

## INTERACTION OF TONE, SYNTAX AND SEMANTICS IN THE ACQUISITION OF CHICHEWA NEGATION

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The data for three children learning Chichewa as their first language between the ages of 1.0 and 2.6 were analyzed to identify and describe the patterns of development of tone, morpho-syntax and semantics in the acquisition of negation. Not one of the subcategories of negation was completely mastered by 2.6; in four subcategories the tone patterns were acquired, with incomplete morphology; in no case was the morpho-syntax acquired without the tone. The results for first language acquisition are compared with previous results for bilingual and second language acquisition of Chichewa. The implications of these data for the identification of universals in language acquisition are discussed, as are the implications for phonological theory.

### 1. Introduction

Studies of the acquisition of English negation, e.g. Bloom [1970], have revealed the necessity of studying semantic function alongside syntactic form. This need was confirmed in Chimombo's studies of bilingual (Lb) [1981a] and second language (L2) [1981b] acquisition of Chichewa negation. A follow-up to these two studies, to collect data on first language (L1) acquisition of Chichewa negation [Chimombo 1987] revealed important insights into the acquisition of syntactic tone as it interacts with morpho-syntax and semantics but did not go into detail. The current study is, therefore, an attempt to analyze carefully the interaction between tone, syntax, and semantics in the L1 acquisition of Chichewa negation. As Konopczynski [1979:50] writes:

“Ne pas ... étudier [les frontières prosodiques] équivaut à se priver de toute information sur les véritables débuts de l'apparition de la syntaxe chez l'enfant.”

(Not to study [tonal development] is equivalent to ignoring all information on the true beginnings of syntactic development in the child's language.)

Fortunately, the current study is made possible by the fact that Mtenje [1986, 1987] has studied in depth the tone system of Chichewa, to complement the detailed syntactic analyses of Mchombo [1978]. Furthermore, the acquisition of tone is now being seriously studied in a number of southern Bantu languages, even if detailed results are not yet available, e.g. Demuth [1988] for Sesotho, Moto [1988] for Chichewa, Suzman [1985] for Zulu, and Tsonope [1988] for Setswana. Thus, some progress has been made in answering systematically at least some of the questions Li and Thompson [1978:272] asked on chronology of acquisition, tone rules, and the child's perception of tone in their seminal article on the acquisition of tone. Li and Thompson [1978:283] were aware of the functional role of tone in the syntax of many African languages.

The data are presented as follows: first, details on the three children who were the subjects for this study are given. Then each of the semantic-syntactic categories of negation is discussed in turn: rejection, nonoccurrence, not-knowing, prohibition (negative command and negative permission), nonexistence, and denial. They are considered in this order because the first three categories are all expressed in Chichewa by the negative indicative and the last three by the negative imperative/subjunctive, negative dynamic copula, and negative stative copula respectively. Within each of these sections, a definition of the category is given, with a brief description of the Chichewa tone and morpho-syntax commonly used for expressing that category, and then the pattern of development of the children's forms for expressing the function is presented and discussed. Also, comparison is made with L1 and L2 acquisition of Chichewa negation. The final section presents the overall sequence of development of negation and discusses the implications.

## 2. The Subjects

The first child, A, was audio-recorded for six hours from the age of 1.8,5 to 2.0,5 by her aunt, who was at the time a student at the University of Malawi. A is the third-born child, having two brothers, two and four years older than herself. A's mother is a secretary and her father a civil servant. A is a lively child, and 102 negative utterances were recorded in the course of the six hours.

The second child, B, was audio-recorded for eight hours from the age of 1.6,24 to 1.9,18 by a research assistant who is a friend of the family. She is the second-born child, having a sister four years older than herself. B's mother is a nurse-tutor and her father a university lecturer. B was not very talkative, and only 33 negative utterances were recorded in the course of the eight hours.

The third child, C, was recorded from the age of 1.0,26 to 2.6,9 by the first author. He was audio-recorded for a total of 30 hours from 1.3,2 and a diary

was kept from the age of 1.0,26 to approximately 1.6. (Unfortunately, because of the omission of tone marking in the diary, the diary data are useful only for the analysis of morpho-syntax and semantics of Chichewa negation, not the development of tone.) C is the third-born child, having a sister eight years older (the subject of Chimombo's [1981a] study) and a brother six years older (the subject of Chimombo's [1981b] study). C's mother and father are both university lecturers. C's mother is a native speaker of British English and a fluent second-language speaker of Chichewa, while his father is a native speaker of Chichewa and a fluent second-language speaker of English. At the time of the study, however, C was not bilingual, a conscious decision having been made to address him in Chichewa at all times, up to the age of 2.6. Furthermore, like A and B, he was left in the care of a caretaker who speaks to him only in Chichewa. His limited exposure to English prior to the age of 2.6 is reflected in the fact that only 10 negative utterances in English, out of a total of 710, were recorded in the course of the 17 months.

The following analysis of the acquisition of Chichewa negation is based mainly on C's utterances, because the researchers were unable to continue recording the two girls for reasons beyond the author's control. However, the data from the girls provide useful insights into possible similarities and/or differences in the pattern of acquisition of each of the different semantic categories of negation, so they have been included for comparative purposes.

### 3. The Morphological Structure of the Chichewa Verb and Tone

Chichewa, like many other Bantu languages, shows the following morphological structure in the verb in its most complex form:

- (1) negative -subject -aspectual -tense -object -verb -extensions -final  
 prefix prefix marker prefix prefix root vowel

The structure in (1) is illustrated in (2):

- (2) *si-ndi-ka-na-ngo-mu-pit-ir-a*  
 not-I-conditional-past-just-him-go-benefactive-final vowel  
 'I would not just have gone for him'

Mtenje [1986, 1987] has presented a detailed analysis in which it is shown that some of the morphological elements in (1) trigger interesting tone alternations. Particularly, it is shown that tense, negative, and object markers assign high tones to various domains of the verbal unit, most notably the first syllable, i.e. the negative or subject marker left of the tense prefix, and to the penultimate syllable.

ble.<sup>1</sup> The three positions in which H tone assignment is induced by morphological markers are illustrated in the following affirmative examples using the low-toned verb *-werenga* 'read':

- |     |                     |                   |                |             |
|-----|---------------------|-------------------|----------------|-------------|
| (3) | subject marker-     | tense marker-     | verb root-     | final vowel |
| a.  | <i>ndí-</i>         | <i>na-</i>        | <i>wéreng-</i> | <i>a</i>    |
|     | I-                  | recent past-      | read-          | final vowel |
|     | 'I read recently'   |                   |                |             |
| b.  | <i>ndí-</i>         | <i>ma-</i>        | <i>weréng-</i> | <i>a</i>    |
|     | I-                  | present habitual- | read-          | final vowel |
|     | 'I read habitually' |                   |                |             |

In (3a), the recent past tense prefix assigns a H to the syllable immediately to its right, while in (3b), the present habitual tense prefix places a H on the first syllable in the verb phrase, i.e. the subject marker, as well as on the penultimate syllable. Similar tone assignment processes occur when the verb takes a negative marker, as illustrated in (4):

- |     |                        |                           |
|-----|------------------------|---------------------------|
| (4) | Affirmative            | Negative                  |
| a.  | <i>ndí-dzá-wérenga</i> | <i>si-ndí-dza-werénga</i> |
|     | I-future-read          | not-I-future-read         |
|     | 'I will read'          | 'I will not read'         |
| b.  | <i>ndi-ná-wérenga</i>  | <i>sí-ndí-na-werénga</i>  |
|     | I-past-read            | not-I-past-read           |
|     | 'I read'               | 'I didn't read'           |

Here the negative marker places a H on the penultimate syllable in (4a) while in (4b) the H is placed on both the initial and penultimate syllables of the verb phrase. The H on the second syllable of the verb phrase results from an independent rule of Tone Doubling which copies a H one syllable to its right under certain conditions which are irrelevant to this discussion.

<sup>1</sup>Chichewa has two level tones, high (H) and low (L). Contour tones are also attested, but only as a combination of two level tones. Thus a L and H on one vowel represents a rising tone (LH) while the reverse (HL) yields a falling tone. In this paper ' will represent a H, ^ a rising tone, ^ a falling tone, and low tones will be unmarked. Verbs generally fall into two major tone groups: those which are low-toned throughout (low-tone verbs) and those with high tones on the last two syllables (high-tone verbs).

#### 4. Development of Expression of Semantic Categories of Negation

The acquisition of Chichewa negation was, at least for C, neither easy nor fast, as the discussion of the development of expression of semantic-syntactic categories of negation with the appropriate tone patterns below shows. In fact, it is impossible to state that C had actually acquired, by the age of 2.6, competence to express even one of the categories of negation with complete accuracy, i.e. correct tone, morpho-syntax, and semantics combined. As stated above, the discussion of each of the semantic-syntactic categories follows the logical order of the relationship between syntactic form and semantic function: negative indicative to express rejection, nonoccurrence and not-knowing, negative imperative/subjunctive to express negative command/permission, negative dynamic copula to express nonexistence, and negative stative copula to express denial. This order reflects neither the frequency nor the order of appearance of expression of each category by the three children.

##### 4.1. Rejection.

Some object or action or happening either exists in the context or is imminent or about to exist in the context, and is opposed by the child. [Bloom and Lahey 1978:189]

Rejection is signalled by the negative indicative in Chichewa, normally with the verb *-funa* 'want'. The children signalled rejection syntactically with either the present progressive or the reduced present progressive. The former is formed as follows:

- |   |  |
|---|--|
| (5) a. <i>ndi-ku-fúna</i><br>I-prog-want<br>'I want'                          | <i>sí-ndí-ku-fúna</i><br>not-I-prog-want<br>'I don't want'                     |
| b. <i>u-ku-yáng'ana</i><br>you-prog-look<br>'you are looking'                 | <i>s-ú-ku-yang'ána</i><br>not-you-prog-look<br>'you aren't looking'            |
| c. <i>a-ku-séwélétsa</i><br>he/she-prog-play with<br>'he/she is playing with' | <i>s-á-ku-sewelétsa</i><br>not-he/she-play with<br>'he/she isn't playing with' |

The tone pattern in the above affirmative verbs, all of which are underlyingly low-toned, is LHL. The tense marker *-ku-* has the effect of assigning a H tone to a following syllable, which is then copied to the next syllable by the Tone Doubling rule under the appropriate conditions. This accounts for the H tone on

the second syllable of the verb root in (5c). In the negative verbs, the tone pattern is HLHL.

The reduced form of the present progressive, which is used frequently to signal wish, is the following:

- |        |               |               |                 |                   |                  |
|--------|---------------|---------------|-----------------|-------------------|------------------|
| (6) a. | <i>a-fúna</i> | ‘he wants’    | <i>s-á-funa</i> | ‘he doesn't want’ |                  |
|        | he-want       |               | not-he-want     |                   |                  |
|        | b.            | <i>u-fúna</i> | ‘you want’      | <i>s-ú-funa</i>   | ‘you don't want’ |
|        |               | you-want      |                 | not-you-want      |                  |

This was the form used most frequently by both caretakers and children in the present study. The affirmative verb takes a LHL tone pattern (like the full present progressive form) while the negative takes a HL pattern.

For all three children, rejection was by far the most productive category. A produced 33 single-morpheme (SMU) and 8 multi-morpheme utterances (MMU), B produced 15 SMU and 1 MMU, and C produced 201 SMU and 311 MMU. B's MMU was anaphoric, not syntactic, so it is not considered in the analysis of the development of syntactic expression of rejection.

With respect to SMU, C was first recorded expressing rejection at the age of 1.0,27. His earliest taped utterances signalling rejection (from 1.3,1 to 1.4,28) were likewise SMU, showing some variation in the tone pattern of *íyayi* ‘no’ from HL (the correct tone pattern, similar to that of the reduced progressive of (2) above) to HLH and Rising LL. Then, from 1.5,27 to 1.9,1 the overwhelming majority of rejection utterances were *nǒ*, said with rising intonation.<sup>2</sup> A also used this rising intonation for *nǒ*, but B did not, using instead the reduplicated *nóno* with the same HL tone pattern concurrently being used for *íyayi* ‘no’.

The earliest recorded attempt at the syntactic verb phrase *sí-ndí-funa* ‘I don't want’ was produced by A at 1.8,5. It did not appear to be a prefabricated pattern because of the complexity of her affirmative utterances at that age:

- (7) A 1.8,5 (Aunt (R) and A had been eating, and A had dropped some food on the floor, which R had stopped her from eating)

R:	<i>ósadyá/</i>	‘don't eat it’
	you-not-eat/	

<sup>2</sup>It should be noted that all three children regularly used *no* or *nóno* as a SMU or even in combination with other Chichewa words. In view of the fact that even in adult monolingual Chichewa speakers' speech this word is common, it was counted as a Chichewa loan-word for the purposes of analysis of data in the present study, together with such forms as *éh-éh* said with clearly negative intention.

- A: *eh!/átatá/* 'don't eat it'  
*eh!/you-not-eat/*
- R: *mhm/iii!/* (laughs)
- A: *úfuná/* (said with negative tone = *síndífuna*)  
*you-want/* 'I don't want'
- R: *mm?/*
- A: *Ánnie/Ánnie/átata/* (referring to herself) 'don't eat'  
*Annie/Annie/you-not-eat/*

None of A's MMU were longer than one verb phrase, as in the above example, possibly because she was recorded for too short a period.

Unlike A, C clearly did not begin until 1.10 to analyze the form *síndífuna* 'I don't want' (or *súfuná* 'you don't want' as it was more frequently, both A and C having difficulty switching from second to first person subject marker). His first attempt (at 1.9,1) at the syntactic verb phrase *síndífuna* 'I don't want' came out as the prefabricated pattern *túnǎ*. This "verb phrase" was uttered with a final rising intonation and may not have evidenced a tone pattern at all, except for the fact that there appeared to be some lengthening of the vowel to compensate for the missing negative and subject marker morphemes. Furthermore, it is important to note that the pattern for a negative question is HLHFalling, which was undoubtedly a form C heard frequently, possibly creating confusion as to the target negative statement tone pattern. By 1.10,1, however, C had changed the tone pattern to HL, with the compensatory vowel lengthening suggesting the assignment of the H to the correct initial syllable, even if the morphology was still incorrect.

Again, unlike A, at 1.10 C began to add a complement. The following is an exchange in which can be seen both attempts at analysis of the hitherto prefabricated pattern and also the addition of a complement, in fact the first records of these developments:

- (8) C 1.10,12 (C has finished having a bath but doesn't want to get out of the water. Mother (M) doesn't understand the exchange immediately.)

C: *sâmbá/*  
*bath/*

M: *wasamba kále/* (Sister, Tina, coughs)  
*you-perf-bath already/* 'you've already had a bath'



- (9) a. *fíuna*                      b. *síuna*                      c. *tíndóoná*

From 2.0,1, however, C stabilized with the correct HL tone pattern, with various attempts at the negative indicative marker:

- (10) a. *fúfuna*                      b. *túfuna*                      c. *súfuna*  
       d. *núfuna*                      e. *ndífuna*                      f. *úfuna*

The last form, *úfuna*, distinguished like the others from the affirmative only by tone in A's and C's speech, and thus suggesting the salience of tone over morpho-syntax, was the overwhelmingly preferred form through to the end of the study, when C was 2.6,9. Even at that age, C's most common strategy was reduction of the negative marker *si-* and dependence on tone to signal rejection, and he still generally did not produce the correct subject marker (normally *-ndi-* 'I', at least in negative utterances. There was one occasion, however, when he produced an almost target-like utterance:

- (11) C 2.4,15 (M has just finished reading *Mr. Bump* to C. Brother (B) asks)

- |   |                                  |  |
|---|----------------------------------|--|
|   | B: <i>Napólo, ufúna Tíntin?/</i> | 'Napolo, do you want <i>Tíntin</i> ?'<br>Napolo you-want <i>Tíntin</i> /     |
| → | C: <i>íyayi/sínkufuna/</i>       | 'no, I don't want it'<br>no/not-I-prog-want/                                 |
|   | M: <i>síndífuna/</i>             | 'I don't want it'<br>not-I-want/   |
| → | C: <i>ndífufúna/</i>             | (said with negative tone = <i>síndífuna</i><br>I-fu-want/ 'I don't want it') |

Notice that, when he attempted an immediate imitation, he was much less successful than in his spontaneous utterance. The correction made by the mother was unnecessary.

Neither in Lb nor in L2 acquisition did the children experience such difficulty as C in L1 acquisition of the negative indicative forms to signal rejection, although in both cases the earliest forms were clearly prefabricated patterns of a similar kind, *súfuna* 'you don't want'. By the age of 1.9 in Lb acquisition, the child had effectively acquired the negative indicative marker, and by 1.10 had begun to analyze the subject marker, which was acquired by 2.3. In L2 acquisition, unlike both L1 and Lb acquisition, after the initial use of prefabricated pat-

terns, the child used first the affirmative of *-luna* 'want' followed by a verb in the negative imperative and then the free first person subject marker in conjunction with the negative indicative third person verb phrase, *ine sa-* (me not-he-) to mean *sindi-* (not-I-) 'I don't ...'. With respect to the acquisition of tone patterns, although these were not specifically studied in L1 and L2 acquisition, the L1 learner mastered tone in Chichewa alongside the morpho-syntax, while the L2 learner did not appreciate the significance of the role of tone in Chichewa morpho-syntax during the six months of the study.

#### 4.2. Nonoccurrence.

An action event does not occur. [Bloom and Lahey 1978:199]

In Chichewa, nonoccurrence is signalled in one of two ways: either by a variety of equivalents of the English *can't*, which none of the children attempted in the course of the present study, so they will not be described, or by the negative indicative of a number of tenses, including the present progressive as described above, the present habitual, the immediate future, the past simple, and the perfective. Examples illustrating tone realizations in these verb forms are given below. The verbs *-luma* 'bite' and *-seweletsa* 'play with' are underlyingly low-toned. First, the present habitual takes the following forms:

- |         |                         |                              |
|---------|-------------------------|------------------------------|
| (12) a. | <i>chí-ma-lúma</i>      | <i>sí-chí-(má)-luma</i>      |
|         | it-habit-bite           | not-it-habit-bite            |
|         | 'it bites'              | 'it doesn't bite'            |
| b.      | <i>ndí-ma-sewelétsa</i> | <i>sí-ndí-(má)-seweletsa</i> |
|         | I-habit-play with       | not-I-habit-play with        |
|         | 'I play with'           | 'I don't play with'          |

In the affirmative, the tone pattern is HLHL, while in the negative the pattern is HL. Note that in the negative form the tense/aspect marker is optional, making it identical to the negative reduced present progressive.

The immediate future is distinguishable from the reduced form of the present progressive only by tone pattern, as is seen below:

- |         |                 |                    |
|---------|-----------------|--------------------|
| (13) a. | <i>chí-luma</i> | <i>sí-chi-lúma</i> |
|         | it-bite         | not-it-bite        |
|         | 'it will bite'  | 'it won't bite'    |

- |  |   |
|--|---|
| b. <i>ndí-seweletsá</i><br>I-play with<br>'I will play with' | <i>sí-ndí-sewelétsá</i><br>not-I-play with<br>'I won't play with' |
| c. <i>ndí-gwá</i><br>I-fall<br>'I will fall'                 | <i>sí-ndí-gwá</i><br>not-I-fall<br>'I won't fall'                 |

Note that this tense, like the reduced present progressive, is not morphologically marked by any tense prefix. In the affirmative, the tone pattern is HL. In the negative forms, a H is placed on the penultimate syllable only, thereby creating a LHL pattern (13a-b), except with a monosyllabic verb root, in which case the tone pattern is LH (13c).

In the past simple, the forms are as follows:

- |   |   |
|---|---|
| (14) a. <i>ndí-ná-luma</i><br>I-past-bite<br>'I bit'              | <i>sí-ndí-na-lúm-e</i><br>not-I-past-bite<br>'I didn't bite'                |
| b. <i>ndí-ná-séweletsá</i><br>I-past-play with<br>'I played with' | <i>sí-ndí-na-seweléts-e</i><br>not-I-past-play with<br>'I didn't play with' |

Here we see that the tone pattern in the affirmative forms is LHL, while the negative forms take a HLHL pattern, with the second H placed on the penultimate syllable.

The perfective negative is morphologically identical to that of the past simple, being distinguished from it only by tone, as can be seen in the following examples:

- |  |  |
|--|--|
| (15) a. <i>ch-a-luma</i><br>it-perf-bite<br>'it has bitten'        | <i>sí-chi-na-lúm-e</i><br>not-it-perf-bite<br>'it hasn't bitten'               |
| b. <i>nd-a-seweletsá</i><br>I-perf-play with<br>'I've played with' | <i>sí-ndi-na-seweléts-e</i><br>not-I-perf-play with<br>'I haven't played with' |

The affirmative perfective forms are low-toned throughout, while the negative forms have a H tone on the penultimate syllable, yielding a LHL pattern.

Of the three children, B produced only one SMU signalling nonoccurrence, at 1.9,18, and A produced six SMU and one spontaneous MMU between the ages of 1.8,5 and 1.9,14. A's MMU appears not to have been a prefabricated pattern, because A used the verb in other contexts. It appears to be more complex than C's utterances at the same age, since it does not evidence the same pattern of reduction:

(16) 1.9,14 (Family eating meal)

- R: *takhálá pansi/* 'please, sit down'  
 please-sit down/
- A: *mam/mam/Ale khala/nóninó/nô/nô/iye/iye/*  
 mam!/mam!/Alec sit/nonino/no/no/he/he
- *ənikhálá/* (said with negative tone = *sindikhála* 'I  
 not-I-sit/ won't sit down')
- F: *tíyé ukhále/* 'come on, you must sit down'  
 let's-go you-sit/

Thus, the analysis focuses on the pattern of development of C's utterances, of which there were 65 signalling nonoccurrence. Of these, 43 were MMU, some of which reveal an interesting pattern of overgeneralization of the verb *-funa* 'want' from rejection to signal past negative indicative nonoccurrence events.

C's earliest taped utterances signalling nonoccurrence (from 1.6,18 to 1.7,15) were SMU, *nô* being consistently said with a rising intonation, as were similar utterances used to express rejection at the same age. His first attempts at a syntactic verb phrase to signal nonoccurrence (from 1.7,15 onwards) were reduced forms which retained the correct tones for the maintained syllables, such as in the following example:

(17) C 1.7,16 (playing with Legos)

- M: *Kodi Napólo, ukuchíta chani?/*  
 question marker Napolo you-prog-do what/  
 'what are you doing, Napolo?'
- C: *tá?/* (grandmother (G) laughs)  
 what?/

M: *cha?*/  
what?/

C: *aǎh/táyá*/  
aah/throw away/

M: *wataya* *cháni?/watayacháni?/watayacháni?/*  
you-perf-throw away what/  
'what have you thrown away?'

C: *taya/taya*/  
throw away/

G: *watáya?* 'have you thrown away?'  
you-perf-throw away?/

M: *ukufúna* *kutáya* *kapena* *watáya* *kále?*/  
you-prog-want to-throw or you-perfect- already/  
away throw away  
'do you want to throw away or have you thrown away already?'

C: *mmm*/

M: *súnataye* *chili chónse*/  
not-you-past-throw away it-is all/  
'you didn't throw away anything'

C: *táya*/  
throw away/

M: *súnatáye*/  
not-you-past-throw away 'you didn't throw away'

→ C: *tááyee*/  
throw away/ (said with negative tone =  
*síndínatáye* 'I didn't throw  
away')

M: *súnatáye*/  
not-you-past-throw away/ 'you didn't throw away'



pattern of LHL. Interestingly, a strikingly similar overgeneralization was recorded on one occasion in L2 acquisition [Chimombo 1981b:255], in which the child corrected himself in the course of the conversation and which involved the same verb, *-pita* 'go'.

For the following two months, C produced no recorded utterance at all signalling nonoccurrence, but the imitations of the negative indicative past and perfective (of which 10 were recorded after 1.10,3) continued. Gradually, however, C was able to include the subject marker on negative indicative verbs in the past and perfective and finally the negative marker occasionally as well, but the latter appeared on only three utterances in the course of the last three months of the study. Ironically, though, while C achieved the correct tone pattern on reduced utterances, he made errors in the tone pattern of two of the three morphologically complete negative utterances. The following is an example of correct morphology with incorrect tone, despite the fact that the correct tone pattern had been given in an immediately preceding utterance, for C to simply copy:

(20) C 2.6,9 (Aunt visiting home with young baby)

C: *mamí, mwana achápé mano/mwana achápé manó/*  
 mummy baby he-brush teeth/baby he-brush teeth/  
 'mummy, the baby should brush his teeth'

M: *áh?/*

C: *mwáná áchápé mano/* 'the baby should brush his  
 baby he-brush teeth teeth'

M: *mwáná áchápé mano?/* 'the baby should brush his  
 baby he-brush teeth/ teeth?'

C: *eee/*  
 yes

M: *alíbe mano/* 'he hasn't got any teeth'  
 he-is-without teeth/

C: *áh?/*

M: *sanakúle/* 'he hasn't grown up'  
 not-he-perf-grow/

- C: *sánakúle/* (said with past tone instead of perfective) 'he didn't grow up'  
not-he-past-grow/  
M: *sanakúle/* (correcting tone) 'he hasn't grown up'  
not-he-perf-grow/

Meanwhile, alongside this development, between 2.0,2 and 2.4,15, ten over-generalizations of the negative indicative reduced present progressive form for rejection, *síndífuna* 'I don't want', rendered by C as *súfuna* 'you don't want' or variants, were recorded as signalling past or perfective nonoccurrence events. The following is one example:

(21) C 2.1,24 (C lying on settee)

- M: *wágoná?/* 'are you sleeping?'  
you-perf-sleep/  
C: *mamí/*  
mummy/  
M: *eeé/eeé/*  
yes/yes/  
C: *mamí/*  
mummy/  
M: *eh-éh!/*  
C: *ágoná/* (meaning *ndígoná* 'I will sleep')  
he-sleep/  
M: *eee/watópá?/* 'yes/are you tired?'  
yes/you-perf/tire/  
C: *atópá/* (meaning *ndatópá* 'I'm tired')  
he-perf-tire/  
M: *mhm/chábwino/*  
mhm/OK/

→ C: *úfuná atópá/* (said with negative tone = *síndífuna kutópa* ‘I don't want to be tired’ meaning *sindinatópe* ‘I'm not tired’)  
 you-want he-perf-tire

M: *mím?/*

→ C: *úfuná/* (said with negative tone = *síndífuna* ‘I don't want’)  
 you-want/

M: *súfuná kutópa?/unéné kuti “sindinatópe”/*  
 not-you-want to-tire/you-say that not-I-perf-tire/  
 ‘you don't want to be tired?/you should say “I'm not tired”’

→ C: *atópe/* (said with negative tone = *sindinatópe* ‘I'm not tired’)  
 past-tire/

M: *sindinatópe/* ‘I'm not tired’  
 not-I-perf-tire/

Some other examples follow:

- (22) a. *úfuná méza* meaning *sindinaméze* ‘I haven't swallowed’  
 b. *úfuná wátha* meaning *sichináthe* ‘it isn't finished’  
 c. *úfuná atsíríza* meaning *sindinatsíríze* ‘I haven't finished’

This pattern of overgeneralization of *-funa* ‘want’ is similar to that observed for other semantic categories discussed below.

In the meantime, the negative indicative immediate future was attempted 15 times. The following is an early example, showing the same pattern of reduction of negative and subject markers with preservation of the tone pattern as for the negative indicative past and perfective, despite the fact that it was an imitation:

(23) C 1.9,18 (C had been crying because he was scared of a moth)

S: *chapítá/* ‘it has gone’  
 it-perf-go/

- C: *pitáá/*  
go/
- S: *eee/usaópeě/* 'yes/don't be afraid'  
yes/you-not-fear/
- C: *óópeě/* (said with negative tone = *ndisaópe*  
fear/ 'I shouldn't be afraid')
- S: *eee/* (i.e. 'no')  
yes/
- C: *eemá/uumá/*  
bite/bite/
- S: *sichikulúma/* 'it won't bite you'  
not-it-you-bite/
- C: *úúmaa/* (said with negative tone = *sichindilúma*  
you-bite/ 'it won't bite me')
- S: *eee/* (i.e. 'no')  
yes/

C did, however, attempt the object marker *-ku-* 'you', the first *u-* of *úúmaa* above, instead of *-ndi-* 'me'.

On eight occasions, C used the negative indicative immediate future to signal nonoccurrence spontaneously, and on two of these occasions it was used correctly without reduction of the negative marker, but with the wrong tone pattern, as was noted above in connection with the negative past and perfective verbs. Here is one example:

(24) C 2.4,1 (C having breakfast)

M: *ukuséweletsa míkaka/*  
you-prog-play with milk/  
'are you playing with your milk?'

- C: *síndiséyetsa/* (with wrong tone pattern: should be  
not-I-play with/ *síndisewelétsa* 'I won't play with it')

M: *ufúna tithí...tithíre tíyi?/*  
 you-want we-add tea/  
 'do you want us to add tea?'

C: *thíre tíyi/* (M pours tea into a cup)  
 add tea/

In view of the fact that the girls produced only eight utterances signalling nonoccurrence, of which only one was a syntactic negative, it is not possible to state how general C's pattern of overgeneralization of tone and morphology is in children learning Chichewa as a first language. It seems likely that such a pattern is idiosyncratic, although the discussion of denial, below, suggests that similar kinds of overgeneralization appear in other children's speech too.

One parallel between the L1 and L2 acquisition of Chichewa negation was mentioned above in connection with the use of the negative dynamic copula to signal nonoccurrence. Apart from that, there were no similarities at all between the L1 data and either the Lb or the L2 data. In fact, in both Lb and L2 acquisition, the children seemed to have much less difficulty mastering the negative indicative forms in the different tenses, so were able to express syntactically with considerable accuracy the nonoccurrence events they experienced. In the case of Lb acquisition, nonoccurrence was expressed syntactically from 1.10 onwards, with errors in subject agreement but no reduction and without errors by 2.3. It is possible that A was expressing nonoccurrence syntactically with the correct form of the negative indicative by that age too, since her one MMU that was recorded at 1.9,14 was close in form. Unfortunately, A was not recorded expressing nonoccurrence syntactically again. With respect to L2 acquisition, as was already mentioned in connection with rejection, the child had trouble learning the correct form of the subject marker, but from quite early on used the appropriate negative marker. He also, however, had trouble overgeneralizing the final *-e* of the negative past/perfective indicative verb to the present progressive form, a mistake which C did not make in his expression of nonoccurrence, only, as is seen below, in negative command and permission.

### 4.3. Not-Knowing.

The category of not-knowing includes such stative verbs as *know*, *understand*, and *think*.  
 [Chimombo 1981b:27]

In Chichewa, however, there are two ways of signalling not-knowing. There is, first, a one-morpheme response having the meaning 'I don't know', *kaya*, which takes one of two tone patterns, either L or LH. Secondly, there are the negative indicative forms of the verbs *-dziwa* 'know', *-mva* 'understand', and -

*ganiza* 'think/hope'. The tone patterns for the present progressive tense have already been given, but are repeated here for the appropriate verbs:

- |         |                   |                      |
|---------|-------------------|----------------------|
| (25) a. | <i>ndi-ku-mva</i> | <i>sí-ndí-ku-mva</i> |
|         | I-prog-hear       | not-I-hear           |
|         | 'I understand'    | 'I don't understand' |
| b.      | <i>a-ku-dzíwa</i> | <i>s-á-ku-dzíwa</i>  |
|         | he-prog-know      | not-he-know          |
|         | 'he knows'        | 'he doesn't know'    |

Note the pattern of (25a), for a monosyllabic verb root. There is, however, another tense whose tone patterns have not yet been discussed, the past habitual, which C used in one instance, in imitation of his brother. The affirmative and negative tone patterns for this tense are as follows:

- |         |                    |                        |
|---------|--------------------|------------------------|
| (26) a. | <i>ndi-má-mvá</i>  | <i>sí-ndí-ma-mvá</i>   |
|         | I-past habit-hear  | not-I-past habit-hear  |
|         | 'I understood'     | 'I didn't understand'  |
| b.      | <i>a-ma-dzíwa</i>  | <i>s-á-ma-dzíwa</i>    |
|         | he-past habit-know | not-he-past habit-know |
|         | 'he knew'          | 'he didn't know'       |

It is undoubtedly the ease with which Chichewa speakers can say 'I don't know' that accounts for the early introduction of this semantic category into the children's negative repertoire, unlike studies of the acquisition of negation in other languages. The first utterance signalling not-knowing was recorded at the age of 1.7,15 for C, although B was also recorded producing the same utterance at just four days older. Here is one of B's SMU:

(27) B 1.7,19 (Researcher (R) showing B pictures)

- |   |                               |                   |
|---|-------------------------------|-------------------|
|   | R: <i>ndi cháni chiméné?/</i> | 'what's that?'    |
|   | is what that/                 |                   |
| → | B: <i>kayá/</i>               | 'I don't know'    |
|   | I-don't know/                 |                   |
|   | R: <i>súdzíwa?/</i>           | 'don't you know?' |
|   | not-you-know/                 |                   |

However, the fact that only seven utterances were recorded for all three children throughout the period of study indicates that young children do not feel the need to express not-knowing very frequently. Furthermore, only two of the seven utterances were syntactic verb phrases as opposed to the SMU *kaya*. Both of these were produced by C, one at 2.0,16 and the other at 2.4,15. The first was entirely spontaneous and the second a spontaneous imitation. Here is the first one:

(28) C 2.0,16 C playing with nuts and bolts toy)

M: *akumánga, kumásula/* (commenting to nanny) *kumánga,*  
 he-prog-do to-undo/ to-do

*kumásula/éèe, wángofátsa ndí kumánga/*  
 to-undo/yes he-perf-only-be quiet with to-do/

‘he’s doing it up and undoing it, doing it up, undoing it/yes, he’s just quietly doing it up’

C: (soundplay) *úya kúká úwáng’anga/*

M: (laughs) *ndíyé kuti cháni?/síndikumva/*  
 so to-say what/not-I-prog-hear/

‘what does that mean?/I don’t understand’

→ C: *súkumva/* ‘you don’t understand’  
 not-you-prog-hear/

M: *eee/* (i.e. ‘no’)  
 yes/

Interestingly, this example shows no reduction of the negative marker, and makes the necessary subject marker switch from *-ndi-* ‘I’ to *-u-* ‘you’, although using the singular form for ‘you’ instead of the polite plural form *-mu-*. The second was:

(29) *mámadzíwá* (in immediate imitation of B’s *sámadzíwa* ‘he didn’t know’)

This example reveals the regressive assimilation which was common in earlier utterances, particularly with monosyllabic verbs expressing prohibition, as is seen below. It seems, therefore, that the syntactic expression of not-knowing depends



b. <i>nena</i>	‘say’	<i>ó-sa-néna</i> you-not-say	‘don't say’
c. <i>taya</i>	‘throw away’	<i>ó-sa-táyá</i> you-not-throw away	‘don't throw away’
d. <i>i-dya</i> (dummy vowel)-eat	‘eat’	<i>ó-sa-dyá</i>	‘don't eat’ you-not-eat

As can be seen the affirmative forms take L tones throughout, while the negative forms take a HLHL pattern, except for monosyllabic verb roots which take a HLH pattern.

The children produced a total of 54 utterances signalling negative command. A produced 26, B produced only one (a SMU), and C produced the remaining 27 utterances that were recorded. All except one of A's utterances (the only SMU signalling negative command) were attempts to say *ósadyá* ‘don't eat’, 23 on one day and two four days later. The renditions included /*átatá*/, /*átatyá*/, /*ósatyá*/, and /*átatí*/. The context for all of these utterances, which were basically repetitions of the same original stimulus, was as follows:

(31) A 1.8,5 (R and A eating lunch. A drops a piece of food on floor, picks it up, and puts it back on plate to eat with rest of food)

R: *sádyatu/leka*, *wámva?*  
not-they-eat-emphatic/stop you-perf-hear/  
‘they don't eat that/stop, do you understand?’

A: *ekaka áka*/ (imitating R's *leka*, *wámva?*)

R: *m̃m!*/ *ósadyá*/  
mm/you-not-eat/ ‘mm!/don't eat it’

→ A: *átatyá*/ (imitating R's tone pattern) ‘don't eat it’  
you-not-eat/

R: *m̃m!*/ *ósadyá/eh!*/ *wámva?*/ *ósadyá*/  
mm/you-not-eat/eh/you-perf-hear/you-not-eat/  
‘mm!/don't eat it/eh!/do you understand?/don't eat it’

A: *basi/*  
 enough/

'that's enough'

Thus, it was not possible to establish whether A knew the negative command form, as she was not recorded using it with any other verb. It seems that all her versions of *ósadyá* 'don't eat' were prefabricated patterns.

C's pattern of development was rather different. He first expressed negative command with a SMU at 1.3,17, and 12 of his 27 utterances were SMU. As in the case of the negative indicative, he reduced utterances effectively to the base form + negative tone, until 2.4. He did, however, express negative commands for a variety of verbs, as is seen below. Between 1.7 and 1.9, he produced five reduced utterances, each with a different verb, that were imitations of an immediately preceding utterance by his mother. In respect of imitation, he was like A, except that she was more successful in not reducing negative imperative utterances, but with only one verb in her imperative repertoire. In the case of monosyllabic verbs, however, he used the strategy of phonological assimilation to add the required minimum of two syllables for any word in Chichewa. Here are the first three examples from his speech, at the ages of 1.7,1, 1.7,3, and 1.7,15 respectively:

- (32) a. *gwágwa* (in immediate imitation of M's *ósagwá* 'don't fall')  
 b. *tááyaa* (in immediate imitation of M's *ósatáya* 'don't throw it away')  
 c. *tíínda* (in immediate imitation of M's *ósapínda* 'don't fold it')

C's only spontaneous MMU signalling negative command at this stage did not include a verb, so does not contribute to understanding the pattern of tone acquisition in the verb phrase.

C produced one spontaneous anaphoric utterance signalling negative command at 2.0,1, and then his first spontaneous attempt (still reduced) at signalling negative command with the negative imperative at 2.0,16. In fact, he appeared to be unsure of the correct tone pattern, because he made two different attempts:

- (33) a. *átaya* (both meaning *ósatáya* 'don't throw away')  
 b. *átayé*

At 2.4,1, it seemed as though C had mastered the form for the negative imperative, managing the unreduced form, although two of the three utterances had incorrect tone patterns, and one of these two showed that he had difficulty getting out all the words he intended:

- (34) C.2.4,1 (M had been singing various songs, including “*Góna, mwana*” ‘Sleep, baby’)

C: *ufúná* “*áya*”/“*áya*”/“*áya*”/ (meaning *ndifúna* ‘I  
 you-want “*Haya*”/“*Haya*”/“*Haya*”/ want’  
 (“*aya*” was C’s name for a tune from *Ipi Tombi*, the South African musical)

M: *tíyimbabe* / “*Háya*” / (singing) “*Haya, haya, haya*” /  
 we-sing-yet / “*Haya*” / “*Haya, haya, haya*” /  
 ‘we’ll sing it later’

→ C: *ósagonanso mwana* / (meaning *ósayimbánso*  
 you-not-sleep again baby “*Góna, mwana*” ‘don’t  
 ‘don’t sleep again baby’ sing “Sleep, baby”  
 again’

The other two utterances were the following:

- (35) a. *ótátí ine ítsika* (meaning *ósati ine nditsíke* ‘don’t say I should get down’)  
 b. *mámi, ósatsíka* (correct tone, morpho-syntax and semantics ‘mummy,  
 don’t get down’)

On only one occasion did C overgeneralize the negative indicative to signal negative command, six weeks after the above examples of apparent full syntactic command of the form (even if with incorrect tone patterns in some cases):

- (36) C 2.5,14

C: *máma...chóka* /  
 mummy...go away /

M: *ah-äh!* /

C: *pepáni, mámi* /  
 sorry mummy /

M: *chábwino* /  
 OK /

C: *pepáni...mamá?/*  
 sorry...mummy/

M: *mhm?/*

→ C: *únena choka mâmí/* (said with negative tone =  
 you-say go-away mummy/ *súnena choka mámi* 'you won't  
 'you won't say go away mummy' say go away mummy', meaning  
*ósanéna choka kwá mámi*  
 'don't say go away to mummy')

M: *áh?/*

→ C: *únena choka mâmí/* (as above)  
 you-say go-away mummy/  
 'don't say go away to mummy'

M: *eee/ósanena choka kwá mámi/*  
 yes/you-not-say go-away to mummy/  
 'yes/don't say go away to mummy'

Whether this was an indication of other overgeneralizations to come or, more probably, the tail end of overgeneralizations of the negative indicative form, will only be known when later data have been analyzed.

The pattern of development C showed for negative command is again different from that of Lb and L2 acquisition of Chichewa negation. In Lb acquisition, the child had difficulty distinguishing the morphology and meanings of negative command and negative permission, but did not use the negative indicative to signal either at any time. In L2 acquisition, the child also had some difficulty distinguishing the morphology and meanings of the two kinds of prohibition, but more significantly overgeneralized the negative imperative form to contexts where the negative indicative should have been used to signal nonoccurrence or rejection, in other words, the reverse of C's one instance of overgeneralization.

#### 4.4.2. Negative permission.

Negative permission can signal one of three meanings: (1) It is a negative response to another's request to be allowed to do or have something, which the child implies (without stating) that he does not want that person to do or have... (2) It is a negative reaction to another's action (not a commanding action as in rejection)... (3) It indicates fear of an action, or the desire to prevent it. [Chimombo 1981b:25-26]

In Chichewa, negative permission is signalled by the same invariant negative marker *-sa-* as for negative command, but allowing the full range of subject markers prefixed to the verb, which takes the subjunctive suffix *-e* instead of the indicative *-a*:

- |         |  |  |
|---------|--|--|
| (37) a. | <i>u-onóng-é</i><br>you sg-spoil-subjunctive<br>'you should spoil' | <i>u-sa-onóng-e</i><br>you sg-not-spoil-subjunctive<br>'you shouldn't spoil' |
| b.      | <i>a-nén-é</i><br>he-say-subjunctive<br>'he should say'            | <i>a-sa-nén-e</i><br>he-not-say-subjunctive<br>'he shouldn't say'            |
| c.      | <i>mú-dy-é</i><br>you pl-eat-subjunctive<br>'you should eat'       | <i>mu-sá-dy-é</i><br>you-not-eat-subjunctive<br>'you shouldn't eat'          |

Notice that the tone pattern for the affirmative subjunctive is LH, with the exception of monosyllabic verb roots, where the pattern is H throughout (the reverse of the affirmative imperative). For the negative subjunctive, the tone pattern is LHL, again with the exception of monosyllabic verb roots, when the pattern is LH.

The children produced a total of 67 utterances signalling negative permission during the recording sessions, including one anaphoric negative (A's at 1.9,15). Of these 67, 27 were SMU. A and B produced three and four MMU respectively, and C produced 33. All three children displayed similar strategies in the production of these utterances. All three reduced their utterances and depended on tone in the same way at first, except that the two girls reduced fewer elements than the boy. For example, B was able from the beginning to produce the negative marker, even if the subject marker was deleted, while C reduced his negative subjunctive utterances to the root form of the verb plus the final subjunctive *-e*, as can be seen by comparing B's (38a) and C's (38b) utterances, interestingly both using the same verb and both produced at approximately the same age—1.6,24 and 1.6,15 respectively:

- (38) a. *sanámbe* (in immediate imitation of R's *usang'ámbe* 'don't tear it')
- b. *bámbe* (in immediate imitation of M's *usang'ámbe* 'don't tear it')

Thus, from the beginning the girls managed the correct LHL tone pattern, having the minimum required number of syllables and morphemes to accommodate that

pattern, despite the reduction of the subject marker. C, on the other hand, had to reduce the tone pattern to HL in view of the fact that he had only two syllables to attach the tones to. His other negative subjunctive utterances showed some uncertainty as to how to accommodate the LHL pattern into a two-syllable verb phrase, sometimes using vowel lengthening or reduplication as he did in the other negative forms, for example:

- (39) a. *tíinde* (in immediate imitation of M's *usapínde* 'you shouldn't fold it')
- b. *gwíyeě* (in immediate imitation of M's *usagwíre* 'you shouldn't hold it')
- c. *gwiiyéé* (in immediate imitation of M's *usagwíre* 'you shouldn't hold it')

With the monosyllabic verb root, he had less difficulty, although he still had to decide where to fit the three-syllable tone pattern into his reduced two-syllable verb phrase:

- (40) a. *gaagwé* (in immediate imitation of M's *uságwé* 'you shouldn't fall down')
- b. *gágwé* (in immediate imitation of M's *uságwé* 'you shouldn't fall down')

From 1.8,11, C continued to experiment with consonant assimilation and/or compensatory vowel lengthening to accommodate the correct tone pattern while still reducing the verb phrase morphologically:

- (41) C 1.8,11 (C looking at M's Bible, turning the pages)

C: *ichí/*  
*this/*

M: *m̃m?/*

C: *m̃m?/*

M: *cháni?/*  
*what/*

- C: *mbómbó/(=baibulo) ichi/*  
 Bible/ this/
- M: *usaónóge,* *iwe/* 'you shouldn't spoil it'  
 you-not-spoil-subjunctive you/
- C: *góóge/* (said with negative tone =  
 spoil-subjunctive/ *ndisaónóge* 'I shouldn't spoil it')
- M: *usaónóge/* 'you shouldn't spoil it'  
 you-not-spoil-subjunctive
- C: *gangóóge/* (said with negative tone =  
 not-spoil-subjunctive/ *ndisaónóge* 'I shouldn't spoil it')
- M: *díkírá/pang'ónópang'óno/*  
 wait/little by little/

Some other examples follow:

- (42) a. *tááye* (in immediate imitation of S's *usatáye* 'you shouldn't  
 throw it away')
- b. *óópě* (in immediate imitation of S's *usaópě* 'you shouldn't be  
 afraid')

Notice in particular how C had the problem of learning where to place the H or L tone in a tone pattern when the pattern is underspecified, as in the case of *gangóóge* in (41) above: C managed the correct LHL pattern, but did not place the H correctly, overgeneralizing the rule of Tone Doubling which applies in other contexts so that, instead of a LLLHL pattern, he produced a LHHL pattern.

However, C did attempt to express negative permission with a much greater variety of verbs than either A or B, even over the same age period (1.6-2.0): seven as compared with two each for A and B. After 2.0, C also produced utterances expressing negative permission with eight new verbs in addition to the seven previously used.

Nonetheless, a further indication of the earlier development of B is that she produced spontaneous utterances signalling negative permission at 1.6,24 and 1.8,7, whereas C did not spontaneously do so until 1.9, like A. All three of A's MMU were, however, spontaneous, whereas over the same period 11 of C's were imitations and only five spontaneous. After 2.0,1, though, C imitated only three times and produced 12 spontaneous utterances.

At 2.0,1, however, C began a period of overgeneralization of the tone pattern for the negative indicative reduced present progressive, as is used to signal rejection, the HL pattern. In two cases (cf. (43a) below, both with the same verb, the verb phrase was morphologically correct, the only error being in the tone (HL instead of LH), while in other cases (cf. (43b-c) below) both the tone pattern (HL or HLH instead of LHL) and the morphology (*si-* indicative instead of *-sa-* imperative negative marker, plus order of morphemes) were incorrect:

- (43) a. *úsadye* (meaning *ndisádyé* 'I shouldn't eat')
- b. *súvuwe* (meaning *ndisabvúle* 'I shouldn't take them (shoes) off')
- c. *súvuwé* (meaning *ndisabvúle* 'I shouldn't take them (shoes) off')

The second and third examples are similar to the overgeneralization of the negative indicative marker to signal negative command (36), but the verb ending is subjunctive instead of indicative.

At the same time, C continued to use reduced forms with or without compensating in some way to accommodate the complete tone pattern, until 2.1,2, from which age there were always enough syllables to accommodate the required tone pattern, even if the tone pattern was not always correct, as seen in (43) above. Even at the end of the study, C was not producing the full morphology, although by then the tone pattern had stabilized correctly to LHL for negative subjunctive utterances:

(44) C 2.6,10

M: *tola maLégo/tolá/(C cries) tíye tikámpatse Christopher*  
 pick-up Legos/pick-up/ let's-go we-go-him-give Christopher/  
 'pick up the Legos/let's go and give them to Christopher'

→ C: (as he picks up Legos) *ním-mm/apátse Títofa Légo/*  
*mm-mm/not-give Christopher Lego/*

(said with negative tone = *tísampátse Christopher Légo/* 'we shouldn't give Christopher the Legos')

M: *eee/tolá/mwana wábwinó/tolánso ziná/tolánso ízo/ízo,*  
 yes/pick-up/child good/pick-up-also others/pick-up-also those/those

*Napólo/fúlumira/thámanga/tolánso izó/tíye tikámpatse*  
 Napolo/hurry/run/pick-up-also those/let's-go we-go-him-give

*Christopher maLégo/*  
 Christopher Legos/

'yes, pick them up/good boy/pick up the others too/pick those up too/those ones, Napolo/hurry up/run/pick those up too/let's go and give Christopher the Legos'

C: *tíyeni/* 'let's go'  
 let's-go/

M: *onánso íyi, íyi/iyínso/iyínso/bwera*  
 see-also this this/this-too/this-too/come

*dzatóle/tikámpatse Christopher/*  
 come-pick-up/we-go-him-give Christopher

'see this one too, this one/this one too/this one too;/come and pick up these ones/we should go and give them to Christopher'

→ C: *íyayi, apátse Títófa/* (said with negative tone =  
 no not-give Christopher/ *tisampátse* 'we shouldn't give them to Christopher')

M: *tisampátse?/* 'shouldn't we give them to him?'  
 we-not-him-give/

C: *eee/* (i.e. 'no')  
 yes/

At least in these last examples, the H was assigned to the correct syllable in spite of the reduction.

As for negative command, therefore, C's path to the acquisition of the negative subjunctive forms to signal negative permission was not smooth. The Lb and L2 patterns of development of the expression of negative permission are again rather different. In the present study, the children did not seem to confuse the subjunctive with the indicative verb endings which distinguish negative

permission from negative command (in only one case (33b) did C confuse the ending), as was found common in both Lb and L2 acquisition. On the other hand, no attempt was made by the Lb and L2 learners to use the negative indicative marker instead of the negative imperative, nor to overgeneralize the tone pattern, as was found for C in the present study.

#### 4.5. Nonexistence.

Some object does not exist in the context, or the child does not see it in the context, but there is some reason to expect it to be there or to look for it. [Bloom and Lahey 1978:111]

Those utterances signalling both non-presence and nonexistence were coded as signalling nonexistence for the purposes of this study.

In Chichewa, nonexistence is signalled by a negative suffix *-be* which is unique to the dynamic copula *-li-*. (In other contexts the *-be* suffix has other meanings.) The dynamic copula takes a locative prefix *ku-*, *mu-*, or *pa-*. Both the locative prefix and the verb root are underlyingly low-toned:

(45) a.	<i>ku-li</i>	‘there is’	<i>ku-lí-be</i>	‘there isn’t’
	at/to-is		at/to-is-without	
b.	<i>mu-li</i>	‘there is’	<i>mu-lí-be</i>	‘there isn’t’
	in-is		in-is-without	
c.	<i>pa-li</i>	‘there is’	<i>pa-lí-be</i>	‘there isn’t’
	on-is		on-is-without	

As can be seen, the affirmative forms take a L tone pattern while the negative ones take a LHL pattern, the attachment of the negative suffix *-be* triggering the assignment of the H tone to the verb root *-li-*. An alternative affirmative form combines the subject marker with the dynamic copula and a locative suffix, but having the same negative forms as (45):

(46) a.	<i>chi-li-ko</i>	b. <i>chi-li-mo</i>	c. <i>chi-li-po</i>
	it-is-at/to	it-is-in	it-is-on

The same negative marker *-be* is also used in conjunction with the dynamic copula to signal nonpossession, another subcategory of nonexistence, in which case a subject marker is prefixed instead of a locative marker:

(47) a.	<i>ndi-li</i>	<i>ndí</i>	‘I have’	<i>ndi-lí-be</i>	‘I don’t have’
	I-am	with		I-am-without	

- b. *u-li ndí* 'you have'      *u-lí-be* 'you don't have'  
     you-are with                      you-are-without

Notice that the affirmative here takes a LH tone pattern while the negative takes the same LHL pattern as for the locative forms discussed above. This form was, however, only attempted once in the course of the study, by C, as shown in (54) below.

The three children produced a total of 35 recorded utterances signalling nonexistence. In spite of the fact that A produced only two of these and B only four, their utterances provide confirmation of the pattern of development in C's utterances. This pattern seems to have been quite smooth. C and A initially (from 1.7,3 to 1.10,1) used a strategy of reduction of the initial locative morpheme, preserving only the last two morphemes, with the correct HL tone pattern for these morphemes, as in the following examples:

- (48) a. *bíbe* (in immediate imitation of M's *palíbe* 'there isn't')  
       b. *yíbe* (in immediate imitation of S's *mulíbe muno* 'there isn't any here')  
       c. *íbe* (in immediate imitation of aunt's *kulíbétu* 'there isn't any at all')

After the initial reduction, from 1.7,29, C added another strategy, that of compensatory vowel lengthening and/or assimilation to accommodate the correct tone patterns, although at times the tone pattern was not correct, as can be seen in some of the following examples:

- (49) a. *bííbe* (self-imitation after (48a) 'there isn't')  
       b. *íbííbee* (in imitation of M's *palíbe* 'there isn't')  
       c. *biibéé* (in immediate imitation of M's *mpunga palíbé* 'there isn't any rice')  
       d. *íibe* (in immediate imitation of M's *palíbe* 'there isn't')

In fact, only (49a) and (49d) were correct in tone pattern.

After 1.9,18, only C produced just one utterance of this type, of which there had been 20 up to that age. A appeared to master much more quickly the full form. B never reduced utterances signalling nonexistence, only failing to produce the difficult liquid /l/ and, on one occasion, the initial consonant:

(50) a. *paíbe* (said completely spontaneously 'there isn't')

b. *aíbe* (in self-imitation of (50a) 'there isn't')

B soon combined the above prefabricated pattern with another morpheme:

(51) B 1.9,18 (B had asked R to strap her doll on her back)

R: *nsálu ili kuti?/* 'where is the cloth?'  
 cloth it-is where/

B: (gesturing vaguely) *sáyu íyo/* 'that cloth'  
 cloth that/

R: *gwílila iwéyó/kulíbe nsalu/* 'hold on to the doll yourself/there  
 hold-on yourself/at-is-not cloth isn't any cloth'

→ B: *kuíbe sayu/* 'there isn't any cloth'  
 at-is-not cloth/

A few weeks later, A and C also combined the negative dynamic copula with another morpheme.

At 1.10,1, C produced one extraordinary utterance, using gesture (shaking his head) combined with affirmative morphology to signal nonexistence. This was the only case of gesture used in conjunction with an affirmative form found in all the data for any of the children:

(52) C 1.10,1 (C looking for toy truck. S reading, B playing with Legos)

C: *óóyi kutí?/*  
 truck (lorry) where/

M: *íli kuti lóri?/* 'where's the truck?'  
 it-is where truck/

S: *kaya/* (sighs)  
 I don't know/

M: *ilípǝ?/* (C looking under chair) 'is it there?'  
 it-is-there/

→ C: (shaking his head) *ípǒ/* 'it isn't there'  
is-on/

B: *palíbe/* 'it isn't there'  
on-is-without/

From the age of 1.7,3 to 1.10,2, only nine out of 24 of C's utterances were completely spontaneous, i.e. excluding self-repetitions, but from 1.10,12 onwards, all were spontaneous (although some were spontaneous imitations of a preceding utterance by an adult or older sibling) and, furthermore, consistently produced with the correct tone pattern, for example:

- (53) a. *iwíbe* (meaning *kulíbe* 'there isn't')  
b. *paíbe boto* (meaning *palíbe moto* 'it (his drink) isn't hot')  
c. *rombo uwíbe* (meaning *chirombo kulíbe* 'there is no insect')

This pattern might suggest that we consider nonexistence to have been acquired by the age of 1.10, but as is clear from (53), the locative prefix for the negative dynamic copula was not produced correctly until 2.0,5 by A. Even at 2.6,9, when C managed to produce an error-free utterance negating the dynamic copula to signal nonpossession, he was not producing the locative prefix correctly to signal nonexistence. Furthermore, this utterance was an imitation, even though spontaneous:

(54) C 2.6,9 (continuation of exchange in (20). M and C discussing baby being too small to have teeth)

M: *mwana ndi wang'ónó kwámbíri/alíbe mano/*  
baby is small very/he-is-without teeth  
'the baby is very small/he doesn't have any teeth'

→ C: *mwana alíbe manó/* 'the baby doesn't have teeth'  
baby he-is-without teeth

M: *eee/* (i.e. 'no')  
yes/

As can be seen from the above examples, the same basic form (*ku/mu/-palíbe* 'there isn't') was used by all three children, and in fact all their utterances except one (C's combination of gesture with affirmative dynamic copula in (52)) used

this form to express nonexistence and nonpossession. The one case of possible overgeneralization of the negative dynamic copula to signal nonoccurrence ((19) above) occurred before the age of 1.10, so it is possible to state with some confidence that the tone pattern for nonexistence had been acquired by the end of the study and that the morphology was about to be acquired.

The above pattern of development of the expression of nonexistence in Chichewa is quite different from that observed in L1 and L2 acquisition. In the case of L1 acquisition, all one-word or prefabricated patterns were excluded from analysis, so those of the type /*bíbe*/, found from the age of 1.7,3 to 1.9,18 in the present study were not considered. (There were, however, very few examples of this utterance type, although at the same age.) But there was no evidence at all of mastery of the negative dynamic copula after the prefabricated pattern disappeared, nor was this prefabricated pattern subsequently combined with other words, as was found in the present study after age 1.9,18. Furthermore, at first nonexistence was instead signalled by verbs with negative meaning but no overt negative marker (which verbs have not been included in the present study) and only after 1.10 was nonexistence signalled with an overt negative marker of the negative indicative.

For L2 acquisition, a different pattern again was found. A prefabricated pattern was used briefly initially, as in L1 acquisition, but with the difference that it was immediately combined with other elements. Then, the child continued to produce the correct (prefabricated) form for nonexistence, but overgeneralized first the negative imperative and then the negative indicative forms of the verb *-tenga* 'get' to signal nonpossession. Finally, he overgeneralized the negative dynamic copula form to signal nonoccurrence, as mentioned above, before fully mastering the dynamic copula form.

#### 4.5. Denial.

In denial events, children are negating the truth of a statement made by someone else.  
[Bloom and Lahey 1978:190]

Chichewa has a negative stative copula *sí* which is the negative counterpart of the affirmative *ndi* to signal denial:

- |         |                    |                 |                   |                     |
|---------|--------------------|-----------------|-------------------|---------------------|
| (55) a. | <i>ndi nyumba</i>  | 'it's a house'  | <i>sí nyumba</i>  | 'it's not a house'  |
|         | is house           |                 | is-not house      |                     |
| b.      | <i>ndi nthochi</i> | 'it's a banana' | <i>sí nthochi</i> | 'it's not a banana' |
|         | is banana          |                 | is-not banana     |                     |
| c.      | <i>ndi munthu</i>  | 'it's a person' | <i>sí munthu</i>  | 'it's not a person' |
|         | is person          |                 | is-not person     |                     |

Thus, the low-toned affirmative stative copula changes to a high-toned negative, which has the same base form as the negative indicative marker *si-*, but unlike the latter remains invariant as a free morpheme.

There are also other forms which may be used to express denial, apart from the negative stative copula. These are the various negative indicative forms discussed under rejection, nonoccurrence, and non-knowing. The relevant tenses the children used to signal denial in the present study are the reduced present progressive, the immediate future, and the perfective.

Of the three children, B did not produce any utterance signalling denial during the recording sessions, A produced 14, of which four were MMU, and C produced 25, of which seven were MMU. A's and C's patterns of expression of denial were superficially rather different, so they are discussed separately.

All A's MMU were produced within three days, during two separate recording sessions, and all were spontaneous. All were of the form *neg + other element*, but only one was correct, an anaphoric utterance:

(56) A 1.9,13 (Friend (F) and Brother (B) arguing about whose radio is on)

B: *yá kwáthu/* 'it's at our house'  
of at-ours/

F: *éh-eh/eh!/sí yá kwánu/* 'it's not at your house'  
eh-eh-eh!/not of at-yours/

→ A: *íyayi, lánnga/* 'no, it's mine (i.e. my radio)'  
no mine/

Not one of the four MMU used the negative stative copula, although the following clearly should have:

(57) A 1.9,13 (B and A playing with building toy)

B: *ichi chápámwamba/* 'this piece belongs on top'  
this of-on-top/

→ A: *iwe/íyayi áko/* (meaning *sí cháko* 'it's not yours')  
you/no yours/

Two used an independent SMU negative marker followed by a verb phrase:

(58) A 1.9,13 (A looking for more peanuts. Bowl empty.)

R: *kulíbe/*

→ A: *nóno uwíbe/*  
no there-aren't/

(meaning *ósati kulíbe* 'don't say there aren't any' = 'it's not true there are none')

R: *kulífétu mtedza/wáthá/*  
there-aren't-emphatic peanuts/they-perf-finish/  
'there aren't any peanuts at all/they're finished'

and

(59) A 1.9,15 (A standing on chair, playing)

B: *Annie, úgwátu/ufúná utsíke?/*  
Annie you-fall-emphatic/you-want you-get down/  
'Annie, you're going to fall/do you want to get down?'

→ A: *nonô úgwa/* (meaning *sindígwá* 'I won't fall down')  
no you-fall/

B: *úgwátu paménepo iwe, Annie/*  
you-fall-emphatic on-there you Annie/  
'you will fall down from there, Annie'

The first of these two examples should have used the negative imperative while the second did not use the negative indicative as required. All except the last used a HLHL tone pattern, which was appropriate for the morphemes used, but not always the correct pattern for denial. The only aspect which was consistently correct was the first tone, H, which is the correct tone for the negative stative copula *sí*. The possible similarity of these utterances with C's overgeneralizations is discussed below.

C was first recorded expressing denial with a SMU at the age of 1.6,19. Apart from two imitations of a MMU at 1.7,3, C produced at 1.9,18 two prefabricated patterns which foreshadowed his later overgeneralization of the negative indicative form specific to rejection to express denial. His tone patterns were more varied than A's, as can be seen below, the only consistency being in his use of the correct tone pattern for the reduced present progressive form, HL.

(60) C 1.9,18 (C playing around with food, spoiling it)

M: *ih!wáona?/wáononga zónse/*  
*ih/you-perf-see/you-perf-spoil everything/*  
 ‘do you see?/you've spoiled everything’

→ C: *nóno/fúnǎ/*  
*no/want/*

(said with negative tone = *síndífuna* ‘I don't want’ meaning  
*síndinaonónge* ‘I haven't spoilt it’)

M: *wáononga zónse/zónse/púkúta manja/*  
*you-perf-spoil everything/everything/wipe hands/*  
 ‘you've spoilt everything/everything/wipe your hands’

C did not produce any spontaneous MMU until 1.10,3, when he produced the only utterance that contained the negative stative copula. His denial was of the specific intonation pattern his sister used to say his name:

(61) C 1.10,3

M: *Tina, could you keep an eye on Napolo, please?!*

S: (coughs) *yes, Napólo!* (kisses C)

→ C: *sí pówo/iísóumu/kúúmamúnyamu/nò*  
*not Napolo/(soundplay)/no/*  
 ‘it's not Napolo’

Note that the tone of *sí* is falling, possibly to accommodate the L of the first syllable of his name that he omitted, instead of H.

Then at 2.3,18 and 2.4,1 C produced two spontaneous MMU using the form for rejection to signal denial as in (60) above:

(62) C 2.3,18 (C wants to push big truck outside on lawn at dusk)

C: *Títófa/*  
*Christopher/*

B: *m̄m?*/

C: *ufúna atsítsa lóri/* (meaning *ndifúná unditsitsíré lóli* 'I  
you-want he-get down truck/ want you to get down the truck for  
me (from the cupboard)')

B: *íyayi, kwádá/* 'no, it's dark already'  
no to-perf-dark/

→ C: *ufuna kwádá/* (said with negative tone = *síndífuna*  
you-want to-perf-dark/ 'I don't want' meaning *sikunáde*  
'it's not dark yet')

and

(63) C 2.4,1 (M reading *Mr Greedy* to C)

C: *téya/téya/*  
chair/chair/

M: *yes, that's right, it's a chair!* (continues reading)  
*"That was a delicious breakfast"!*

→ C: *ufuna mpándo/* (said with negative tone = *síndífuna* 'I don't  
you-want chair/ want' meaning *sí mpando, ndi chair* 'it's not  
*mpando, it's a chair*')

Clearly, denial was far from acquired by the end of the study. Neither the tone pattern nor the appropriate morphology were used correctly together or separately. However, despite the apparent lack of similarity between A's and C's utterances signalling denial, it appears that both A and C could have been using an extraposition strategy, in A's case using the anaphoric negative marker, and in C's case using his prefabricated pattern originally learned to signal rejection. The tone pattern of *íyayi*, the SMU and anaphoric negative marker, is HL. Likewise that for the negative indicative reduced present progressive with the verb *-funa* 'want' to signal rejection (as for other verbs in the same tense) is also HL, as it may be for the negative stative copula + complement, depending on the tone of the complement, the negative stative copula taking a H. Thus, A's utterances (56), (57), and (58) may actually arise from a similar overgeneralization to C's (62) and (63). Chimombo [1981b] suggested that some of the earliest negative utterances of the form *neg + other element* which were not clearly syntactic could in fact be evidence of an early extraposition strategy to

mean *I don't want x*. In view of the overgeneralization patterns of C in nonoccurrence and denial and of A in denial utterances, it seems that Greenfield and Smith [1976] were right in suggesting that rejection is the primary negative category from which all other categories of negation evolve.

The pattern of development of the expression of denial again seems rather different from that of Lb or L2 acquisition. In Lb acquisition, the negative indicative was used first, but correctly, with a variety of verbs other than *-funa* 'want', and in a variety of tenses, from the age of 1.10. There was no overgeneralization of the verb form for rejection. Only one utterance using the negative stative copula, correctly, was recorded, at 2.4. In L2 acquisition, the negative stative copula was first used correctly, but then the child attempted to treat it like the negative indicative marker, which it resembles in the latter's base form, but conjugating it from *si* to *s-a-* ('not-he-' in the indicative) without a main verb. He then went back to using the correct invariant form. He was not recorded using the full negative indicative form to express denial.

**4.7. Cessation and disappearance.** Since only one utterance was recorded in the category of cessation, produced by C at 2.2,30, the pattern of development of the syntactic expression of cessation cannot be discussed. This one utterance evidenced the same pattern of reduction of the negative indicative marker found in the other categories which use the negative indicative form. The lack of utterances expressing cessation is probably due to the fact that only utterances which normally have a syntactic negative marker were analyzed in the present study, not those which are overtly affirmative but with negative meaning (such as *stop*). The same observation holds for disappearance, in which category no utterances were recorded.

## 5. Discussion

The above presentation has shown that, at least for C, the acquisition of Chichewa negation was neither easy nor fast. In fact, it is impossible to state that C had actually acquired competence to express even one of the semantic categories of negation considered above with complete accuracy. All that can be mentioned is the order of frequency of each of the semantic categories in a syntactic (as opposed to anaphoric) MMU and the order of appearance of these same categories, remembering that this is in no way to be taken as indicative of absence of error. For A and B, of course, the data cover too short a period to do even that, but for C the order of frequency of MMU was as follows:

(64)	Rejection:	311
	Nonoccurrence:	43
	Negative Permission:	33

Nonexistence:	29
Negative Command:	15
Denial:	7
Not-knowing:	2

Notice the overwhelming preponderance of utterances expressing rejection: well over twice as many utterances expressed rejection as expressed all the other categories put together. C's order of appearance of syntactic expression of each category was completely different:

(65)	Negative Permission	at 1.9,1
	Nonexistence:	at 1.10,1
	Nonoccurrence:	at 1.10,3
	Denial:	at 1.10,3
	Rejection:	at 1.10,12
	Not-knowing	at 2.0,16

Four of the categories appeared more or less simultaneously: nonexistence, nonoccurrence, denial, and rejection. The latest to appear, not-knowing, was also the least frequently attempted category.

The data have interesting implications for the identification of universals in language acquisition. Of particular importance is the widespread overgeneralization of the negative indicative form for rejection, *síndífuna* 'I don't want' to contexts where the semantic intention was clearly not rejection, but either nonoccurrence or denial. Chimombo [1981b] hypothesized that *no*, which as a single word was most frequently used to signal rejection in the L1 acquisition of English negation, was overgeneralized "to situations where, pragmatically, [the child] had to specify the object or event being rejected. These latter situations, however, require a full syntactic form in which the negative is in the higher clause" [Chimombo 1981b:199]. Thus utterances of the form *no + other element*, e.g. *no guitar* [Chimombo 1981b:199], actually meant *I don't want you to x*, in the example given *I don't want you to play the guitar*. Greenfield and Smith [1976:176] also point to a similar interpretation of the utterance *no cracker*, which could mean *I don't want to eat a cracker* apart from other possible meanings.

Previous studies of both L1 and L2 acquisition of negation have suggested that *no* is a sentence-external element. For example, Klima and Bellugi [1966] give examples of non-anaphoric negatives of the form *no + nucleus*, while Wode [1977] claims that the first stage is sentence-external anaphoric negation. Park [1979], however, questions the validity of Wode's stages on the basis of his own research into the acquisition of negation in German. Furthermore, in the present

study, although anaphoric negation first appeared in C's speech at 1;7,29, it was never a major form of negation, with less than ten utterances of all three children being anaphoric negatives. It now seems possible to suggest that Klima and Bellugi's and Wode's data be reexamined to find out whether the children were in fact attempting an elementary kind of negative transportation from the lower to the higher clause.

In the present study, a lot of evidence has been found for the treatment of the prefabricated pattern *síndífuna* 'I don't want' in its various forms as a single unit, possibly comparable to the use of *no + other element* found by Chimombo [1981b] in the L1 acquisition of English negation. This interpretation is reinforced by two facts. First, the tone patterns for the single word *íyayi* 'no', the negative indicative form for rejection *síndífuna* 'I don't want' and for nonoccurrence events in the reduced present progressive tense, and the negative stative copula with a low-toned noun are similar, HL. Secondly, the loan word *nóno* was also assigned a HL tone pattern and was used by A in denial utterances to produce equivalents of *no + other element*. These facts suggest that children learning Chichewa may frequently (not always, as the study of Lb acquisition of Chichewa negation [Chimombo 1981a] has shown) overgeneralize the single-word negative marker or the negative indicative form for rejection to contexts where these forms are inappropriate in the adult system, possibly on the basis of tone.

With respect to tone, the children appeared to have acquired the tone patterns of four subcategories of negation: rejection, not-knowing, negative permission, and nonexistence. However, in the case of not-knowing this conclusion is very tentative, given the fact that only two MMU were recorded in this category.

The tone patterns for the full adult system for each subcategory of negation are compared with the children's varied tone patterns in Table I (following page). The actual tone patterns used by the children are aligned with the target patterns. As can be seen, the children showed quite wide variation in the tone patterns they used, although C was far more variable than A and B. There is agreement in tone patterns only on rows a1, b2, d4, g11, k14, l15, m16, n20, o24, and q29. Twenty-five of the actual tone patterns the children used began with a H tone, and only seven began with a L. The target tone patterns begin with a H 12 times and with a L seven times. Thus, it appears that the H tone is twice as salient for children, possibly because it is easier to perceive. Clearly, however, despite the children's use of tone in preference to morphology to signal the contrast between affirmative and negative utterances in Chichewa until they had mastered the full adult forms, the acquisition of syntactic tone rules is not as simple as might be thought on the basis of previous studies of lexical tone.

With respect to the implications for phonological theory, recent studies on Bantu tonology (cf. in particular Mtenje [1986, 1987]) have argued that a more revealing analysis of tone in Bantu verbs is that which posits tone melodies in a

**TABLE I:** Target vs. Actual Tone Patterns in the Acquisition of Chichewa Negation

Semantic subcategory of negation	Target tone pattern	Actual tone pattern
Rejection	a. HLHL (5)	1. HLHL (11)
	b. HL (6)	2. HL (7), (10), (11) 3. HLH (8), (9)
Nonoccurrence	c. HL (12)	4. LHL (16), (23) 5. HLHL (24) 6. HL (17) 7. HLH (19) 8. HL (18) 9. HLHL (20), (22) 10. HLH (21)
	d. LHL (13)	
	e. HLHL (14)	
	f. LHL (15)	
Not-knowing	g. HL (25a)	11. HL (28)
	h. HLHL (25b)	12. HLH (29)
	i. HLH (26a)	
	j. HLHL (26b)	
Negative Command	k. HLHL (30a-c)	
	l. LHL (30d)	14. HLHL (35a-b)
		15. HLH (31), (32a), (33b)
Negative Permission	m. LHL (37a-b)	16. LHL (38a), (41), (44)
		17. HL (38b), (39a), (41), (42), (43b)
		18. HLH (39b), (42b), (43c)
	n. LH (37c)	19. LH (39c)
		20. LH (40a)
		21. H (40b) 22. HL (43a)
Nonexistence	o. LHL (45), (47)	23. HL (48), (49b)
		24. LHL (49a,d), (50), (51), (53), (54)
		25. LH (49c)
		26. HLH (52)

Denial	p.	H+noun (55)	27.	HL+(pro)noun (56), (57), (61)
			28.	HL (verb)+HL (noun) (63)
	q.	HLHL (30a-c)	29.	HLHL (58)
	r.	LH (13c)	30.	LHLHL (59)
	s.	LHL (15)	31.	HLH (60)
		32.	HLHLH (62)	

(Numbers in brackets refer to examples in text.)

lexical subcomponent of their own. Morpho-syntactic elements such as negative markers, tense markers, etc., are then specified as selecting any of those tone melodies. Once the tone melodies have been so selected, the entire tone pattern is superimposed on the relevant morpho-syntactic domain, from where it is mapped onto the tone-bearing elements through a combination of language specific rules and independently motivated general association conventions of autosegmental theory.

Now the present study of the acquisition of syntactic tone offers additional support for the postulation of tone patterns and the assignment of such patterns to entire morpho-syntactic domains. We have noticed that children acquiring tone in negation in Chichewa acquire entire tonal patterns associated with certain linguistic domains, regardless of the number of syllables that individually form that word or domain. This shows that the children are giving more recognition to the tone pattern characterizing that domain than to the individual syllables involved. This fact is confirmed by such errors as misapplication of the rule of Tone Doubling. Thus, since the children show evidence of acquiring entire tone patterns, the existence of such patterns, postulated on independent grounds in Mtenje [1986, 1987], cannot be denied. The independence of tones from the morpho-syntactic and phonological units which actually bear them also supports the long-standing discovery of autosegmental phonology, which regards tone as being separate from its bearing units.

The data further reinforce the observation that it is essential to consider both function and form together before the child can be credited with having acquired a language, but in the case of a language which has syntactic (and, therefore, semantic) tone, the child has the additional task of matching function, form, *and* tone before s/he can be said to have acquired the language. In this study we are, therefore, forced to conclude that not one subcategory of negation was completely acquired. Even for those subcategories where the tone pattern was apparently mastered, there was not sufficient evidence to conclude that the early pattern of reduction of both tone patterns and morphology had been entirely abandoned. It is also possible that the patterns of overgeneralization from one semantic subcategory to another continued after the end of the study.

Finally, the data also reinforce the necessity to consider the acquisition of negation (as of other subsystems of the language) from the earliest stages, otherwise the continuity and discontinuity of development from the single word through to syntactic expression of semantic function is not observed, nor is it always possible without the data on the single-word utterance to identify patterns of overgeneralization [Greenfield and Smith 1976].

The present study has merely added to the gradually accumulating data on the acquisition of non-European languages and, being essentially a case study of one child, cannot do more than suggest possible trends in the acquisition of Chichewa. Nonetheless, partial answers to at least some of the questions Li and Thompson [1978:272] asked have been given, particularly the questions on chronology of acquisition ("What is the relationship between the time when the child has mastered the tone system and the time when [the child] has mastered the segmental system of [the child's] language?"), deviations from the adult norm ("What range of substitutions do children make for tones which they have not yet mastered or acquired which occur in the adult language?"), and tone rules ("At what stage of the acquisitional process are tone rules acquired?"). As the study continues, with data not yet analyzed and more data collected from additional children, hopefully a clearer picture will emerge of the patterns of interaction of tone, syntax, and semantics in the acquisition of Chichewa negation.

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