5), [sɛɪ̇ətā] *Cassette* 'tape' (2;0.4), [kɔmtaʁak] *Kontrabaß* 'contrabass' (2;0.22), [ʁalalōlī] *Ravioli* (Italian dish) (2;1.10), [mɛlōnī] *Memory* (game) (2;3), [sasjanə] *Lasagne* (Italian dish) (2;4.2), [ākokāno], [ābogāno], [āfofāno] *Oregano* (Italian herb) (2;5.28). With the exception of 'tomato' and probably 'hanky', these expressions are not everyday words and most of them belong to the periphery of the German lexicon. They are structurally complicated, as the typical, i.e., most frequent, German word-pattern consists of two syllables with penultimate stress. The latter were handled by Annalena more easily and with more accuracy.

More complex structures were attempted and achieved, uttered with the help of filler syllables and reduplications serving as substitutions similar to those observed in sentences. Usually, the stressed syllable was retained. As Vihman (1981) proposed, segments in stressed syllables are more salient to children. She reported the same desire to retain syllable number and position of stress and found these factors to be the first to be managed in language acquisition. Similarly, Peters &

Menn (1993) described prosodic acoustic features which an expressive child used as a 'starter' when faced with too much information to process at the same time. They called them 'phonological toeholds'. Annalena is a musical child. Similar to Günther and Minh she showed sensitivity to the rhythmic pattern of a word. She tried to maintain syllable number, structure and stress at the expense of individual sounds especially in the case of sentences and complex words. According to Peters & Menn (1993) this seems to be typical of expressive children. Another feature of expressive language as used by Annalena is pronunciations across word tokens which were variable for early productions of target words.

Furthermore, the child made use of referential style (analytic processing) for shorter words, naming things and when 'reading' a book, and succeeded in building up words gradually and in articulating distinctly (cf. Peters 1977), as described in Elsen (1991).

The use of the expressive strategy may be due to the complexity of long utterances which could not yet be mastered. Annalena was able to cope with one- and two-syllable words. At an early age, she handled nearly all segments of shorter words simultaneously. Longer words were treated more superficially. The phonological system was not yet fully developed. Task complexity and processing capacity interfered. Again, the need to talk was stronger than the need to pronounce correctly. To compensate for poorly developed linguistic capacities the child produced patterns that only roughly corresponded to target items, similar to the expressive children in Peters (1977), Peters & Menn (1993), Stern & Stern (1928), Vihman (1981). As Annalena did not apply these strategies in all situations or for all words, they obviously served to provide her with provisional substitutes that enabled the child to take part in the 'language-game' when there was too much information to process at the same time.

*Number of general nominals*

Nelson (1973) reported the tendency of her expressive children to learn, initially, more words for expressing feelings and directing people. Although both expressive and referential children had object words in their 50-word-vocabularies, expressive children had a higher proportion of functional words, pronouns, modifiers, personal-social words, and a low proportion of general nominals compared with referential children (Nelson 1973). Annalena's first 50 words are listed in the Appendix, together with some proto-words, which were forms connected with communicative functions rather than with special meanings.

Among Annalena's first ten words were three general object words,

two specific nominals, three action words and two personal social
words (terms adapted from Nelson 1973). Thus, her lexicon contained
33% general nominals which corresponds to Nelson's findings for
expressive children. Annalena's first 20 words contained 9 general
nominals. The use of these early lexical items has been described in
Elsen (1994). The number of general nominals rose: the second 20
words contained 15 general nominals. The first 50 words, at 1;0.8,
consisted of 31 general nominals. The portion of content words had
doubled, so that the child could no longer be classified as expressive
according to Nelson. Pine & Lieven (1990) hold that the proportion of
nominals always increases with vocabulary size independent of style. It
seems that such an analysis does not provide relevant information. The
proportion of common nouns as a measure of style-difference should
be interpreted with caution because it 'is a feature of vocabulary
acquisition which cuts across rather than reflects differences in
strategy' (Pine & Lieven 1990: 627). In fact, Bates, Marchman, Thal,
Fenson, Dale, Reznick, Reilly & Hartung (1994) reported distinct
changes in lexical acquisition for their children (age 0;8 to 1;4) in
addition to great individual differences. If we assume that stylistic
variation depends on situation and not on the individual child, then
such calculations would not be relevant.

### Transition to syntax

Nelson (1973) found a distinct acceleration in lexical growth, usually
termed *vocabulary spurt*, for her referential children. Using the
criterion of 10 phrases as a norm, Nelson showed that expressive
children produced longer phrases at an earlier age than referential
children. She observed that expressive children tended to use
grammatically complete units, whereas referential children usually
built telegraphic two-word constructions. The transition from single- to
multi-word utterances tended to be a smooth one for expressive
children and more abrupt for referential children.

*Amalgams*   On the threshold to syntax Annalena used amalgams, a
feature typical of expressive children. [daïta] *das da* 'that there' was
used as a demonstrative from the beginning of 0;10. [getɪç], [gēnɪz],
[gēiç], etc., *geht nicht*! 'doesn't work!' appeared at 1;3.19. [zīstə]
*siehste*! 'you see, didn't I tell you!' appeared at 1;6.4 and was often
applied to mean 'look!' at 1;6/1;7. [manɪc] *mag nicht* '(I, he, she)
don't want' was used to indicate refusal. No analytic structure of item
and negation can be assumed because the amalgam differed in
pronunciation from the positive [maẋə], [makə] *mag* 'I want/like',

(1;6–1;8). [dədə'das], [dəśə'das] *das ist das?* 'that is that?', meaning 'what is that?', was noted at 1;5.

*Vocabulary spurt*    In Fig. 1 the accumulation of words is documented, beginning with the day Annalena produced her first word (0;8.23). The total number of words in the cumulative lexicon was calculated each third of the month (see section on Method). A vocabulary spurt was recorded six months after the onset of speech, when, after a period of acquiring about two new items a day, the child began to add three, four or more new words daily to her lexicon.
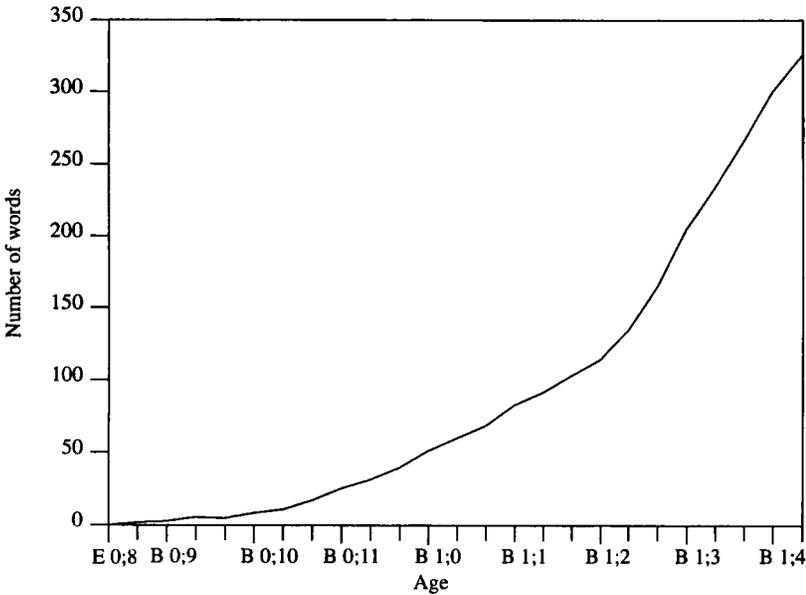


Fig. 1. Annalena's early cumulative lexicon. The total number of words was calculated three times a month, for the first ten days, for the second ten days and for the rest of a month. B means beginning and covers the first ten days of a month. At the end (E) of 0.8, the child's lexicon contained two words.

*Early word combinations*    Three months after her first word, Annalena produced her first two-word utterances. One month later, Annalena frequently produced two-word utterances and occasionally three-word phrases. These usually, but not always, consisted of [da] *da* 'there', followed by a noun. Occasionally, Annalena reversed the order, used

words other than nouns or the amalgam [daɪa], [dəɪa], etc., *das da* 'that there' rather than [da]. At the age of 15 months, most words were embedded in constructions. Towards the end of 15 months, multi-word utterances consisted of various words. Thus Annalena, like Günther (Stern & Stern 1928: 87), made a transitional step between single- and multi-word utterances in building mainly *da* + single-word constructions or combinations with [a] *auch* 'also, too' before using free combinations frequently.

The transition from single- to multi-word expressions was not very clear-cut for this child (cf. Elsen 1995). Expressive as well as referential strategies were found. The child used amalgams, pivot-constructions and holistic sentences and, simultaneously, telegraphic speech with gradually increasing complexity. Thus, sentences such as (5) as well as (6) were found, all meaning 'daddy is not there'.

(5)  a.  ['bapaɪṣɪṣ'ɑ̄] *Papa ist nicht da* (1;3.12)
     b.  ['baṗaɪzɪz'da] (1;3.18)
     c.  [bapadɪtɑ̄], [pabatɪtɑ̄] etc., often at 1;3/1;4

(6)  a.  [naɪn baṗa] *nein Papa* (1;3.16)
              'no daddy'

     b.  ['papə da 'naɪn] *Papa da nein* (1;3.25)
              'daddy there no'

     c.  [bapa] + 'all-gone' gesture (1;4.10)

(7)  a.  [paṗa ɪst dɑ̄!] *Papa ist da!* (1;6.12)
              'daddy is there!', when he is coming home

     b.  [vō bɪstɯ paṗa?] *Wo bist du, Papa?* (1;6.21)
              'where are you, daddy', when looking for him.

The child displayed features that are typically associated with expressive and referential children. It may be assumed that as long as the child's analytic linguistic abilities were poorly developed and allowed only short utterances she often made use of expressive style (holistic formations) because conveying her message was more important than utilizing the correct form of the expression. Exact processing occurs when linguistic proficiency is attained (7 a–b) (cf. Peters & Menn 1993). Again, the use of expressive utterances as provisional substitutes to maintain conversation seems probable.

Furthermore, Annalena showed a lexical spurt, which is said to be typical of referential children. That there was no relation between vocabulary growth and syntactic development was already shown in Elsen (1995). Vocabulary growth as a measure of style should be reconsidered or even abandoned if one assumes that there are situationally dependent language styles. However, no implications are made that exclude interrelations between vocabulary growth and number of nominals (cf. Goldfield 1990).

CONCLUSION

In summary, the child considered here showed typical features of both referential and expressive children. On the one hand she is an only child, female and precocious (first word at 0;8.23, 50 words at 1;0.8). Annalena used single words, usually distinctly pronounced, and elaborated them gradually, often with the help of imitation. She applied highly intelligible telegraphic speech. These are all features representing referentiality. On the other hand, the girl produced expressive speech: jargon, filler syllables, amalgams, and pivot constructions. Two further measures for stylistic variation described in the literature, ratio of general nouns and vocabulary growth, were not found useful.

When examining the situations in which expressive utterances appeared, one finds two recurring causes. The linguistic material which the child was required to master was too complex to be processed instantaneously. Alternatively, or additionally, the situation did not allow prompt and complete processing because the child chose to meet conversational demands first. In both cases Annalena preferred incomplete production to staying silent or interrupting the flow of conversation. As Gopnik (1988) pointed out, very young children use language primarily as a social-communicative tool. For Annalena, expressive strategies served as a conversation-maintenance mechanism and thus can be said to be functionally determined. It should be stressed, however, that Nelson, when discussing styles, never claimed that children can be invariably allocated to one category or another. Our findings, then, should help us to uncover how the two may interact.

The diary data provided here are limited and they show the development of one child. Nevertheless, it should be revealing to compare them with further detailed samples to investigate the variation and interaction of language styles in other children, something universalist models tend to ignore. One aim of future research should be to describe and understand stylistic variation on the basis of data on

various linguistic domains and conversational background. With the help of functionally oriented approaches, which view language as a communicative social action, we hope we will understand not only exactly what children say but why.

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# APPENDIX

## ANNALENA'S FIRST 50 WORDS

| No. | Age | Child's form (example/s) | Target | Meaning (roughly) |
|-----|-----|--------------------------|--------|-------------------|
|     | 0;8 | aɪ |  | general delight |
|     | 0;8 | da | (da) | demonstrative, (later general acknowledgement/turn) |
|     | 0;8 | dətə | (das da) | demonstrative |
| 1   | 0;8.23 | naɪn | nein | no |
| 2   | 0;8.25 | mama | Mama | mummy |
| 3   | beg. 0;9 | da | da | there |
| 4   | beg. 0;9 | baba | Papa | daddy |
| 5   | mid. 0;9 | aɪ! | ei! | (when fondling, special intonation) |
| 6   | mid. 0;9 | aɪ | Ei | egg |
| 7   | beg. 0;10 | daɪ̇a | das da | that (one over there) |
| 8   | beg. 0;10 | bɪta | bitte | please, here you are |
| 9   | beg. 0;10 | pɪpɪ | piepiep | mouse |
| 10  | 0;10.13 | dɛdɛ, tɛdə | Teddy | teddy bear |
| 11  | 0;10.16 | b, ba | Buch | book |
|     | 0;10.24 | 'sniff'[a] |  | hare/rabbit |
| 12  | 0;10.28 | mɔm, baɯ | Baum | tree |
| 13  | 0;10,28 | pœ̃p! | tööt! | toot! (when nudging the nose) |
| 14  | 0;10.28 | nana[b] | Zahnbürste | toothbrush |
| 15  | 0;10.28 | nana | Annalena | (child's own name) |
| 16  | 0;10/0;11 | dada! | Tag! | hello! |
| 17  | beg. 0;11 | ja | ja | yes |
| 18  | beg. 0;11 | bm[c] | brumm | car |
| 19  | 0;11.3 | aðða[d] | Essen | to eat/meal |
| 20  | 0;11.3 | bɪ | Bild | picture |
| 21  | 0;11.3 | vava | wauwau | dog |
| 22  | 0;11.6 | ata, ada! | ada! | bye (dialectal) |
| 23  | 0;11.8 | man! | Mann! | (when annoyed, indignant) |
| 24  | 0;11.10 | kīkī[b] | kikeriki | cock |
| 25  | 0;11.11 | bal | Ball | ball |
| 26  | 0;11.11 | bal | Lampe | lamp |
| 27  | 0;11.15 | man | Mann | man, male |
| 28  | 0;11.15 | pɪpɪ | pieppiep | bird (not duck or crow) |
| 29  | 0;11.15 | bagba |  | duck, goose |

| No. | Age | Child's form (example/s) | Target | Meaning (roughly) |
|---|---|---|---|---|
| 30 | 0;11.15 | bɔa | | crow |
| 31 | 0;11.15 | nanə | Banane | banana |
| 32 | mid. 0;11 | dē | Tee | tea |
| 33 | 0;11.18 | gɪŋgɛ | trinken | to drink |
| 34 | 0;11.23 | haɪ | heiß | hot |
| 35 | 0;11.24 | ba, baɪ | Wasser (?) | water |
| 36 | 0;11.27 | baba | Bauch | belly |
| 37 | 0;11.29 | mɛɪnə | miau (?) | cat |
| 38 | 0;11.30 | de | Zeh | toe |
| 39 | 0;11.30 | bebɪ | Baby | baby |
| 40 | 0;11.30 | gçī[d] | kalt | cold |
| 41 | beg. 1;0 | mɔm! | bong! | (something sudden, unexpected like collisions) |
| 42 | beg. 1;0 | bam, mɔm! | bimbam! | ding-dong (swinging) |
| 43 | beg. 1;0 | o, ɔɪ! | oh! | oh! |
| 44 | 1;0.2 | ʙ̆ | Rohr | tube |
| 45 | 1;03 | aɪl | Öl | oil (for cleaning) |
| 46 | 1;04 | ba'bī[d] | Papier | paper |
| 47 | 1;0.5 | pipī | Pipi | urine |
| 48 | 1;0.5 | aɪl | Eule | owl |
| 49 | 1;0.5 | m̄ | muh | cow |
| 50 | 1;08 | bələ | Brille | glasses |

[a]   The status of this expression as a word can only be justified semantically.
[b]   The word vanished after a short time, but was taken up again several days later.
[c]   The first sound of this word was a bilabial trill.
[d]   The word was initially uttered only once (several days between first and second production).