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TEIL I: TEXT, BEDEUTUNG, KOMMUNIKATION  
PART I: TEXT, MEANING, AND COMMUNICATION



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# Acquisition & Change

## Principles, Concepts, Explanations

Hilke Elsen

### 1 Introduction

In this paper I will present examples of several forms of language change, especially acquisition data. By way of a functionalist-cognitive approach I will offer a psychologically plausible explanation of these forms and other related phenomena from the critical discussion concerning language change. Information within this context is understood to be processed in a network-like system which is influenced by functional factors.

### 2 Principles

One of the most discussed and well-documented principles in language change is that development in one linguistic area may influence the development at another level. For example, case markers were lost during the history of the English language. The equivalent information is expressed today with prepositional phrases and by word-order regulations. In the history of Germanic languages word stress shifted to the first syllable of a word. Last syllables, the part of the word where the most inflectional information is found, became weak. In OHG various full vowels were still present at the end of words, verbs as well as nouns, cf. 1). In MHG we only have the reduced vowel schwa, cf. 2).

- 1) a. sg. *zunga, zungūn, zungūn, zungūn*, pl. *zungūn, zungōno, zungōm, zungūn*  
OHG 'tongue'
- b. sg. *wurm, wurmes, wurme, wurm, wurm(i)u*, pl. *wurmi, wurm(i)o, wurmi, wurmim*  
OHG 'worm'
- 2) a. sg. *zung, zungen, zungen, zungen*, pl. *zungen, zungen, zungen, zungen*  
MHG 'tongue'
- b. sg. *wurm, wurmes, wurme, wurm*, pl. *würme*, pl. *würme, würgen, würme*  
OHG 'worm'

You can see that the MHG endings are less distinctive. Information is lost. One remedy is the emergence of the Umlaut as a phoneme to distinguish between singular and plural forms like *Vater/Väter* 'father/s' or *Mutter/Mütter* 'mother/s'. In other words, today UL, a former allophone, has the status of a morpheme. However, whether the disappearance of the necessary phonological surroundings (*i* and similar sounds in the subsequent syllable) and the grammaticalization of UL lead to its phonemization, or whether UL already was a phoneme before the *i*-sounds disappeared (cf. Ronneber-



ger-Sibold 1990; for the development of plurals cf. Werner 1969), is still open to discussion. The exact relationship is not known. But UL can only help to distinguish number. Case and gender in modern German are expressed to a high degree with the help of articles. For verbs, person is expressed by the subject pronoun.

Due to the shift in stress to the beginning of a word, the morphologically important endings were weakened or lost and lost distinctivity, that is information. The work of most former endings is done today by vowel change, pronouns, articles and further analytical constructions, that is, by free words. And in English, we have a strict word order. The opposite development is found when words become endings. The former verb for *to do / tun* was probably the source for the Germanic weak preterite, cf. *walk-ed* (e.g. Lass 1997:306). Today colloquial German has clitic pronouns like *hast du - haste* 'have you', *bist du - biste* 'are you' or *sagst du - sagste* 'say you'. In some dialects such as Bavarian, these are already endings: *bis-sd* 'are you', *sogg-sd* 'say you'. The full pronoun can appear additionally (Altmann 1984).

Related to this interplay of linguistic levels – we just mentioned phonetic-phonological, morphological and syntactic aspects – is the oscillation between various possibilities of coding such as bound morphemes or free words in standard German *Konjunktiv* like *ich nähme / ich würde nehmen* 'I would take'. Or there are different degrees of explicitness, depending on situation and communicational needs, cf. 3).

3) [glaubən] - [glaubŋ] - [glaubm] - [glaum̄] - [glaum] 'to believe'

They are either rather long and phonetically precise and morphologically transparent, or shorter, phonetically simpler, but morphologically less transparent.

Very often, synchronic variation gives rise to diachronic change (e.g. Lüdtko 1980a, 1980b; Hopper/Traugott 1993:123ff; Werner, Labov in Ronneberger-Sibold 1980:35). Variation occurs because of the conflicting needs of speakers and hearers, because of opposing optimal trends in different linguistic areas. This happens probably under varying socio-economical influences and may effect the whole language system. Usually, changes appear gradually. One of the variants finally survives to become the only possibility as in the case of UL - preOHG probably oscillated between pronouncing *gasti* and *gesti* 'guests'. In OHG texts only *gesti* is found.

The various linguistic levels interact. Information which is found in an ending can be given in free words or by serialization restrictions (e.g., SUBJECT - nominative marking vs. sentence initial position). Furthermore, the context can be of help with decoding when words become so blurred that no exact meaning is recognizable. Situation as well as speakers and hearers play a role in the development, a development which happens 'in use'.<sup>1</sup>

<sup>1</sup> Similar developments are found for the Old Egyptian language. All secondary syllables were shortened. Synthetic tenses were gradually replaced by analytic forms (Gardiner 1927<sup>3</sup>/1994:3). Some suffixes were free words (*sdm.tw.f* 'he is heard' derived from 'one (*tw*) hears (*sdm*) him (*f*)' (ibid.:28). Instead of using the word 'and', words and phrases are simply juxtaposed (ibid.:68). As the Egyptian hieroglyphs are inscriptions mostly carved in stone, they were especially vulnerable to economizing effects (as far as it did not violate the magic of spells or religious reverence) where energy as well as available space on the stone was concerned. This might explain,

Now let's turn to the acquisition data. They are taken from a diary study of a German speaking girl (Elsen 1991ff). Looking at these data we see that two words may become one, for example *haste* 'have you' in 4),

- 4) *de Bommel haste de Bommelmütze*, 1;9,21<sup>2</sup>, 'the pom-pom have-you the pom-pom cap = the pom-pom cap has a pom-pom.'

meaning that there is a pom-pom on the pom-pom cap. Here, *haste* is treated as an unanalyzed form of *haben* 'to have'. Children oscillate between either more phonetically 5 a, b) or more morpho-syntactically precise constructions 5 c, d). All examples in 5) mean 'daddy is not here'.

- 5) a. [bápaɪsɪs'ã], 1;3,12, *Papa is nicht da* 'daddy is not here.'  
 b. [bápaɪzɪzdá], 1;3,18  
 c. [naɪn bapa], 1;3,16  
 d. [pápə da náɪn], 1;3,25

However, in contrast to adults who may be a bit lazy or sloppy and try to rely on discourse information and cooperative hearers for the decoding, young children are not yet able to verbalize precisely all linguistic aspects. They vary in the choice of level of encoding. Improvements of pronunciation result in loss of morpho-syntactic information.

Another example is 6 a, b), where the relation of ownership is first given in the context. Then the child uses a form of *haben* 'to have' 6 c, d).

- 6) a. *Moni Tasche*, 1;6,17 'Moni bag.'  
 b. *Papa Bücher*, 1;6,20 'Daddy books.'  
 c. *Micky Maus hat Brille*, 1;10,0 'MM. has glasses.'  
 d. *hatter Schuhe hatter Hase*, 1;10,18 'has-he shoes has-he hare.'

A further example is the verbalizing of requests – initially as infinitives, cf. 7a, b). The message is clear in the given context. Later morphologically marked verbs in the imperative mood are used 7 c-e).

- 7) a. *singen, Mama singen!* 1;6,21 'to sing, Mommy to sing!'  
 b. *suchen!* 1;7,30 'to look for!'  
 c. *Tag, gib Hand!* 1;9,12 'day/hello, give (me your) hand!'  
 d. *mal noch Boot!* 1;9,21 'draw another boat!'  
 e. *gib mir Schippe!* 1;9,21 'give me shovel!'

Both possibilities are open to adults. The first is preferred in colloquial, unofficial situations.

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why in the texts the logical nexus between words and sentences has to be inferred from the context (ibid.:36) and even why the subject can be omitted if it is clear from the text (ibid.:113).

<sup>2</sup> The numbers 1;9,21 refer to the age of the child in years; months, days.

You can argue that speakers try to economize when it is either not necessary – as in the case of adults – or not possible – as in the case of young children – to say more.

The development of antithesis is given in 8) to show how structure arises gradually from discourse to syntactic regularity.

- 8) a. *Mann weg, Papa da*, 1;5,3 ‘man gone, Daddy here’
- b. *fertig neu*, 1;6,3 [sie ist mit einem Buch fertig und will das nächste] ‘finished new’ [she has finished her book und wants to have the next/new one]
- c. *Mann weg, Kind sitzt*, 1;6,5 ‘man gone, child sits’
- d. *‘s geh nich Brille – ohne*, 1;10,26 [‘Es geht nicht mit Brille, ...’ beim Pulli anziehen] ‘it work (imp., no ending) not glasses – without = it doesn’t work with glasses – without’ [she tries to put on her pullover]
- e. *Mama kann das. Papa nicht kann das*. 1;11,2 ‘Mommy can that. Daddy not can that. = Mommy is able to do that. Daddy is not able to do that.’
- f. *Nein is nich kaputtgerissen, is heile*. 1;11,3 ‘No is not torn, is whole.’
- g. *A stinkt nicht, ist sauber*. 1;11,4 ‘A. doesn’t stink, is clean.’
- h. *Nein, kein Doiker, Specht!* 1;11,4 ‘No, not a D., woodpecker!’
- i. *Kann man haben. Nich kann man haben*. 1;11,10 ‘Can one have. Not can one have. = One can have (it). One can’t have (it).’
- j. *Ein Mann, nich eine Frau*. 1;11,10 ‘A man, not a woman.’
- k. *Is nich rot, is rosa*. 1;11,11 ‘Is not red, is pink.’
- l. *Gehma nich Hause, gehma Patrizia*. 1;11,22 ‘Go-we not home, go-we P. = Let’s go ...’
- m. *Bleibt die Oma drin, eine Frau steigt aus*. 2;0,16 ‘Stays the granny inside, a woman gets out.’
- n. *Nee, nich anmachen, auslassen!* 2;1,6 ‘No, not turn on, leave off!’
- o. *S kein Bänkchen, sollt Kocker sein*. 2;1,26 [Hocker] ‘Is no bench, should be stool.’
- p. *Ich hab keine Federn, Mama hat Feder*. 2;3,17 ‘I don’t have feathers, Mommy has feather.’
- q. *Ich hab nichts esagt, hab nur ‘hä’ gemacht*. 2;3,18 ‘I didn’t say anything, only did ‘hä’
- r. *Ich hab die Felizitateschubst un der Dustin hat mícheschubst*. 2;3,23 ‘I pushed the F. and the D. pushed mé.’
- s. *Nich fangen, verstecken jetz*. 2;4,25 ‘Not (to) catch, (to) híde now.’
- t. *Mein T-Shirt is nich zu kurz, aber Pumuckls*. 2;5,27 ‘My tee-shirt is not too short, but P.’s.’
- u. *Nein, ich hab dich nichemeint, ich hab mích gemeint*. 2;8,4 ‘No, I didn’t mean you, I meant mé.’
- v. *Ich wollte für den Bastian eine suche, aber das [Versprecher] gibts keine mehr*. 2;9,9 ‘I wanted (to) look-for one for the B., but that [slip of the tongue] isn’t any more. = I wanted to find one for B., but there aren’t any left.’
- w. *Grad wollt ich ein Buch lesen, aber da hab ich keine Zeit gehabt, weil ich [auf die Toilette] mußte*. 3;2,27 ‘I just wanted to read a book, but then I didn’t have time, because I had to (go to the toilet).’

At first, contrasting information is simply given in asyndetic, paratactic sequences, (e.g. 8 a). The message is understood with the help of the context. By and by the child uses negation (e.g. 8 e) or *Gradpartikel* to encode antithesis (8 q). Very often, a contrast can already be found in the lexemes themselves, e.g. *stinken* 'to stink' – *sauber* 'clean' (e.g. 8 g). After some time, two sequences are connected, first with the help of the neutral coordinative conjunction *und* 'and' (8 r) – which adults use as well in these situations. Then the adversative *aber* 'but' is used to combine a sentence with a phrase (8 t). Finally two sentences are connected with *aber* 'but' (8 v, w).

The verbalization of antithesis develops gradually from situation-dependent sequences of utterances to syntactic regularity. Although we find an oscillation between various possibilities, the complexity rises steadily. Old and new structures co-exist. Slowly the level of coding shifts from the pragmatic to the morpho-syntactic mode. Similar examples could be given for infinitive constructions, the passive voice, and *wenn-dann*-constructions ('when/if - then') (cf. Elsen 1999b). The acquisition data show that children begin the production of complex sentences with short, asyndetic, paratactic utterances. Then they form dependent sentences without conjunctions. In short utterances, conjunctions and demonstrative pronouns are produced, even though they are still missing in longer sentences. Sometimes there are only sentence fragments. Correct morphology is used both in short utterances and in fragments. Over a period of several months an oscillation can be observed between correct markings, the correct number of items (subject, verbs) and the correct order of elements in complex sentences. Schemata are often a first step on the way to complex regularity. The order of acquisition of conjoined sentences (time, causality – conditionality) correlates with the frequency in the target language (Elsen 1999b: chpt. 6).

Especially for *wenn-dann*-constructions the use of schemata is highly plausible. Frequent sentences from the mother like 'when you have finished your breakfast, then you can eat X' etc. were taken to form the first *wenn-dann*-constructions. Large parts of this sentence served as a pattern, a schema, in which some parts were substituted according to situation. Adults make use of patterns or schemata, too. Many new prepositions in German show a common pattern, cf. 9).

- 9) a. *im Laufe von* + gen. 'in the course of / during'
- b. *im Falle von* + gen. 'in the case of / concerning'
- c. *im Lichte von* + gen. 'in the light of / in consideration of'
- d. *im Sinne von* + gen. 'in the sense of / meaning' (cf. Lindqvist 1994)

Formal criteria like the number of syllables and stress patterns are spontaneously and easily available. Together with similar or comparable contexts these aspects help to remember, to repeat and to imitate the constructions (Elsen 1999b:199). More about schemata for adults cf. Hopper (1987), Hopper/Traugott (1993:65), for children Elsen (1999b:36, 177f.), for pidgins and creoles Hopper/Traugott (1993:219f).

### 3 Concepts

Syntactic structures are first founded in discourse and become more complex over time (cf. Givon 1979). There is an oscillation between short, correct sentences and longer, deviant ones as well as between differently deviating utterances. However, the amount of linguistically encoded information rises continually. Productions become more and more adult-like. In the beginning the message must be inferred from context. Then, phonetical-phonological and morpho-syntactic information is verbalized to varying degrees. Sometimes the number of elements is correct, but the order and form is deviant. Sometimes the child concentrates on correct morphological marking, but the order and/or number of the elements is incorrect. Local improvements lead to lapses in other domains, because the amount of processing energy is too low for verbalizing all aspects. It is only the focus which can be shifted. We see that linguistic levels interact and that there is an interplay between system and use.

These observations are nothing new to researchers concerned with language change. The idea of the interaction of linguistic levels can be found in Lütke (1980a, b) and Keller's invisible-hand-explanations (Keller 1994), in the model of grammaticalization (e.g. Hopper/Traugott 1993:209: chapt. 3), in the theory of naturalness (e.g. Mayerthaler 1981; Wurzel 1984) and of language economy (e.g. Werner; Ronneberger-Sibold 1980, 1997). These approaches resemble each other to a high degree. However, the range of investigation varies. On the one hand, language change is discussed quite generally. On the other hand, certain aspects such as grammatical change (naturalness theory) or the development from linguistic to grammatical units or to more grammatical units (grammaticalization) is investigated. Non-linguistic influences have an integral part to varying degrees. Furthermore, the approaches do not agree on the problem of predictability of change or the question to what extent it is determined. Another item still open to discussion is the role that children play in language change – are they really the initiators? But in general, the approaches agree on many aspects of change. Indeed, they are highly compatible and complement each other. Roughly speaking, these concepts of change stress the role of speaker and hearer needs. They take oscillation and interaction of various linguistic parameters into consideration. They regard economizing or optimizing trends – often with contrasting directions – as a basic factor for change. Frequency effects are a part of the framework, e.g. the relationship between small and/or irregular forms and the frequency of units. Furthermore, the approaches understand the difference of *langue/parole* and diachrony/synchrony to be a gradual one. Structures and concepts have prototypical structure.

### 4 Explanations

But what is the common core? How can the observations made by the various approaches and the phenomena found in the acquisition data be explained and – to use this German idiom – 'brought under one roof'?

Suppose that speakers, hearers, the discourse, the structure of the language system and the way information is processed play a role in language change. The language system is both the result of processing and the limiting scope for change, as the inherent nature of a linguistic system itself sets limits to creativity. At the same time we all use our language according to situation, style, etc. Notably, a similar development can be observed both in children and adults. They use comparable strategies and show parallels in their language behaviour. Both groups are users of the language system and both are equipped with similar processing systems. They differ because children's processing and language systems are not fully developed and because they have a distinct goal for development – the target language, among others. How can we determine the influence of linguistic, non-linguistic and processing factors? We might look at computer simulations of language processing (cf. e.g. Elman et al. 1996; Lamb 1999). Here we can learn much about developments resulting from the system per se. Suppose human processing is comparable to the processing in computer networks. These networks have an architecture of nodes and connections similar to that of the brain. With the help of simulations researchers can investigate whether the system is capable of abstracting and producing hierarchical and 'rule'-dependent information from surface structures *without* the help of explicit, symbolic concepts and rules. And – yes, the systems are able to do that.

Furthermore, developmental behaviour such as non-linear growth is found – as well as gradual and sudden changes, interaction, oscillation, schemata (for children cf. Elsen 1995, 1996, 1998, 1999a, b). Of course, this problem is much more complicated than these handful of sentences might suggest. Connectionists – one school of these modellers – do not maintain that their computers are like humans. They only investigate how learning is possible with a given network architecture as well as input material and without rules, without negative input, only with the ability to recognize patterns, to abstract and generalize them. It is important to emphasize: a network is not a *tabula rasa* but a processing system with given processing abilities. And the system must be open to functionally motivated decisions.

It is important to note that certain developmental aspects result automatically from the way the system processes information and that these are highly similar to those we find in acquisition, synchronic variation, diachronic change and even language contact. These are gradual changes, the interaction of linguistic levels and discourse factors, the oscillation between coding levels, the co-existence of old and new forms and, finally, a prototypical organization of concepts and structures. For example, I compared my continuous diary data on the acquisition of participles with the results and predictions of computer simulations. They matched to a very high degree (Plunkett & Marchman 1991, 1993; Elsen 1998).

However, for real life data we must consider the actual speakers, hearers and the discourse. The processing system offers possibilities and sets limits – the users choose out of immediate personal needs, because of social pressure. Many of the decisions and reactions of many people accumulate to constitute a general line of behaviour which may result in a change of the language system (cf. Keller 1994; Lüdtkke 1980).

## 5 Conclusion

Using the idea of a network first as a metaphor, but in the future as a possibility to simulate change in a more global way than it is possible today, we have at hand a way to formulate new hypotheses and to explain reported phenomena of change in a psychologically plausible way. We will be able to know more about the different factors which are responsible for language change. We may one day disentangle the individual processing system from the language user as an *animans societatis*. Finally, we will see that language change does not originate in children's language but is the biogenetic outcome of the way we use our language day in and day out.

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