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Four early stages in the development of L1 negation*

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ABSTRACT

No reasonably successful theory of the acquisition of negation seems to have yet been proposed. Most studies describe *post hoc* what has taken place; but they fail to go on to suggest a theory that will predict what will take place. McNeill seems to be the only one to have explicitly aimed at a theory with at least a certain amount of predictive capacity, but his views leave much to be desired. This paper outlines an alternative proposal to cover four very early stages for the acquisition of negation systems in natural languages. It emphasizes the formal linguistic devices as the major variables that determine the various language-specific developmental sequences.

INTRODUCTION

The early literature on language acquisition contains several accounts of the acquisition of negation, e.g. Gheorgov (1908), Scupin & Scupin (1907), Stern & Stern (1907) and Grégoire (1937, 1947); but from the viewpoint of a theory's predictive capacity, their statements make no claims – or implications for such claims – that merit discussion here. Even more recent studies fail to make overt predictions. Klima & Bellugi (1966) and Bloom (1970), for instance, restrict themselves to describing the developmental sequences of those children they studied. It is unclear whether these researchers would be prepared to argue that their studies did, none the less, involve claims about predictions, namely those that are implied in the transformational-generative theory underlying their descriptive framework. In any event, it is difficult to see what such predictions might be based on, because both studies are limited to English, and pay no attention to the then available data from other languages. McNeill (1970: 87ff. and elsewhere) seems to be the only one to have aimed at a theory with any predictive capacity. He relies on Klima & Bellugi (1966), cites one example for Russian from Slobin's (1966) summary of Gvozdev (1949), mentions Grégoire (1937), and quotes his own work on Japanese (McNeill & McNeill 1968). He takes the acquisition and development of negation to begin with a *neg* element

[*] For help, criticism and comments I am indebted to various people in our research group, notably Sascha Felix, Dietrich Lange, Dieter Furkmann, Christa Meyer, Theo Schmitz, Ocke Bohn and Detlef Ufert.

preposed to affirmative sentences: *neg + S*. This may alternate with *S + neg*. This schema is claimed to be 'fixed, simple, and universal'. Children do not have to acquire it. It is part of their innate knowledge about the structure of human language.

This view raises several unanswered questions, primarily

- (a) is McNeill's schema *neg + S ~ S + neg* really the beginning of negation?
- (b) are all utterances conforming to the above schema to be considered the same semantically and developmentally?
- (c) what is universal about this schema?
- (d) is there not evidence to suggest that these schemas are not innate?

To decide what are the beginnings of negation is largely a matter of definition. However, once the onset has been defined, this should not blind one to the possibility of developmental fore-runners. As for negation, before English children begin to produce utterances like those quoted by McNeill, e.g.

- (1) more...no
- (2) no a boy bed
- (3) not a teddy bear

they have surely produced negative one-word-utterances, namely *no*, as well as multi-word utterances of a specific semantic subtype, that I shall call (following Bloom (1970)) ANAPHORIC:

- (4a) Adult: Do you want salt?
- (4b) Child: No, sugar.

In (4b) the negative relationship does not hold between the two items in the utterance. Anaphoric negation differs from (1)-(3) in that in the latter the negative relationship does hold between *no/not* and the rest of the utterance. This type will here be called NON-ANAPHORIC.¹

It is not at all clear that McNeill's examples are to be treated as developmentally the same. First, he does not differentiate semantically between anaphoric and non-anaphoric negation. Secondly, utterances involving *not*, as in (3), are either early unproductive stereotypes, or they belong to a much later stage. They certainly do not belong at the beginning. This will become more obvious from the cross-linguistic evidence of the next section. Thirdly, McNeill's claim about the universality of his schemas remains unrevealing as long as he does not make precise what is universal about them. Just because the data come from English? Even at the time of his writing there were studies providing data against which he could have checked his claims (e.g. Gheorgov (1908), Scupin & Scupin (1907), Ruke-Dravina (1963)). He would, indeed, have found that children tend to use

[1] I am assured by Roger Brown (personal communication) that at least some negated utterances like (1)-(3) were, in fact, non-anaphoric.

structures which conform to the positioning implied in his schemas. But these positional peculiarities are not the only thing to be noted. Why, for instance, should the children choose negatives like English *no*, German *nein*, Russian *njet*, Latvian *nē*, etc. to express non-anaphoric negation whereas the target language requires a different form, namely *not ~ -n't; nicht, kein; ne; ne-*, etc.?

McNeill's claim about the universality of the position of *neg* is neither very informative, nor well supported by the available data. If his schemas mark the beginnings of negation, then they should apply to the two-word stage, which would mean that at that stage *neg+S* would be in free variation with *S+neg*. This, in turn, implies that word order, at least in negated utterances, would be free. However, those languages for which more than one child is on record do not support McNeill's claim. Again, more precision is needed here.

There are at least two interpretations of his claim.

(a) Both schemas vary freely with one and the same child. An instance of this, apart from the Harvard children McNeill is referring to, might be found with one of the Latvian children studied by Rūķe-Draviņa (1963). But then, this state of affairs did not persist very long with this child. Why?

(b) Both schemas may occur when children acquire the same language, but they need not co-occur with every child. I venture to guess that this is what McNeill has in mind. And in fact, this is not very much at odds with the available data. But why should children do this, if they are born with the same capacities for language? And why is it that most children prefer the schema *neg+S*?

Fourthly, I do not think that McNeill's schema *neg+S ~ S+neg* should be thought of as being innate. The evidence to be reviewed in the next section suggests to me that the schemas are acquired. All the languages for which acquisition data are available have a construction *neg+S* to express anaphoric negation, comparable to (4b). Children tend to produce such anaphoric negative utterances before they use the same word order to express non-anaphoric intentions. I therefore see no need at all to invoke innateness: the latter can be regarded as overgeneralizations of the former, and these, in turn, are picked up from the target language. To me the issue is, why do children start with anaphoric negative constructions rather than with others?

As for the later stages of the acquisition of negation, McNeill summarizes, and in part re-interprets, the Klima & Bellugi (1966) data. No predictions for other languages are offered.

McNeill's theory, in short, does not deal with a number of important issues, such as the choice of negative morphological items, the child semantics of negated utterances, and what is universal and innate about his schemas. His account provides hardly any predictive capacity beyond the most elementary and almost trivial insights relating to the position of *neg*. Above all, he fails to relate early development to other variables which could function as the determinants

of the developmental course(s) that children take. The notion of innate linguistic knowledge itself has to be spelled out in much more detail before it can allow for the predictive capacity of a theory of language acquisition.

Some typological distinctions of negation systems

Regrettably, I have not been able to discover a typological study of the negation systems of natural languages. I shall, therefore, set down briefly some typological distinctions of my own. Only those languages for which there are data on the acquisition of negation will be included. Moreover, I shall note only those properties which seem to be reflected in the four early stages proposed below for children's developmental sequences.

Semantically, as we have seen, there is anaphoric vs. non-anaphoric negation:

(i) *anaphoric negation*: the negative relationship does not hold between *neg* (morpheme or particle) and the rest of the utterance (sentence or phrase) with which *neg* occurs in construction, e.g. English *no* (4a-b), German *nein*:

(5) nein, Klaus 'no, (I didn't meet Hans, I met) Klaus'

(ii) *non-anaphoric negation*: the negative relationship holds between *neg* and some part or the whole of the sentence or phrase with which *neg* occurs in construction, e.g. English *not/-n't*, German *nicht*:

(6) I don't want to go

(7) ich will nicht hier bleiben 'I don't want to stay here'

Formally, languages differ as to the types of formal devices used to express negation. Some differences are:

(iii) *free vs. bound form*, e.g. English *no* vs. *-n't*.

(iv) *position*, e.g. English *not/-n't* is placed after the first finite auxiliary, but not after finite full verbs; whereas in German *nicht* is positioned after the first finite verb, no matter whether that is a full verb or auxiliary.

(v) *various syntagmatic relationships*, such as the discontinuous *neg*, e.g. French *ne...pas* (if it can be assumed to still occur in colloquial French), Egyptian Arabic */ma...š/* (Omar 1970).

(vi) *number of occurrences of neg*, within one sentence or phrase: we may distinguish in particular:

(a) multiple *neg*, e.g. in Latvian, for certain constituents to be negated they each have to be marked by *neg* irrespective of how often *neg* occurs in the sentence or phrase, e.g. (from Rūķe-Dravīņa 1972):

(8) neviens nekā nezina 'nobody knows anything'
(nobody nothing not-knows)

(b) single *neg*, e.g. in German *neg* may occur only once in a sentence, barring a few marginal cases.

Languages differ as to what use is made of these and other formal devices as well as in the ways they are combined to form the various negation systems. Languages generally tend to show much more structural diversity of formal types for non-anaphoric negation than for anaphoric negation, this being at least the case with those languages for which we have acquisition data. For anaphoric negation, all the languages for which there are reliable acquisition data employ free morphemes or particles, like English *no*, German *nein*, Swedish *nej*, *nä*, French *non*, Latvian *nē*, Russian *njet*, etc. However, Sascha Felix of Kiel University tells me that at least some varieties of Chinese do not utilize anaphoric segmental negative particles. Instead, certain parts or the whole of the preceding utterance is repeated plus a negative marker. To my knowledge, acquisition data on this type of negation are not yet available.

NEGATION IN CHILDREN'S SPEECH

I shall chiefly rely on longitudinal data from Bulgarian (Gheorgov 1908), Latvian (Rūķe-Draviņa 1963), Russian (Gvozdev 1949), English (Klima & Bellugi 1966, Bloom 1970), German (unpublished data from my own ongoing project), and Swedish (Lange & Larsson 1973). The most detailed and, for a variety of reasons, the most illuminating data come from German. Therefore, I shall draw on the German data as my main evidence. The remaining material will be used for contrastive purposes.

The German data from the Kiel Project

The evidence comes from my son Lars, born in May 1969, and from my daughter Inga, born in May 1971. Inga seems to be the slower of the two, at least as far as the acquisition of syntax in the early stages of her development is concerned. What appear as simultaneous developments with Lars are in most cases well separated in time with Inga. I shall, therefore, primarily follow her. Moreover, it is comforting to be able to report that the development of the two is in other respects strikingly similar.

The data have been collected in a day-by-day routine in the form of written notes and tape-recordings. The latter are used as a corrective to the notes taken when no tape-recorder was in operation. I have never maintained a rigid data-collecting procedure including fixed intervals, time limits of recording sessions, etc. It seems to me that such rigid procedures, as applied by other researchers in the past, have not produced data rich enough to give us really a detailed picture of a child's language development.

Developmental sequences in German. In citing examples from the two children, I shall not use conventional spelling, since the children's phonetics provide valuable clues as to the morphemic element that has probably served them as a

model. The four major early stages in the developmental sequence for Inga can be summarized in the following way:

STAGE I: one-word negation

[ne ~ neɪ ~ nai ~ ne]² nein 'no'

The child's phonetics indicate that adult *nein* must have served as a model.

STAGE II: two- or more-word negation involving [nai], etc.

Two types will be distinguished here: anaphoric and non-anaphoric negation. The former type develops before the latter.

STAGE IIa: anaphoric negation

- (9) (1;7.3) Father (F) tries to keep his notes from Inga (I). I protests and insists on having them.

I: ['na ॥?ɪ] nein, ich 'no, I'

- (10) (1;8.28) I rejects the fluid F tried to give her in favour of [mel], her term for milk and other varieties of drinkables.

I: ['nai ॥'mel] nein, Milch 'no, milk'

STAGE IIb: non-anaphoric negation.

- (11) (1;11.2) F: Komm, ich mache dich sauber 'come on, I'll clean you'
I: ['naɪ_ðaʊba]³ nein sauber (machen) 'I don't want to be cleaned'

- (12) (1;11.15) I keeps pounding her hand on a book. F imitates her and bangs much harder. I protests and wants F to stop.
I: ['nain_haʊn] nein hauen 'don't bang'

I have not discussed the intonational peculiarities, because there is no evidence from other languages to compare them with. Furthermore, I make no attempt here to work out semantic sub-types for IIa-b. And, lastly, I have not listed vocatives in construction with [nai] etc. They belong to IIa, but have specific intonational peculiarities that set them apart from non-vocative constructions (cf. Wode, in press).

As for the models that may have been followed, type IIa is in full accord with

[2] The segmental transcription is I.P.A. and slightly narrower than standard phonemic. Intonational markings follow familiar conventions (for details cf. Wode, in press): ' falling centre (falling nuclear pitch); ' rising centre (rising nuclear pitch); " extra-high centre (extra-high emphatic nuclear pitch); - post-contour (tail); ' high pendant (high stretch before centre); , low pendant (low stretch before centre). Some examples below will not be provided with an intonational transcription. These instances usually come from the written notes. Sometimes I have missed the intonation and so could note only the segmental material.

[3] Both Inga and Lars have a lisp with, at first, [θ, ð] substituting for [ʃ, ʒ, s, z], and, at a later stage, only for [s, z].

the adult model, both semantically and syntactically – at least if one considers spoken adult German. Type IIb seems to combine the syntax and phonetics of IIa with the semantics of adult intra-sentential negation, which in adult German is, in general, expressed through *nicht* and others, but not through *nein*. Type IIb looks like overgeneralization: new semantic intentions are first expressed through old machinery. (It should be remembered that type IIa preceded IIb developmentally.) The overgeneralization is extended even to cases where the constituent following [naɪ] etc. is structured internally in fairly complex ways, reflecting grammatical relations of the adult model:

- (13) (2;0.7) I tries to shoot an arrow but she doesn't manage to pull the bow properly. F demonstrates the procedure, but I still doesn't manage. Eventually, she gives up.

I: [nɛ_θaf iç] nein schaffe ich 'I can't manage it'

- (14) (2;1.18) I's older brother Heiko has been wearing the cap of a neighbour's boy. I charges into the house and reports:

I: [?o naɪn haɪkʰo mytʰə] oh, nein Heiko Mütze 'oh, it isn't Heiko's cap'

All in all, however, there are relatively few instances of such complex constituents in construction with non-anaphoric [naɪ] etc.

There has been some dispute in the literature over type IIb for English. Bloom (1970) found no evidence in her data that utterances like

- (15) no the sun shining

may be intended by children to mean 'the sun is not shining'. Bloom (1970) therefore claimed that utterances like (15) are all anaphoric. My findings from German as well as from other languages, however, suggest that non-anaphoric IIb may even occur in such complex utterances as (15). It seems that (15) illustrates a genuine stage of development found across languages. There will be more evidence of this sort below, when other languages are considered.

STAGE III: [niç ~ nɪ ~ neç] *nicht* and intra-sentential negation.

This type gradually replaces IIb syntactically and phonetically. In addition, the range of 'negated' relations and constituents gradually expands. The details of this stage of development are not very clear, and are too complex to be presented here in detail. Basically, what is involved is the children's handling of the position of *nicht* in relation to verbs and other constituents of the adult model. Roughly speaking, in main clauses and imperatives, adult German places *nicht* after the finite verb or after the imperative form of the verb, respectively. Infinitives and participles are placed after *nicht* and other constituents as the case may be:

- (16a) ich will nicht schlafen
- (16b) ich habe nicht geschlafen
- (16c) ich schlafe nicht

- (16d) schlaf nicht
 (16e) nicht schlafen

(The situation is actually even more complex than (16), since certain noun phrases, adverbs, and other elements, may be placed between the verb and *nicht*. Cf. Stickel (1970) for details.)

Lars started off by using a pivot⁴ construction with [nɪç] etc. as the pivot and a preposed open-class here designated as O[nɪç] (17). Later, he admitted another constituent X before O[nɪç] and/or Y after [nɪç] as in (18–20):

- (17) (1;10.22) [naun vil ɪç] nein, ich will nicht 'no, I don't want to'
 (18) (1;11.2) [haɪko ta^a nɪç] Heiko darf nicht 'Heiko is not allowed to'
 (19) (1;11.10) [naun hat nɪç ?a?a heniŋk] nein, ich habe nicht Aa gemacht,
 Henning 'no, I haven't dirtied my pants, Henning'
 (20) (1;11.15) [heniŋ p̩aʊ nɪ ?oni] Henning braucht nicht in die Uni,
 'Henning doesn't have to go to the university'

(O[nɪç] contains only verbs that occur more often than not as finite verbs in adult German.) Shortly after, Lars began to develop additional structures involving [nɪç], etc. and the constituents X and Y of (18–20):

- (21) (1;11.21) [haɪko nɪç] Heiko nicht 'not Heiko'
 (22) (1;11.24) [p̩ala nɪç mit] Pallas (= a dog) nicht mit 'Pallas can't come along'
 (23) (2;0.10) [nɪç t̪ɪç] nicht auf den Tisch (klettern) 'don't (climb on the) table'

There are a few minor developments, such as negated imperatives and infinitival constructions, which will not be discussed further here.

In summary, the major constructions involving [nɪç] are:

- (24a) X O[nɪç] [nɪç] Y
 (24b) X [nɪç]
 (24c) X [nɪç] Y
 (24d) [nɪç] Y

There is considerable overlap between X and Y. Setting aside morphological details, X and Y present constituents of basic relations such as identity, location, direction, actor-action, etc.

The younger child, Inga, evidenced the same types of constructions as the boy. However, the chronology is not quite the same, nor did she separate the sets O[nɪç] and Y of (24) as strictly as Lars did. Though Inga started off with utterances like (17–19), but not with (20), she subsequently seemed to disfavour this type. A great deal of evidence was produced for (24b–d), whereas utterances involving O[nɪç] as in (24a) were noted only infrequently. Only later did she

[4] In spite of the well-known weaknesses I use the term PIVOT here as a convenient short label in the familiar sense.

produce substantial evidence for structures like (20) or (24a). It therefore seems best to leave stage III as described in (24a-d) and to wait and see how other children fare in this area. As for the most likely model of stage III as summarized in (24), the phonetics of [nɪç] point to adult *nicht*. What can be deduced about the semantics also seems to point in this direction. So does syntax, but only to some extent, because the children's utterances do not yet reflect certain positional peculiarities relating to the definite vs. indefinite noun phrases of adult German as illustrated in

- (25) unser Hund hat den Mann nicht gebissen
- (26) *unser Hund hat nicht den Mann gebissen

The sequence NP+def, like other types of constituents, is positioned between the finite verb and *nicht*, as in (25). (For details, cf. Stickel 1970.) The children's utterances at stage III do not yet reflect this subtlety of adult German. They place [nɪç] before Y as in (24a) and (24c) even if Y is represented by substantives or names. The mastery of these positional subtleties takes some time to evolve and marks off stage IV. The major variables governing the details for stage IV cross-linguistically seem to be the positional peculiarities of the languages to be acquired. This topic requires a separate paper.

DEVELOPMENTAL SEQUENCES IN OTHER LANGUAGES

Unfortunately, the available evidence from other languages is much smaller in quantity and much less detailed. Some data will be briefly summarized and to some extent re-analysed to bring out the various parallels to the German data. Roman numerals refer to the comparable developmental stages described for German. Hints on the situational setting, the semantics, and the most likely intentions of the children, will be given only when provided in the original studies.

Swedish. Lange & Larsson (1973) have described the development of a girl aged 1;8-2;1. The data were collected in 10 sessions (2 per month), each session lasting half an hour. Consequently, the data are not very extensive. No phonetic transcription, or intonational marking, is provided. Unfortunately, the material is broken down into 70-day spans, with each span analysed as a whole. All in all, the data-collecting procedure as well as the evaluation of the material does not provide a very clear picture of the developmental sequence. Nevertheless, as far as it goes, the Swedish material is strikingly similar to the German data.

IIa: anaphoric negation

Apparently, the child started off with anaphoric negation. Lange & Larsson say nothing about whether the child used stage I, one-word negation, before stage II, two-word negation. The negative element is spelt *nä*, *nej*, pronounced [nɛ ~ nej]

(personal communication). In parentheses I add Lange & Larsson's numbering. Their E₂, E₃ etc. refer to the respective recording sessions.

- (27) nä den 'no, that/it' (E₂, 43^o)
- (28) nej mama 'no, mother' (E₂, 43³)

Semantics and phonetics point to adult *nej*, *nä* as the model probably followed by the child. In adult Swedish, *nej* and *nä* are used only anaphorically. They are placed in utterance-initial position.

IIb: non-anaphoric negation

The non-anaphoric type with *nej*, *nä* is attested through only one utterance:

- (29) nej kossa 'no moo-cow' (E₂, 44⁶)

III: intra-sentential negation and *inte*

Next in appearance is *inte*, first in the stereotype phrase *vill inte* 'want not' as early as E₅. Subsequently, *inte* becomes productive. It is used exclusively in non-anaphoric negation with a variety of positional sub-types. A clear developmental sequence cannot be discerned. I have altered Lange & Larsson's grouping somewhat, in order to make the parallelism with the German and English data more obvious. Concerning the position of *inte*, there are at least six structural types in Lange & Larsson's data:

- (30a) *inte* + {X}
Y
- (30b) X + *inte* + Y
- (30c) (X) + V_{fin} + *inte* + Y
- (30d) X + går + *inte* + Y
- (30e) V_{imp} + *inte* + {X}
Y
- (30f) *inte* + X + Y

To give an idea about possible adult analogues, the examples to illustrate (30a-f) will be subgrouped according to the comparable adult word-class of the child's X and Y:

- (31) *inte* + Adj
inte gul 'not yellow' (E₆, 225)
- (32) *inte* + N
inte juice 'not juice' (E₇, 219)
- (33) *inte* + locative
inte där 'not there' (E₈, 227)
- (34) *inte* + V_{inf} + X
inte gömma barnet 'not hide the child' (E₈, 242)

- (35) $\text{inte} + V_{\text{participle}}$
inte gått sönder 'not gone broken' (E7, 257)
- (36) X + $\text{inte} + Y$
- (36a) Embla inte ha täcket 'Embla not have quilt' (E8, 245)
- (36b) Embla inte naken 'Embla not naked' (E8, 246)
- (37) (X) + $V_{\text{fin}} + \text{inte} + Y$
- (37a) jag vill inte 'I want not' (E7, 233)
- (37b) vill inte rida 'will not ride' (E8, 236)
- (37c) vill inte tvätta håret 'want not wash the hair' (E8, 241)
- (37d) älg säger inte mu 'Elk says not moo' (E7, 250)
- (37e) det är inte apa 'that is not ape' (E9, 253)
- (38) $V_{\text{imp}} + \text{inte} + X$
gör inte det 'don't do that' (E9, 256)
- (39) $\text{inte} + X + Y$
- (39a) inte mamma tvätta 'not mother wash' (E8, 231)
- (39b) inte mamma hjälpa Embla 'not mother help Embla' (E9, 232)

The data are too scanty to support far-reaching conclusions. However, the major stages in the development agree quite well with the German data. The girl starts with anaphoric negation; next comes non-anaphoric negation, expressed – perhaps only for a very brief span – through the devices of anaphoric negation. This stage is quickly superseded by the appearance of *inte*. Except for possibly (34) and (39), all sub-types reflect the adult target very closely. In particular, the situation as regards verbs is quite parallel to the German material. In adult Swedish and in adult German *inte/nicht* are placed after the finite verb, no matter whether auxiliary or full verb. Consequently, there are two verbal sub-types: the one with the verb/aux before *nicht/inte* reflecting the position of the finite verb or the imperative, as in (37a–e); the other with *nicht/inte* before the verb reflecting other non-finite verb-forms, as in (36a–b). As for the Swedish types (32, 37e), the child uses *inte* instead of *ingen* 'kein'. This is comparable to German children's use of *nicht (ein)* instead of *kein*. It is difficult to say whether (34) and (39) reflect adult usage. At least (39) would be unlikely among adults. It is possible, however, that utterances comparable to the child's (34) and (39) may be used by adults/parents in talking to children. One would have to examine what kind of structures Embla was exposed to. There are no comments on this point in Lange & Larsson.⁵

English. Data are available from Klima & Bellugi (1966) on three children and from Bloom (1970) on three other children. Both studies used the interval technique for data collecting. They both disregard phonetics, including intonation. Klima & Bellugi, furthermore, provide no information on the semantics

[5] Thanks are due to Christina Melin, Nordisches Seminar der Universität Kiel, for help with Swedish.

and the children's intentions; Bloom, however, is careful to do so. Unfortunately, her intervals are so long (7 weeks) that no detailed developmental sequence can be established from her study, either, with any degree of certainty. However, the structural types that both studies describe are just those which we would expect in view of the German data. Putting the evidence from both studies together, I venture to hypothesize the following developmental sequence. The examples are marked for source and child (B = Bloom 1970; K & B = Klima & Bellugi 1966).

I: one-word negation

Most frequently the morphological item is *no*, less frequently *no more* (B, Eric).

IIa: anaphoric negation

- (40) no, outside 'no, I want to go outside' (B, Kathryn, p. 149)

IIb: non-anaphoric negation

- (41) no close 'I can't close the box' (B, Kathryn, p. 149)

Just as with the German data on *nein*, there are only very few instances where *no* is used non-anaphorically in 'whole sentences' in Bloom's data. She lists one example from Kathryn:

- (42) no Daddy hungry (p. 162)

However, no gloss is provided, and the utterance is unclear with regard to the child's intention. Bloom's evidence led her to conclude that utterances of the type *neg + S* are always anaphoric in child language. However, the cross-cultural evidence surveyed in this paper does suggest that *neg + S* may, in fact, be non-anaphoric. Klima & Bellugi have apparently found at least a few unambiguous instances of this sort for English; Bloom quotes (43) from their study:

- (43) no I see truck 'I can't/don't see the truck' (B, p. 162)

Roger Brown (personal communication) adds (15), which we repeat here:

- (15) no the sun shining

III: intra-sentential negation

- (44) Kathryn no like celery (B, Kathryn, p. 160)
- (45) Kathryn not quite through (B, Kathryn, p. 191)
- (46) I can't open it (B, Kathryn, p. 195)

III is a mixed bag. It must be left to future investigations to determine whether and which developmental differences occur. Forms like *don't*, *can't*, *doesn't*, etc. are still monomorphemic negatives, as noted by both Bloom (p. 195) and Klima & Bellugi. They are morphologically re-interpreted as *aux + neg* at a later stage of development.

As for the most likely models, *no* of I-IIa probably goes back to adult

anaphoric *no*. Syntax, semantics (and phonetics?) all point in that direction. Child anaphoric *no* is generalized to IIb, which has no adult analogue. This is so even if the majority of the examples are regarded as 'subjectless predicates', as Bloom (1970: 148ff.) seems to think. However, if Bloom's view were correct, we would expect *not*; what we find, however, is *no*. For stage III, forms like *can't*, *doesn't* must go back to the respective *aux+neg*. There are no examples like **n't does*. That is, when these composite negatives do appear, they are apparently always reproduced by the children with *-n't* following the element corresponding to the adult *aux*. The children's *not* in III is probably based on adult *not*. It tends to appear in environments closely analogous to adult usage. But *no* as in (44) does not have a direct adult analogue; adult English would have *-n't* or *not*. There are no parallels from German. Maybe morphophonemic similarities between *-n't*, *not* and *no* lead English children to do this. More likely, this problem is related to the status of *neg* as a bound vs. free or isolatable form. This issue will be discussed, including data from Latvian, in a separate paper (cf. Wode & Rūķe-Draviņa, in press).

Other sources. In our research group at Kiel we have also gone through Scupin & Scupin (1907), Ramge (1973), Stern & Stern (1907), Park (1970), Neugebauer (1914) and Grimm (1973) for German; Gheorgov (1908) for Bulgarian; Grégoire (1937, 1947) for French; Gvozdev (1949) for Russian; Kaper (1959, 1975) and Schaerlaekens (1973), for Dutch; Bowerman (1973) for Finnish; McNeill & McNeill (1968) for Japanese; Omar (1970) for Egyptian Arabic; and Volterra (1972) and Antinucci & Volterra (1973) for Italian. I have also had oral reports from M. Smoczyńska on ongoing work on Polish; and from S. Savić on Serbo-Croatian. I shall not summarize these studies in detail here because, except for a few minor differences, they all conform to the four major stages set up above. However, I do not attach too much import to this, either in terms of conformity or non-conformity. Except for Schaerlaekens (1973), these studies offer only fragmentary data (including Gvozdev (1949), in spite of Slobin's (1966) appraisal). Nevertheless, Stern & Stern (1907), Park (1970), Rūķe-Draviņa (1963), and Gheorgov (1908) have some data on stage IIb with *neg* in final position. Thus, at least for some languages, *neg* may appear in that position. Unfortunately, it cannot as yet be determined whether this is peculiar to certain languages, to certain children, or to something else.

CROSS-LINGUISTIC DEVELOPMENTAL TRENDS

In spite of the heterogeneity and considerable inconclusiveness of some of the data, the major developmental trends are clearly discernible as common to the material as a whole.

I: one-word negation

The children start with one-word negation. Morphemically, the negative elements are modelled on those of the adult language which can be used in isolation and which, amongst other things, express anaphoric negation.

II: two- or more-word negation

IIa: anaphoric negation

Two- or more-word negation is at first anaphoric. The negative morpheme tends to be the same as for one-word negation, but it is occasionally different, as seems to be the case in Gvozdev's (1949) data (cf. Wode & Schmitz 1974). In any event *neg* is modelled after adult anaphoric negatives. To date, in those descriptions that are not too fragmentary or anecdotal in character, there is evidence that the negative element is placed in utterance-initial position.

IIb: non-anaphoric negation

At first children overgeneralize the morpho-syntactic devices of IIa to express non-anaphoric negation. In most studies the children placed *neg* utterance-initially. There are a few cases, however, where *neg* was in final position. Unfortunately, in some of these cases it is not clear whether these were truly non-anaphoric.

III: intra-sentential negation

The morpho-syntactic devices of II are abandoned in the case of non-anaphoric negation in favour of the non-anaphoric elements of the adult language. That is, children switch from *nein* to *nicht* in German, from *na*, *nej* to *inte* in Swedish, from *njet* to *ne* in Russian. English children depart from this scheme in that *no* tends to be retained for some time against *not* or *n't*; it is striking that in this case the respective negatives are phonologically fairly similar. Alternatively, it may be possible that the English data somehow reflect the fact that adult *no* also occurs non-anaphorically as in *no house*, *no money*, etc. It is more likely, however, that this is dependent on whether the target *neg* is a bound or a free form (Wode & Rüke-Dravina, in press). The actual syntax of III is now clearly modelled on the respective adult language, with numerous language-dependent peculiarities. English children, for example, place *neg* between subject and verb (45-46). German and Swedish youngsters have two types: one with *neg* after the verb, the other with *neg* between subject and full verb. The first type reflects the position of *neg* after finite verbs including auxiliaries; the latter type relates to adult structures with *neg* in front of non-finite full verb forms. A detailed investigation of this stage requires a separate paper.

Obviously, the above account is far from complete. The number of languages and the total number of children studied provide only a quantitatively weak basis

for conclusions along universalist lines. We need many more detailed studies, preferably on languages structurally different and more complex than the ones referred to above, e.g. French with its split negatives *ne...pas*, *ne...rien*, etc.; or Finnish (in spite of Bowerman 1973) with its inflected negative element; or languages without anaphoric negative morphemes. Moreover, this summary merely covers rather gross steps of the early development. Later developments such as the negative indefinites (German *kein*, *nichts*, etc.; English, *any*, *nothing*, and the like) have to be added. Bloom (1970) for example, has noted that, identificational structures such as *This is candy* are at first negated by children as (47) and not as (48) as one might expect, since children at that age already have (49)

- (47) no candy
- (48) this no/not candy
- (49) this candy

Details such as this need to be explained, and related to adequate cognitive studies as to what is involved in negativity, before any satisfying predictive theory of the acquisition of negation can be achieved.

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