CHAPTER THIRTEEN

THE ACQUISITION OF BANTU LANGUAGES

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1 INTRODUCTION

The systematic study of Bantu language acquisition began with Lwandle Kunene's (1979) dissertation on the acquisition of Swati. Subsequent studies of other languages (Nguni languages Zulu and Xhosa, Sotho languages Sesotho (henceforth Sotho) and Tswana, Malawian Chewa and the Gabonese language Sangu), have examined various aspects of children's language acquisition. While there are typological characteristics common to these and other Bantu languages, there are also different linguistic details that influence the course of acquisition in important ways. Thus, a comparison of the acquisition of Bantu languages offers an extremely rich area for research, providing insights not only into how language is learned, but also into the possible impact that language learning may exert on processes of historical change.

A brief summary of the Bantu acquisition literature by language is provided below. Children's ages are represented as follows: 2;11 = 2 years 11 months.

1.1 Swati

Kunene (1979) studied the acquisition of Swati nominal morphology, focusing on noun class prefixes and nominal agreement (possessives and demonstratives). Data are drawn from spontaneous speech samples and informal elicitation sessions with two children aged 2;2–3 and 2;11–3;6, and an experimental study with three children aged 4;6–6 years.

1.2 Zulu

Many of the Zulu acquisition data are drawn from a longitudinal spontaneous interaction study of three children aged between 1;10 and 3;5, plus data from other children collected for shorter periods of time (Suzman 1991). Studies investigate the acquisition of the noun class system (Suzman 1980, 1996), agreement (Suzman 1982), and passives (Suzman 1985, 1987). These topics, as well as the acquisition of relative clauses and tone (including an elicited production experiment with nine Natal children 2;6–4 years old), are discussed in Suzman (1991).

1.3 Xhosa

Most of the Xhosa research has examined the acquisition of consonants. Mowrer and Burger (1991) examine the acquisition of consonants with 2;6–6-year-olds, including clicks. Lewis (1994) and Lewis and Roux (1996) investigate the acquisition of clicks in

an experimental study of 41 Xhosa-speaking children aged between 1;6 and 5;5 from near Cape Town.

1.4 Tswana

Tsonope (1987) conducted a longitudinal study of two Tswana-speaking children in Botswana aged 1;11–2;6 years and 2;5–3 years, focusing on the noun class system and nominal agreement with possessives and demonstratives, with some discussion of tone and disyllabic word 'templates'.

1.5 Sotho

Connelly's (1984) semi-longitudinal study of noun class prefixes examined two urban and two rural children in Lesotho aged 1;6–4;2 years. There is also a brief discussion of the acquisition of clicks. Demuth's (1984) longitudinal spontaneous production study of four rural children in Lesotho (aged 2;1–3;0, 2;1–3;2, 2;4–3;3 and 3;8–4;7 years) provides the data base for much of her subsequent work. Research has focused on question and prompting routines (Demuth 1984, 1987a), as well as the acquisition of word order (Demuth 1987b), the noun class and agreement system (Demuth 1988, 2000; Ziesler and Demuth 1995), passives (Demuth 1989, 1990), morphophonology (Demuth 1992a, 1994), the tonal system (Demuth 1992b, 1993, 1995a), relative clauses (Demuth 1984, 1995b), and applicative constructions (Demuth 1998, Demuth *et al.* 2000), including experimental data from 3–8-year-olds and adults. See Demuth (1992b) for a review of earlier work.

1.6 Chewa

Chimombo (1981) focuses on the acquisition of negation in English/Chewa bilingual children and monolingual Chewa-speaking children in Malawi between 1 and 2;6 years. Using data from spontaneous speech interactions with three Malawian children between 1;0 and 2;6, Chimombo and Mtenje (1989) examine the role of tone, syntax, and semantics in the acquisition of the Chewa negation system.

1.7 Sangu

The only acquisition study of a Bantu language outside southern and eastern Africa is that of the Gabonese language Sangu (B42) (Idiata 1998). Data were collected in a series of comprehension and elicited production experiments and narrative storytelling tasks with 2–13-year-olds and adults. The study examines morphosyntactic phenomena including noun class prefixes, nominal and verbal agreement, locatives, and verbal extensions such as the causative, applicative, imperfect, reversive, stative, durative, and passive. A CD-ROM containing the images used in the experiments and one of the first grammatical sketches of the language are also included.

The rest of this chapter is organized as follows: section 2 presents findings on the acquisition of the nominal system, including both noun class prefixes and agreement. Section 3 considers the acquisition of the verbal system, including inflectional and derivational morphology as well as various syntactic constructions. Section 4 addresses the acquisition of tone and clicks: Observations regarding other segmental and prosodic phenomena are included throughout the text. Section 5 concludes with a discussion of the theoretical import of acquisition research for the study of Bantu languages, and identifies areas for further research.

As many of the above issues have been investigated in Sotho, examples from Sotho will be used when appropriate. Speech directed towards children will be referred to as 'child-directed speech', 'caregiver speech' or 'the input', to be distinguished from 'adult-directed speech'. Both the child's utterance and the adult target (the intended/attempted utterance) are provided – either along side or underneath the child's utterance in parentheses. Children's utterances have tone marked when available (high = ′, mid = +, low = unmarked). Examples are provided in phonemic form.

2 THE ACQUISITION OF BANTU NOUN CLASS AND AGREEMENT SYSTEMS

Much of the Bantu language acquisition research has focused on the morphological system, especially on nominal morphology. Of particular interest is the question of what happens in a language where both plurals and singulars are morphologically marked. Is the singular taken as 'unmarked', and/or treated as an unanalyzed whole with the plural added to it (Peters 1983)? What about the acquisition of morphological paradigms with 'holes' (e.g. ø marking for class 9 in many Bantu languages)? Are such gaps in the paradigm filled (Slobin 1985)? Given the residual semantics of the Bantu noun class system, do children use meaning to learn the noun class system (Demuth 2000)? How might the learning of Bantu noun class systems effect processes of historical change (Demuth *et al.* 1986)?

2.1 Noun class prefixes

Acquisition studies of Bantu nominal morphology report very similar findings. First, it appears that both singular and plural noun class prefixes are segmented as separate morphemes early on: there are no cases of plural morphemes being added to singular stems, nor of noun class prefixes being incorrectly added to nouns that have no prefix (Kunene 1979, Suzman 1980, 1982, 1991, 1996, Connelly 1984, Tsonope 1987, Demuth 1988, Idiata 1998). Monosyllabic stems provide the only evidence that children might be acquiring prefix and stem as a unit (Kunene 1979, Tsonope 1987, Idiata 1998), a phenomena for which there are prosodic explanations (Tsonope 1987, Demuth 1996). Furthermore, although singulars are more frequent than plurals in everyday discourse, there is no evidence that the acquisition of plural noun class prefixes is delayed.

All studies of the acquisition of Bantu noun class prefixes report the following three partially overlapping stages of development during ages 2–3:

(1) Development of noun class prefixes
  (a) No prefixes (full or partial noun stems)
  (b) 'Shadow' vowel and nasal prefixes
  (c) Full and phonologically appropriate noun class prefixes

The first two of these are illustrated in the following Sotho examples, both spoken on the same day (cf. Demuth 1988:309):

(2)	(2;1 years)	*Child*		*Adult target*
		(a) *pônko*	<	*li≠phɔ́qɔ*
		(b) *apóko*		'green corn stalk'

Noun class prefixes were generally used in their correct form by 2;6–2;8 years in Swati and Sotho (Kunene 1979, Connelly 1984:80, Demuth 1988:310). Suzman (1980) reports the appearance of noun class prefixes somewhat earlier in Zulu, suggesting that the pre-prefix may facilitate earlier emergence of noun class prefixes. Tsonope (1987) and Suzman (1980) suggest that the phonological shape of the shadow vowel might actually be the overgeneralization of noun class 9 *e-* for Sotho and Tswana (though note *a-* in (2b) above), and 'human class' 1a *u-* and 'default/loan word' class 5 *i-* in Zulu. More research is needed to determine if children's use of shadow vowels indicates an attempt to lump all nouns into one 'class', or is merely a morphological place holder, the phonological shape of which is yet to be determined (Peters 1997).

Once full noun class prefixes begin to be produced there is no evidence of semantic overgeneralizations, 'paradigm regularization' or 'plural overgeneralization'. The only 'error' comes from a child at 1;9 years selecting the more common class 10 prefix for a class 9/6 noun. By 1;11 years the correct class 6 plural was used (Connelly 1984:81).

It is remarkable that the acquisition of noun class prefixes should be so similar across Bantu languages. Kunene (1979:76–81) suggests that children have morphologized nouns, producing the more semantically contentful stem early on, ruling out the possibility that either penultimate lengthening or the high tone on Swati noun class prefixes contributes to the production of bare nominal stems at initial stages of acquisition. She also reports that Swati-speaking adults never omit noun class prefixes (though it is not clear if this includes child-directed speech), and children are therefore never provided with input that includes prefix-less nouns (though see Ziesler and Demuth 1995). In contrast, Tsonope (1987) argues that child-directed prefixless nominal input provides Tswana-speaking children with a Low–High toned disyllabic template, and that this is the source of children's early prefixless nouns. However, if Kunene is correct in claiming that Swati-speaking adults never omit noun class prefixes, the input explanation for Tswana will not be able to account for the cross-linguistic use of prefixless stems.

There is an alternative explanation for the occurrence of children's early CVCV nominal forms, which Kunene (1979) also notes. Many Bantu languages exhibit penultimate lengthening, a feature which has sometimes been called penultimate 'stress'. Allen and Hawkins (1980) suggest that children have a universal tendency to omit pre-stressed syllables and to produce trochaic feet. While the cross-linguistic relevance of this proposal has been controversial, it would appear that young children learning Bantu languages do tend to produce early disyllabic trochaic feet (Demuth 1992a, 1994, 1996).

The lack of noun class overgeneralization in spontaneous speech contrasts with Kunene's (1979) experimental results from Swati-speaking 4;6–6 year olds where there is difficulty with singular/plural pairs. When asked to form the plural of a novel (new) noun, children marked most plurals appropriately, but nouns from class 11 *lu-* were rendered as class 5 *li-*, and class 9 *in-* plurals were given as class 6 *ema-* rather than class 10 *tin-*. Class 2a *bo-* was added to class 1 nouns – *umu-ntfu* 'person' > *bo-mu-tfu* (class 1a has ø prefix), as well as to nouns from classes 14 and 15 that normally do not take plurals – *bu-so* 'face' > *bo-bu-so, ku-dla* 'food' > *bo-ku-dla*. Furthermore, class 7 *si-* and 8 *ti-* were given with only the vowel *i-*. Some class 9 nouns take class 6 plurals in Swati; thus children's over-production of class 6 *ema-* is the type of 'error' one might expect. The other noun class overgeneralizations are systematically phonological and morphological rather than semantic. Interestingly, these same children never made such errors in spontaneous speech.

2.2 Nominal agreement

The acquisition of Bantu nominal agreement again shows remarkable cross-linguistic uniformity, sharing the following partially overlapping 'stages' of development (Demuth 1988).

(3) Development of nominal agreement markers
  (a) Shadow vowel
  (b) Well-formed morphemes

Appropriate marking of possessive and demonstrative agreement is in place by 2;4–2; 6 years, well before nouns are consistently marked with prefixes (Connelly 1984:102).

(4)	*Child*	*Adult target*
(1;9 years)	*kwɪna a-ka!*	*ma≠kwɪnya a-ka*
		6-fat-cakes 6POSS-my
		'my fat-cakes'
(2;3 years)	*ekausi tsa-ka*	< *di≠kausi tsa-ka*
		10-socks 10POSS-my
		'my socks'

Kunene (1979:99–103) does report a Swati-speaking child at 2;2 years using the class 7 possessive agreement form *sa-* instead of class 8 *ta-* to refer to *ti-cathulo* 'shoes', and there are occasional examples of other possible 'errors', where a class 1 possessive agreement marker *wa-* was used instead of class 9 *ya-* (note, however, that both involve glides). The spontaneous speech findings contrast once again with experimental Swati findings that indicated a tendency to collapse class 11 *lwe-* agreement with class 5 *le-*. It would appear there is no class 11 for young Swati speakers.

2.3 Summary

In sum, the acquisition of the Bantu noun class system is in place by the age of 3, showing no systematic semantic or other overgeneralizations. Development follows three overlapping 'stages', indicating that children have some knowledge about the shape of specific noun class prefixes from an early age. This is supported by the fact that possessive and demonstrative agreement is in place several months before nouns are consistently marked with fully formed prefixes.

Performance factors, perhaps involving word formation constraints, may be responsible for early variable production. This would be expected if children's early word shapes consist of disyllabic feet; both possessives and demonstratives are disyllabic, being composed of the CV- agreement prefix plus the monosyllabic possessive or demonstrative stem. Further work on prosodic constraints on early word formation, especially with monosyllabic and multisyllabic nominal stems, will hopefully provide a better understanding of how Bantu noun class and agreement systems are acquired.

The relatively early and 'error free' acquisition of Bantu noun class and agreement systems suggests that learning complex morphological paradigms is easy when they are phonologically transparent. Further support for this hypothesis comes from the acquisition of languages where errors consist of phonological overgeneralizations like the Swati class 11 > 5 mentioned above (Demuth 1988). This type of phonological leveling apparently took place in languages like Sotho that have no class 11 today. Thus, phonological

similarity, combined with frequency effects, may induce various aspects of morphophonological historical change (Demuth *et al.* 1986, Demuth 2000).

3 THE ACQUISITION OF BANTU VERBAL MORPHOLOGY AND SYNTACTIC STRUCTURES

Bantu languages also possess rich systems of verbal inflectional and derivational morphology. The acquisition of subject–verb agreement and tense/aspect marking has played a major role in the recent acquisition literature, the early lack of such morphemes being taken by some as a sign of impoverished syntactic representations (cf. Demuth 1992a, 1994). Given the complexities of the tense/aspect system of many Bantu languages (Ch. 7), information about how these systems are acquired might provide some insight into how cross-linguistic differences in this area arose. Finally, the rich set of verbal extensions provides an extremely interesting area for examining the acquisition of various grammatical phenomena.

3.1 Subject and object markers

The morphological development of subject markers in Bantu languages is similar to that reported for noun class prefixes above:

No marking > shadow vowel > well-formed morphemes

Again, these three developmental phases are not discrete, but overlap to some degree. Kunene (1979:85–91, 244) reports the use of bare verb stems in Swati at 2;2 years, with shadow vowels *a* or *i* around 2;3 years. The shadow vowel is generally *a* or *e* for Sotho (5) (Demuth 1988:312). Sotho and Zulu caregivers, when using 'baby-talk' with children, also tend to use the shadow vowel *a* in place of the subject marker.

(5) (2;1 years)
a lahlíle
(*ki-di≠láhl-il-e+*)
1SSM-10OBJ-throw away-ANT-FV
'I threw them away.'

Around 2;4–2;5 years the first phonologically appropriately subject markers begin to appear. Idiata (1998) notes that these are in complementary distribution with tense/aspect markers, raising the possibility of morphophonological constraints on children's output forms. Consistent use of phonologically well-formed subject markers in all these languages appears somewhat before 3 years, about the same time as the marking of noun class agreement, though some collapsing/coalescence of subject marker and tense/aspect marker may persist, being more consistently differentiated by 3 years. Both Kunene (1979) and Idiata (1998) find overgeneralization of subject markers in storytelling tasks where human/animate referents that do not belong to class 1/2 are subsequently referred to with class 1/2 agreement. However, this is the norm in adult speech as well.

Like the rest of the agreement system, the development of object markers (and reflexives) exhibits the familiar pattern below, with the first object markers appearing between 2;6–3 years in Sotho, many being 1st person singular nasals, especially in imperatives (Demuth 1992b).

No marking > shadow vowel > well-formed morphemes

In Kunene's (1979) experimental study of Swati-speaking 4;6–5;11-year-olds, children used the class 1 object marker *m-* instead of class 3 *wu-* (the prefixes on the corresponding nouns are both *umu-*) and class 5 *li-* instead of class 11 *lu-*. Once again, Swati-speaking children make phonologically based generalizations about the noun class and agreement system in experimental conditions, collapsing classes 11 and 3 with phonologically similar classes 5 and 1 respectively.

Once object markers and reflexives are recognizable there is no evidence in Sotho of both being used in the same construction, nor are there attempts to use two object markers with ditransitive verbs. Both are ungrammatical for Sotho, but acceptable for closely related Tswana. It is not clear how and when children learn these language-specific differences.

3.2 Tense, aspect, mood, and negation

Bantu languages are known for their highly complex tense/aspect and negation systems (Ch. 7), yet there has been no systematic study of the acquisition of the tense/aspect system or negation in any Bantu language. Demuth (1992b) reports on one child's acquisition of Sotho tense/aspect and mood, where high-frequency tense/aspect forms such as present, anterior, and various futures are used at 2;1 years, though sometimes phonologically ill-formed. Around 2;5 years continuous, past continuous, recent past, potential, and hortative all appear. A month later the copula verb and the narrative past marker on subject markers appear, followed by the persistive at 2;9. Finally, the past and conclusive are used. Less is known about the acquisition of mood, though subjective/permissive questions are also used by 2–3-year-olds.

Chimombo and Mtenje (1989) report that three Chewa-speaking children all use several different semantic forms of negation by the age of 2 (negative permission, non-existence, non-occurrence, denial, rejection, not-knowing). These forms are used with a general High–Low tone 'melody', even when such constructions do not appear with an initial High tone. They suggest that negation is represented early in children's speech with a specific, autosegmental tonal melody that is overgeneralized to various syntactic and semantic forms of negation. Thus, by the age of 2, children learning Bantu languages may have some knowledge of negation and some of the grammatical means by which it is encoded. It is possible that these become increasingly more specified as the tense/aspect system and the concomitant marking of grammatical tone begin to be acquired over the next year.

3.3 Extraposition and topicalization

Bantu languages are notable for their flexibility in word order. Most children learning Bantu languages use basic (S)V(O) word order prior to 2;6 years, even when a switch to a different word order might facilitate communication (Demuth 1987b:98).

Subject postposing in Sotho comes in strongly around 2;6 years. This may be about the time that children realize their language is a null-subject language, that lexical subjects are optional, and that these can be extraposed.

(6) (2;6 years)
í-á-tsamay-a koloi yá:ka
(*í-á≠tsamay-a kolói yáka*)
9SM-PRES-go-FV 9car 9POSS-my
'It's going, my car.'

The use of postposed lexical objects increases around 3 years, once object markers are more consistently realized, and preposed, or topicalized objects become increasingly common around 4;6–5 years (Demuth 1987b).

In sum, it appears that children learning Bantu languages begin to use some of the word order possibilities of these languages in appropriate discourse contexts by 2;6 years, but that some flexibility with word order may await the more consistent realization of subject and object markers.

3.4 Applicatives and other verbal extensions

Relatively little is known about the acquisition of Bantu verbal derivational morphology (though see Demuth 1992b, Idiata 1998). However, children's early use of applicatives seems to be productive both in frequency and in the different verbs used, with Sotho-speaking 2–3-year-olds using applicatives with both intransitive (unaccusative and unergative) and transitive verbs (Demuth 1998, Demuth *et al.* 2000). Evidence of early 'productivity' comes not only from the wide range of verbs used in the applicative, but also from occasional morphophonological 'errors' (e.g. *tselela* < *tsella* 'pour for'), and from the lack of ability to handle multiple derivational morphemes (Demuth 1998, Idiata 1998).

Bantu languages differ in the order of objects permitted in ditransitive applicatives, some allowing either order of objects after the verb (symmetrical languages), and others being more restrictive (asymmetrical languages) (Chs 6, 9). In Sotho either order of objects is permitted when both have equal animacy. However, when the animacy of the objects differs, the animate object must be placed next to the verb. Most Sotho-speaking 2–3-year-olds' ditransitive applicative constructions include an animate and inanimate argument, as does adult speech. However, there were few cases of ditransitive applicatives where both objects are lexical. Rather, the animate/benefactive argument is generally pronominalized, the inanimate/theme argument often being realized as a null argument (Demuth 1998:793).

Thus, despite the extensive literature on applicative constructions in comparative Bantu, double object applicatives appear to be rare in everyday discourse, raising questions about how these constructions are learned. Experimental evidence shows that even 8-year-olds are not yet adult-like in their placement of animate applicative objects immediately after the verb (Demuth *et al.* 2000). Perhaps the low frequency of these constructions, and the subsequent protracted learning curve, give rise to some of the double object word order variation seen in Bantu languages.

3.5 Passives

The grammatical structure of passives in most Bantu languages closely resembles passive formation in languages like English (this volume, Chs 6, 9; Demuth 1989). It is therefore interesting to compare the acquisition of passives in Bantu languages with that of English, where the reported lack of passives in children's early productions fostered the claim that passives were linguistically/cognitively difficult to acquire (Pinker *et al.* 1987).

It has been surprising, then, to find that children learning Bantu languages such as Sotho, Zulu, and Sangu start using passive constructions productively around the age of 2;8 (Demuth 1989, 1990, Suzman 1991, Idiata 1998). At this time there is an increase in both the total number and percentage of passives produced, as well as an increase in the creative (non-rote) use of passives, many of which employ by-phrases, some of these with non-animate agents.

(7) (2;8 years)
ɷ-tla-hlaj-uw-a kɪ tshɛhlɔ
(*ɷ-tla ≠ hlaj-w-a kɪ tshɛhlɔ*)
2SSM-FUT-stab-PASS-FV by 9thorn
'You'll be stabbed by a thorn.'

It appears that children learning Bantu languages have access to the formation of syntactic passives several months prior to that reported for English (Pinker *et al.* 1987). Demuth (1989) suggests that this may be due to the high frequency with which passives are used in the input children hear: approximately 6 percent of adult verbal utterances spoken to young children in Sotho contain a passive, contrasting with almost none in child-directed English (Brown 1973).

There are two explanations for why Bantu passives are so frequent. First, many Bantu languages can passivize both accusative and dative arguments, as well as many stative verbs. Many Bantu languages must also use a passive or cleft to question subjects, and much child-directed speech consists of subject questions. While only a few of children's early passives are questions, the high frequency of question-passive input provides early and ample practice with comprehension of passives, thereby facilitating early production.

3.6 Relative clauses and cleft constructions

The acquisition of relative clauses and cleft constructions also become productive quite early, around 2;5 years (Demuth 1984, 1995b, Suzman 1991). Subject relative markers are generally present, while object relative markers are frequently absent, or a demonstrative pronoun is used instead.

In the majority of Sotho-speaking 2–3-year-olds' relative clauses the subject of the embedded clause is the object of the main clause. However, some relative clauses were headless, the head noun having been used in the previous discourse. As in many Bantu languages, Sotho cleft constructions incorporate a relative clause. We might then expect cleft constructions to be acquired at about the same time as relative clauses, and this is the case: there is a burst in the use of cleft constructions at 2;5 years, many of them questions (RL = verbal relative suffix).

(8) (2;5 years)
kí: nthéɷ ka moɷ kí fuwáng?
(*kí íŋ nthɔ́ éɷ ká móɷ yéɷ kɪ-ɪ≠fúdú-á-ŋ́?*)
COP what 9thing 9DEM PREP here 9REL 1SSM-9OBJ-stir-FV-RL
'What is this thing in here that I'm stirring?'

Like passives, relative/cleft constructions seem to be much more frequent in early Sotho and Zulu than in English. This is probably again due to the high frequency of cleft and relative constructions in Bantu languages. Part of this frequency may be due to the frequent use of cleft questions in the input – an alternative to passives when questioning subjects.

3.7 Locatives, impersonal, and existential constructions

Bantu languages vary greatly in the retention or loss of the locative noun class prefixes (classes 16, 17, and 18) (this volume, Ch. 8), yet there has been little study of how

children use these prefixes in languages that have preserved them. Idiata (1998) finds that even young children use the class 17 noun class prefix early on, whereas the systematic use of classes 16 and 18 in experimental contexts is better with 7-year-olds, but not perfect with adults. Remnants of class 17 survive in languages like Sotho, where the rest of the locative noun class system has been lost. It would be interesting to know if class 17 in Sangu and other Bantu languages has higher frequency of overall use and/or special semantic characteristics that might contribute to its earlier acquisition and preservation over time. Most of the other research on the acquisition of Bantu locatives has been couched in terms of the acquisition of suffixes as opposed to prefixes (Kunene 1979:92–6, Connelly 1984:92), where the invariant locative suffix is acquired as early as 1;7 months and with little apparent difficulty.

In Bantu languages like Sotho which no longer have productive locative prefixes the class 17 noun class prefix *hɷ̀-* functions as a expletive/existential (Demuth and Mmusi 1997). Sotho-speaking children's first uses of class 17 are in existential constructions, weather constructions, and idioms. The first uses of class 17 with verbs occurs around 2;8 years, where the verbs have been passivized (Demuth 1989).

(9) (2;8 years)
hɷ̀-tla≠shap-uw-a Dineo enwa
17SM-FUT-lash-PASS-FV D. 1DEM
'That Dineo, she will be lashed.'
Lit: 'There will be lashed Dineo, this one.'

Given the variation in such constructions across Bantu languages, further research in this area, and the potential implications for acquisition pressures on language change, would be most interesting.

3.8 Summary

In sum, studies of the acquisition of Bantu language syntax indicate that applicatives, high-frequency tense-aspect markers, passives, clefts, relative clauses, locatives, expletives, and extraposition of subjects and objects are all productive in Bantu languages before the age of 3. This is not to say that knowledge of any of these constructions is adult-like, but rather that children have some working knowledge of appropriate grammatical use. To the extent that the morphological and syntactic structure of Bantu languages is similar, we would predict similar patterns of development across other Bantu languages, as found in the case of noun class prefixes and agreement. Interestingly, it appears that the high frequency of both passives and clefts/relative clauses in the input probably contributes to the earlier acquisition of these constructions relative to other languages.

Even so, there is much we do not know about the acquisition of Bantu syntactic structures. Little is known about the acquisition of transitivity relations or argument structure, and even less is known about the acquisition of the tense/aspect system. In addition, there has been no research on the acquisition of binding and anaphora, anaphoric reference, complementation, conditionals, and other complex sentence structures. Much more research on these topics, as well as research on more children in a broader range of Bantu languages, is needed to develop a firmer understanding of the course of Bantu syntax acquisition.

4 THE ACQUISITION OF PHONOLOGY

There has been little formal study on the acquisition of Bantu phonological systems. Most has centered on the acquisition of clicks in Xhosa and Sotho, and the acquisition of the tonal system in Sotho.

4.1 Clicks

Mowrer and Burger (1991:157) report that clicks are acquired relatively late in Xhosa, noting the 'substitution' of clicks by alveolar or velar plosives which generally preserve the voicing and place of articulation of the click. Lewis (1994) and Lewis and Roux (1996) argue that these are really 'simplification processes', where only one of the places of articulation is preserved. In a series of experiments they examine the acquisition of 15 word-medial click phonemes by 41 Xhosa-speaking children between the ages of 1;6 and 5;5. They find that simplification processes are common, as are reduction processes (click omitted but accompaniment maintained, or visa versa). Although less thoroughly studied, these findings are consistent with reports from the longitudinal Sotho data where the palatal alveolar click is first used in isolation around 2 years, and is replaced in words by /k/ until around 3 years (Connelly 1984:132–5, Demuth 1992b).

4.2 Tone

Given the extensive phonological literature on Bantu tonal systems (this volume, Ch. 5), it is disappointing that there has been little acquisition research in this area. Although research on Asian languages indicates early acquisition of lexical tone, sometimes prior to that of segments, there has been relatively little discussion of the acquisition of tonal sandhi phenomena or grammatical tone like that found in most Bantu languages.

Demuth (1993, 1995a) examined the acquisition of lexical and grammatical tone on verbs in the spontaneous speech of one child at 2;1, 2;6, and 3;0 years, finding good control over the tone of subject markers at 2;1 years, but overgeneralization of High tone onto Low-toned verbs.

(10) (2;1 years)
a itíme+
(ki≠jɪthɪm-il-e)
1sSM-jump down-AND-FV
'I am jumping down.'

By 2;6 there is significant expansion in the types of tense/aspect/mood constructions used, and the beginnings of tonal melody differentiation are discernible, especially in the imperative. At the same time High- and Low-toned verb stems become increasingly differentiated in the lexicon.

By 3 years, the tone on verbs was usually correctly marked as High or Low, and tonal sandhi, including High-tone doubling and OCP (Obligatory Contour Principle) effects have also been acquired, at least in some tonal melodies. This resulted in Low-tone surfacing on High-toned subject markers when subject markers and tense/aspect markers were collapsed into one syllable/tone-bearing unit.

Some have suggested that children's early preference for High tone on verbs is consistent with Clements and Goldsmith's (1984) proposal that children learning Bantu

languages might initially adopt an accentual (rather than tonal) analysis, like that found in Bantu languages like Tonga. However, the early preference for High tone on verbs is also consistent with an initial 'default High hypothesis'. That is, when in doubt of a verb's tone, assign it a High tone. This would also appear to be the strategy used in assigning tone to Sotho loan verbs (e.g. *púʃa* 'push').

The Sotho findings are consistent with those reported for Zulu and Tswana. In addition, both Suzman (1991) and Tsonope (1987) report earlier acquisition of tone on nouns than verbs. This may be due to the fact that nominal tones are more 'lexical', with less tonal sandhi. Tsonope (1987) also notes cases of tonal 'preservation', where tones are preserved even where segments (or tone-bearing units) are not, giving rise to contour tones. This reinforces the Sotho and Chewa findings regarding the independence of tonal and segmental tiers, providing additional evidence of young children's early autosegmental representations.

4.3 Summary of phonological development

The phonological issues receiving the most attention in Bantu acquisition, clicks and tone, have been understudied in the field of phonological acquisition in general. The findings indicate that 2-year-olds can generally produce click consonants in isolation, but that producing clicks with a following vowel as part of a word is more difficult, being acquired only around the age of 3. This is probably due to the fact that clicks do not exhibit coarticulation effects, requiring more sophisticated articulatory expertise.

Findings on the acquisition of tone are also intriguing. The acquisition of tone on nouns and subject agreement markers has taken place by the age of 2, much in the way that lexical tone is acquired in languages like Mandarin and Thai. In contrast, grammatical tone melodies on verbs, where there is much more tone sandhi, is beginning to be acquired around the age of 2;6–3 as more of the tense/aspect/mood morphology is also acquired. Prior to this time children exhibit certain fixed melody forms, some of these being used for generic negation, others (such as iterative High tones) being used for verbal constructions in general.

Clicks are not the only consonants to be acquired, yet except for Mowrer and Burger (1991), there has been no systematic study of acquisition of Bantu segments or phonological processes. Demuth (1992b) notes the simplification of Sotho affricates to stops and processes of consonant harmony, both commonly found in the acquisition of other languages. Other morphophonological processes, such as the palatalization with passives and strengthening of verb-initial consonants before reflexives and nasal object markers, take a while to learn. Finally, processes of prosodic phonology, such as phrase-penultimate lengthening, also take some time to learn, though this will need to be investigated instrumentally. Certainly, it appears that children's early productions are prosodically constrained, typically including the final disyllabic foot, but often missing syllables or onsets of syllables that fall at the left edge of the prosodic word. This raises the question of the role of penultimate lengthening in the prosodic organization of children's early phonology.

5 DISCUSSION

The acquisition of Bantu languages is a rich and interesting area of research which is still only beginning to be systematically investigated. Most of the studies to date have focused

on the acquisition of nominal morphology and agreement, with some attention paid to verbal morphology, syntactic constructions, and the acquisition of tone and clicks. Much more research, especially on the acquisition of syntax and phonology, is still to be done. Experimental methods may be especially effective at exploring some of these issues.

Yet, even with the limited number of Bantu languages investigated, the similarity in findings across languages is striking. This may be partly due to the fact that several of these languages are closely related southern Bantu languages, or it may be because most of these studies have examined the nominal system. Thus, we might expect to find more language-specific acquisition differences in areas where Bantu languages exhibit more variation, perhaps in the semantic and syntactic consequences of preservation/loss of locative noun classes 16, 17, and 18, in the tense/aspect system, or in the encoding of pronominal objects, where some languages permit one and others two. The phonological system is another area that has been little studied and where language variation abounds, in tonal systems, as well as in consonantal and vowel inventories, vowel harmony, and morphophonological processes.

Despite the need for further research, the findings from Bantu language acquisition have already had serious implications for the field of language acquisition as a whole. When compared with children learning languages like English, children learning Bantu languages seem precocious. Connelly (1984:113) suggests that children learning Sotho are 6–10 months in advance of their English-speaking peers in terms of using morphologically complex utterances, and Demuth (1989, 1990, 1995b) finds that they are several years more advanced in their use of grammatical constructions such as passives and relative clauses. Studies of other morphologically rich languages show relatively early acquisition of morphology and syntactic constructions such as passives as well (cf. Allen 1996). It appears that children tune in very early to the phonological, morphological, and syntactic constructions that are high frequency in the language(s) they are learning. This is not surprising given results from infant speech perception studies showing that even preverbal infants are extremely sensitive to statistically prominent aspects of the language to which they are exposed (cf. Jusczyk 1997 for review). More interesting, then, are aspects of the grammar that have high frequency but which are mastered later than might be expected, such as the gradual acquisition of noun class prefixes and subject markers (around 2;6–3 years). We must look elsewhere to explain the lag in acquisition of these constructions, perhaps to constraints on prosodic morphology (Demuth 1994, 1996). Also of interest are low frequency constructions such as double object applicatives, which occur extremely rarely in discourse directed to children (e.g. Demuth 1998, Demuth *et al.* 2000). In this case we expect a protracted course of development, with some individual difference found from child to child. Given the limited number of children examined in any of these studies, the issue of individual variation has hardly been addressed.

The implicit assumption throughout this chapter has been that processes of first language acquisition might influence language change. However, multilingualism is the norm in many parts of Africa. Some children learn more than one language from birth, yet there have been no systematic studies of children learning two or more Bantu languages simultaneously. It may be that large groups of adults learning a new language will influence the course of language change to a greater degree. Thus, language change may be especially noticeable when a language becomes a lingua franca, setting the scene for the loss of the tonal system in Swahili or loss of some of the plural noun class prefixes in Lingala. On the other hand, other types of language contact have given rise to the addition of grammatical complexity, as in the incorporation of clicks into southern Bantu

languages (this volume, Ch. 11). We know relatively little about the sociolinguistics of these contact situations, and the role that young language learners may play in solidifying these developments.

Finally, the study of how children learn Bantu languages forces us to consider seriously how these languages are used in everyday discourse. Much theoretical linguistic research is concerned with grammaticality judgments – i.e. what types of constructions are permitted, and how these vary from one language to the next. The study of how children learn language forces us to examine the input language they hear, and to understand more about how these languages are actually used. Interestingly, some of the Bantu linguistic structures which have generated the most theoretical linguistic discussion turn out to be very low frequency constructions in actual discourse, being learned very late (e.g. double object applicatives). Data from acquisition studies therefore provide an invaluable resource regarding how Bantu languages are used in everyday discourse. The frequency effects embedded in this discourse provide key insights into the rate of acquisition for certain Bantu linguistic structures, and may prove critical for understanding aspects of Bantu historical change as well.

REFERENCES

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FURTHER READING

Allen 1996; Chimombo 1981; Deen 2002; Demuth 1984, 1987a, 1987b, 1996; Demuth *et al.* 1986; Demuth *et al.* in press; Demuth and Mmusi 1997; Peters 1983, 1987; Slobin 1985; Ziesler and Demuth 1995.