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THE ACQUISITION OF SISWATI AS A FIRST
LANGUAGE: A MORPHOLOGICAL STUDY WITH SPECIAL
REFERENCE TO NOUN PREFIXES, NOUN CLASSES, AND
SOME AGREEMENT MARKERS.

UNIVERSITY OF CALIFORNIA, LOS ANGELES, PH.D.,
1979

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1979
UNIVERSITY OF CALIFORNIA
Los Angeles

The Acquisition of SiSwati as a First Language:
A Morphological Study with Special Reference to Noun Prefixes, Noun Classes, and Some Agreement Markers

A dissertation submitted in partial satisfaction of the requirements for the degree Doctor of Philosophy in Linguistics

by

Euphrasia Constantine Lwandle Kunene

1979
The dissertation of Euphrasia Constantine Lwandle Kunene is approved.

Robert S. Kirshner

Breyne Arlene Moskowitz

Sandra A. Thompson, Committee Chairman

University of California, Los Angeles

1979
To my mother.
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The Emergence of the Morphemes in Cimcim's Utterances.
ACKNOWLEDGEMENTS

I would like to acknowledge the various kinds of aid which enabled me to study and collect the material that was used in the writing of this dissertation. I would like to thank sincerely the following: Father Denis Fahy for suggesting and encouraging me to further my studies; the Swaziland Government for permitting me to take the AFGRAD Fellowship, and for paying my traveling expenses between Swaziland and the U.S., the African American Institute for awarding me the Fellowship, and for funding my research work which was carried out in Swaziland. In Swaziland, I would like to thank the Swaziland Broadcasting Service for offering me the use of their tapes; the Research and Publications Committee of the University College of Swaziland which provided funds to cover the purchasing of more tapes and the traveling expenses as I carried out my research.

I also want to thank all the members of the Linguistic Department of the University of Los Angeles who directly or indirectly encouraged me to do this kind of research work. I am indebted to Talmy Givón who was my academic advisor all the years of my study at UCLA. I am equally indebted to Sandy Thompson - chairperson of the dissertation, Robert Kirschner, Benji Wald, B. Moskowitz, Professor Welmers, all of the University of California, Los Angeles, for their valuable suggestions and comments on the earlier drafts of this dissertation.
I would like to thank all my friends for their encouragement and moral support during the years of my studies.

Above all, I would like to thank my informants, namely; Cimcim Nkhosi, Harold Zwane, Nomsile Dlamini, Sifiso Masterpiece Zikalala, Nomphumelelo Lukhele, and Thabiseng Moloi, who endured with great patience the tape-recording sessions.
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PUBLICATIONS


ABSTRACT OF THE DISSERTATION

The Acquisition of SiSwati as a First Language:
A Morphological Study with Special Reference to Noun
Prefixes, Noun Classes, and Some Agreement Markers

by

Euphrasie Constantine Lwandle Kunene

Doctor of Philosophy in Linguistics
University of California, Los Angeles, 1979
Professor Sandra A. Thompson, Chairman

This study considers the acquisition of the following: the
nouns (which consists of a prefix + stem), the locative affixes
/e-ini/, the subject-verb-agreement markers (SVA), the possessive-
agreement markers (PA), and the object-verb-agreement (OVA).

Since this study is pseudo-longitudinal in nature, it was
necessary to choose subjects that were in different stages of language
development. There were two sets of subjects used in this study;
subjects that provided spontaneous data for the study of the order of
acquisition of the morphemes under investigation, and the subjects
that were used in experiments.

The subjects that provided spontaneous data were visited
weekly and their utterances were tape-recorded. Picture books, toys
and games were used in order to stimulate the subjects to talk.
The subjects that were used for experiments were visited on the day of the experimental interviews. These subjects were interviewed individually on different days. The questions and the responses of the subjects were tape-recorded and transcribed later.

In this study it was observed that, given a SiSwati noun which consists of a prefix and a stem, a child acquired the nominal stem before the nominal prefix. In case of monosyllabic stems and VCV stems, the child produced both the prefix and the stem of the noun. In these cases the prefixes were used as part of the stem because when the child started acquiring the prefixes she/he added the prefixes on these forms. The acquisition of nominal stems before nominal prefixes can be explained in terms of observations made by some scholars including McNeill (1970), Brown and Fraser (1963). These scholars observed that in "telegraphic speech" children use content words and omit function ones. If that is true, then nominal stems are acquired before nominal prefixes because they are content morphemes.

It was also observed that possessive pronouns were used to mark number before the emergence of nominal prefixes, and that the noun classes are not mastered by the age of 6 years old. The overgeneralizations that the children made in the acquisition of noun classes were morphological rather than semantic in nature.

The locative suffix /-ini/ was acquired before its prefix counterpart /e-/. This was also true for the recent past tense marker /-ile/ which was acquired before any agreement marker. We can account for the order of acquisition in terms of principles and
universals worked by Slobin (1973). The suffixes were acquired earlier because they are in a perceptually salient position, according to Slobin's principle A.

The agreement markers were acquired in the following order: a) SVA markers, (b) PA markers, (c) Noun Prefixes, and (d) the OVA markers. The morphemes from (a)-(c) were acquired before the OVA markers because they occur at the beginning of words or constructions. According to Dennys (1977) and de Villiers (1977) the beginning of a word is perceptually salient than its middle. The OVA markers are acquired later because they fall in the middle of a verbal construction, thus, in the least perceptible position.

There remains, however, some data that cannot be explained on the bases of these principles or observations. For instance the morphemes from (a)-(c) occur at the beginning of a word, one would expect that these morphemes would be acquired spontaneously on the basis of the principle of perceptual salience hierarchy, but they are not. The order of acquisition cannot be explained by Brown's (1973) law of cumulative complexity. Therefore, this implies that there is still work to be done in order to find explanations for the order of acquisitions of these morphemes and other morphemes that occur in SiSwati.
Chapter 1

INTRODUCTION

1.0 Introduction

This work raises and studies some important questions about the acquisition of SiSwati (SS) as a first language. These questions will be raised and dealt with in their respective chapters.

SiSwati, a Bantu language spoken in Swaziland and some parts of South Africa, is different from all the languages heretofore studied under the rubric of child language acquisition. For instance, it has a complex system of noun classes, a feature characteristic of Bantu languages; agreement markers; it uses suffixes to mark notions such as: diminutives, locatives, recent past tense etc. It has a subtle tone system. There is virtually no research work done on child language acquisition in SiSwati, not to mention most Bantu languages. Therefore, this study will bring additional evidence to bear on the claims made about language acquisition. Since it differs from studied languages it will fill in some gaps in the field of language acquisition and shed some light on some analyses used in describing the language.

1.1 The Aim

The aim of this study is two-fold:

a) It is to investigate the order of acquisition of noun
prefixes; noun classes and some agreement markers in general. It will not scrutinize in detail the actual process(es) involved in the development of each of the above morphemes, since it is a pioneering work. It will simply deal with the order of acquisition of these morphemes in respect to each other.

It will also study how the development of these morphemes relate to the general morphological principles or claims that have been made by linguists including Brown (1973); Slobin (1973); Růžička-Dravažna (1959); Anisfeld and Tucker (1968); Beko (1959); Hooper (1978).

b) This study will also look at the implications these data suggest in connection with the analysis of SiSwati or any other Bantu languages; especially the idea of deriving agreement markers from nouns as suggested by some Bantu linguists including Gregersen (1967) and Givón (1969).

1.2 Literature on Child Language Acquisition

The study of child language acquisition goes far back in history. For instance, Waterman (1963) reports on an experiment that was recorded by the historian Herodotus, as early as 600 B.C. According to Herodotus, an Egyptian King, Psammetichus, was interested in establishing the oldest language. He then ordered two infants to be isolated and kept in a place where they could not hear any speech. These subjects were to come out of isolation as soon as they could utter meaningful sounds. We are told that the first word these subjects uttered was bekos, which was associated with the Phrygian
word for 'bread.' Psammetichus concluded that Phrygian was the oldest language. Most linguists, including Waterman (1963) and Slobin (1973), consider this an earliest recorded experiment on psycholinguistics.

Slobin (1972) gives a detailed bibliography on the writings on child language acquisition covering a period from 1250-1967. This exhaustive bibliography by Slobin naturally does not include all the studies done, especially after 1967. There has been a constant increase in literature on child language acquisition, some of which can be found in journals that deal with language per se as well as with certain scientific fields related to language. Since there has been so much work done on language acquisition, it is impossible to discuss the whole literature in this study. Since this work studies the acquisition of SiSwati morphology, I will discuss some of the works that investigated the acquisition of morphology.

1.2.1 Literature on the Acquisition of Morphology

Studies on the acquisition of morphology can be found in different readings (anthologies) on the subject; including works edited by Ferguson and Slobin (1973); Bar-Adon and Leopold (1971); Bloom (1978). Some of abstracts on morphology are found in various journals, and some articles are discussed in certain books including Brown (1973). But there are a number of unpublished papers, dissertations, which deal with the acquisition of morphology. Although there has been so much work done on the acquisition of morphology, all these works can be conveniently grouped
methodologically into: longitudinal studies (i.e. the continuous study of one or more children acquiring a language or languages over a long period of time); and experimental studies. There are certain works that fall in between these two groups, viz., the works that summarize the available information on the acquisition of language so as to formulate certain universals or to explore certain theoretical issues, such as Slobin (1973). I will briefly discuss some of the works on the acquisition of morphology that I will use as reference in this study.

1.2.1.1 The Longitudinal Studies on the Acquisition of Morphology

Parents acted as early investigators of longitudinal studies in language acquisition. They wrote diaries of their children's utterances. For instance, Dietrich Tiedemann wrote an article on the behavior of infants which was based on the diary of his child. The diary was written as early as 1789 according to editors Bar-Adon and Leopold (1971). Most of the diaries that were written on language acquisition studied monolingual children. Diaries on the acquisition of language by bilingual children were few in comparison. Leopold's work (1939-1949) is one of the few cited studies of a bilingual child. His work is based on the diary of his child who was acquiring English and German. Burling's (1959) work deals with the acquisition of English and Garo.

In studies on acquisition of languages by monolinguals, a lot of work has been done on the acquisition of English. Let me
summarize some of the longitudinal studies that deal with the acquisition of inflections in English.

1.2.1.1 Brown (1973)

In the past, inflections have been studied in two ways; first, their order of acquisition and how they emerge, and second, the processes that are involved in the acquisition of the inflections. Brown (1973) discusses the order of acquisition of fourteen grammatical morphemes in English. But before dealing with the acquisition of these inflections, Brown defines or characterizes two stages in language development; viz., stage I, and stage II.

Stage I: During this stage, children omit function words and retain contentive words. For instance, in this stage we can expect sentences like 'I see book' instead of 'I see a book' as in adult speech. If we compare these two utterances, we will notice that the article a is absent in the child's utterance. As a result of the omission of function words by children, as in a telegram, this type of utterance has been called "telegraphic speech." One of the most common characteristic of Stage I therefore, is lack of inflections or function words. Stage II is mainly characterized by the emergence of inflections.

Brown, in order to study the order of acquisition of grammatical morphemes in English, collected the spontaneous utterances from three subjects, Adam, Eve and Sarah, who were 27 months, 18 months, and 27 months old respectively when the research begun. Brown did the investigation of these subjects together with several other
researchers, including Bellugi, Cazden and Fraser. On the basis of these data, Brown noted that the order of acquisition of fourteen morphemes in English was as follows: (Brown 1973, Table 38, p. 274):

\[(1.1)\]

1. present progressive
2-3. in, on
4. plural
5. past irregular
6. possessive
7. uncontractible copula
8. articles
9. past regular
10. third person regular
11. third person irregular
12. uncontractible auxiliary
13. contractible copula
14. contractible auxiliary

Brown, in comparing his findings with those of other investigators, such as Menyuk (1963a; 1963b; 1964a; 1964b; Leopold (1949); Ervin and Miller (1964); Brown and Fraser's Imitation data (1963); Berko (1958); de Villiers (1973a) found that there were some similarities on the order of acquisition of these inflections. Brown also compared his findings with the findings of other investigators who worked on the acquisition of languages other than English, including Blount (1969), who worked on Luo and Slobin (1966), who worked on Russian. The order of acquisition of these morphemes was similar to what Brown found provided the language did have these morphemes.
Since the order of acquisition of the grammatical morphemes seems to be invariable in investigators' findings as well as of other languages, Brown suggested the possible factors that determine this order. The factors he suggested as being responsible for this order of acquisition were: grammatical complexity and semantic complexity. He pointed out that perceptual salience and the new information a morpheme conveys plays a minor role in determining the order of acquisition of these morphemes; and that the frequency of these morphemes in adult speech does not play a role.

Brown was aware that the grammatical and semantical complexity play a role in the acquisition of these morphemes but it was difficult to state exactly as to "which aspect of complexity contributed more to the actual order of acquisition" (Dale, 1976, p. 31). If that was known then "we would know something more about the child's processes of acquisition" (Dale, 1976, p. 31). We shall see whether some of the SiSwati morphemes will be acquired in the same order as proposed by Brown. Let us look at other longitudinal studies that investigated the acquisition of English morphemes.

1.2.1.1.2 Cazden (1968)

Cazden was one of the researchers who worked with Brown, Bellugi, and Fraser, using the subjects Adam, Eve and Sarah. In her paper, Cazden dealt with the acquisition of nominal and verbal inflections in English. The data she used were from the speech of the above subjects. Cazden (1968), like Brown (1973), stated that a morpheme will said to be acquired if it is supplied in the
obligatory context; but if it does not show up in all the obligatory contexts, then the subject has not yet acquired that particular morpheme.

With the inflections that occur with nouns in English, viz., the possessive and the plural inflections, Cazden noted that the plural markers were acquired before possessive markers. In the case of plural markers, the plural inflections occurred first within a noun phrase; e.g. 'some crayons;' and then later across the noun phrase boundary e.g. 'Those my crayons' (Cazden, 1968, p. 229).

In the case of possessive markers, Cazden observed that the possessive construction in elliptical form -- i.e., N + possessive inflection, e.g., 'That's Daddy's' (Cazden, 1968, p. 230) - emerged before the possessive construction in non-elliptical form - i.e. N + poss. inflection + N e.g. 'That's Daddy's hat' (p. 230). Cazden noted that the non-elliptical form is most frequent in mother's speech and yet it developed later than the elliptical form. This implies that there is no correlation between the frequency of morphemes in mother's speech and their order of acquisition. The reason why the elliptical form developed earlier than the non-elliptical one may be due to the fact that the possessive inflection is more noticeable in the elliptical form, since it is word final than in the non-elliptical form. Also, in the non-elliptical construction i.e., N + s + N, the idea of possession is marked by the word order of the nouns; the first noun being the possessor and the following one being a possessed noun. The possessive inflection in this case is more or less redundant. In the elliptical possessive
construction, i.e. N + s, the inflection is not redundant since the possessed noun has been deleted. Thus, the elliptical form might emerge before the non-elliptical one because the elliptical form is less redundant.

In verb inflections, Cazden noted that the order of the inflections was as follows: first; the present progressive inflection; second, regular past/present indicative - these varied in the three subjects: Sarah had both, Eve had the past, and Adam had the present indicative; and third, be + present progressive. I will not elaborate further on the order of these inflections, since this study does not deal with the acquisition of tenses.

Let us look at some of the longitudinal studies that deal with the acquisition of grammatical morphemes in languages other than English.

Prucha (1974) in his survey on the on-going research on child language acquisition in East European countries pointed out that there is more data on the acquisition of Russian than any other language. We shall consider some of the Russian works later. First, let us consider some works that are non-Russian.

1.2.1.1.3 Guillaume (1927)

Guillaume studied the development of inflections in French. He was interested in finding out whether French children formed certain verb generalizations on the basis of the verb(s) that occurred frequently in parent's speech or whether they used other criteria. After studying the emergence of certain verbs in French,
such as être 'be', avoir 'have,' faire 'make,' vouloir 'want,' he noticed that subjects did not make generalizations on the basis of the pattern of the verbs which occurred frequently in adult speech, but rather, the child generalized on the pattern which occurred with the largest number of distinct verbs.

1.2.1.1.4 Rūķe-Dravīņa (1959)

In her study on the emergence of inflections in Latvian, Rūķe-Dravīņa, noted that case emerged before number. In the case of cases, she noted that "the case endings did not appear completely simultaneously in all the stem classes" (Rūķe-Dravīņa, 1959, p. 260). This implies that cases were acquired gradually rather than simultaneously.

Rūķe-Dravīņa also observed that the singular form of a noun was acquired earlier than its plural alternative. This implies that there was a stage when the subject used singular forms in all cases, even where the context called for a plural noun.

1.2.1.1.5 Blount (1969)

Blount did a study on the "Acquisition of Language by Luo Children." This is a Kenyan non-Bantu (Nilotic) language. I will not deal with the structure of Luo, but I will mention some of Blount's observations that are relevant to the present study.

Blount collected few data due to the shyness of his subjects, who did not communicate directly with him or during his presence. Some of these data were given by the subjects' parents. According to
Blount the inflections in Luo emerged in the following order:

a) Aoki (one of the subjects) started using inflections on the verb at the age of 20-21 months. The inflections that occurred with the verbs were morphemes which marked the pronominal subject and object. Blount said: "The lack of the use of plurals should be noted also. Although verbal inflection is present and inflection of nouns for subject and object, there were no examples of noun inflection for plurals" (Blount, 1969, p. 90). The verb was inflected and yet the plural marker was still lacking in nouns.

b) The possessive pronouns emerged six or seven months later. "At 27 months, we also have the first examples of possessive pronouns, first person singular /-a/ and first plural /-wa/" (Blount, 1969, p. 91).

c) Later on tense developed.
The rest of Blount's data does not concern us.

1.2.1.1.6 Slobin (1966)

In his work, Slobin summarized the available information on the acquisition of Russian. On the basis of data from Zhenya Gvozdev, Popova, and others, Slobin observed the following:

a) - that inflections emerged when subjects were using three or more words in their utterances.

b) - that there was a simultaneous and general emergency of inflections. For instance nouns and verbs that were not marked for cases began to be marked:
Nouns: were marked for number, cases (nominative; accusative, genitive and diminutives).

Verbs: were marked for imperative, infinitive, present past.

c) - between the age of 34-36 months, gender agreement appeared simultaneously in adjective - noun and noun - verb past tense constructions.

d) - when a new case emerged, it served several grammatical functions at once. For instance, at the age of 24-26 months, in Zhenya's speech, the dative case was also used as an indirect object marker, directed motion toward; and the instrumental case was also used as an instrument of action marker, mutuality of action marker, and goal of action marker.

e) - in the process of acquiring these morphemes, the children made some overgeneralizations. For instance, the subjects assumed that all nouns should have singular and plural forms. This led to the pluralization of mass nouns, such as bumagi 'papers' or to the counting of mass nouns, as in odna sakhara 'one sugar' and they also invented singulars for nouns that only occur in plural form in adult speech, such as lyut (invented singular) for lyudi 'people.'

There are other observations that Slobin made in connection with the acquisition of some aspects of Russian, such as syntax, word order etc., that will not concern us in this study.

In addition to longitudinal studies some studies were concerned with establishing certain facts about the rules children make use of in the process of acquiring the language; let us look at some of the experimental studies.
1.2.1.2 Some Experimental Studies On the Acquisition of Morphology

I will discuss a few examples of the experiments that have been carried out in the study of acquisition of morphology.

1.2.1.2.1 Berko (1958)

Berko's experiment investigated the morphological rule(s) children use in acquiring plural formation in English. Berko's model was designed to test production. She used pictures with different figures. The figures were given nonsense names and the subjects were required to give the plural forms of the dummy words.

For instance, in order to elicit a plural response, the experimenter showed the subject "One bird-like animal, then two." "This is a wug /wʌg/. Now there is another one. There are two of them. There are two..." (Berko, 1958, p. 154). The subject was expected to give wugs /wʌgz/ as a response. Berko used nonsense words because she wanted to test the "productivity" of inflectional rules. In other words, if the response given by the subject for the noun /wʌg/ was /wʌgz/, then the subject must have internalized a rule that says; to form a plural form of a noun in English you add a /z/ if the final consonant of the noun is voiced. There is no possibility that the subject might have memorized the plural form of this noun since it is a dummy word.

Berko's experiment was geared to produce plural forms of nonsense words; she did not ask the subjects to furnish singular forms. In dealing with SiSwati, the subjects would be required to
give singular forms when given dummy plural nouns because, as we shall see later, two identical singular prefixes e.g. /umu-/ of class 1/2 and 3/4 take two different plural prefixes /ba-/ and /imi-/ respectively; while plural nouns of classes 9/10 and 11/10 have identical plural prefix /tin-/ and yet the nouns of these classes use different singular prefixes /in-/ and /lu-/ respectively.

The questions Berko used were structured or phrased in the same way. Structuring the questions in the same fashion may obscure certain inflections in other languages. For instance, in SiSwati as we shall see later, the subjects used different types of subject-verb-agreement markers in a words and pictures task (Berko's model) and in a story telling task.

Berko's experiment did point out that the subjects (first grade children) were able to form /-s/ and /-z/ plurals, but had a problem in forming plurals for new words requiring /az/.

Brown (1973) summarized Berko's results and pointed out that Berko's findings confirmed the order of acquisition of the fourteen English morphemes. Brown gives Berko's order of acquisition as follows:

(1.2) 1. Progressive
4. Plural
6. Possessive
9. Past regular
10. 3rd person, regular (Brown, 1973, p. 286)

Let us look at other experiments that were aimed at studying the pluralization rule in six-year-old English children.
1.2.1.2.2 Anisfeld and Tucker (1968)

Anisfeld and Tucker were interested in the pluralization rule used by English children of the age of six. They tested subjects for production and recognition. Each experiment consisted of three tasks, as we shall see in Chapter 5. Their results, especially on production, confirmed Berko's findings viz., that in the production tasks, children made more errors with nouns requiring \(-z\) than with \(-s\) and \(-z\).

Anisfeld and Tucker also ran three experiments in order to investigate what they called "pluralization by addition" rule. In these experiments, subjects were given nonsense words, and the plural forms of these words were formed either by adding a sound segment e.g. \(-k\); or a morpheme \(-Kren\); or by using a different word for a noun. The subjects were asked to choose the plural form. In all the experiments, subjects chose the noun that had a morpheme added on to it rather than choosing a different word or a noun that changed a sound segment as a way of pluralization. On the basis of the data from these experiments Anisfeld and Tucker concluded by saying: "It thus appears that, even before the child has fully mastered the specific plural suffixes of English, he possesses a general rule to mark the plural by adding onto the singular code" (Anisfeld and Tucker, 1968, p. 217). They pointed out that this claim was made on the basis of English data alone, and that the claim needed to be tested by data from other languages.

Now let us look at the morphological claims that were made by Slobin (1973).
1.2.1.3 Morphological Claims

Slobin (1973), on the basis of available studies on acquisition of languages, formulated some principles and some universals which children might make use of in acquiring a language. Some of these principles or universals need to be tested further against the data of languages that were not included during their time of formulation. Some of the principles or universals that will be relevant in this study are:

(1.3) Principle A: "Pay attention to the ends of words"
(p. 191).

Slobin noticed that two bilingual girls who were acquiring Hungarian and Serbo-Croatian used Hungarian locative markers before using the Serbo-Croatian ones. Slobin argued that the Hungarian locative markers emerged before the Serbo-Croatian locative markers because the locative markers in Hungarian are in a perceptually salient position i.e. at the end of the words, while in Serbo-Croatian they occur as prepositions. He then gave evidence from Russian (Gvozdev, 1949); Latvian (Rūķe-Draviņa, 1959, 1963); where locative markers emerged later than case markers. He argued by saying that the case markers in both languages were acquired earlier because they occur at the end of words, thus in a perceptually salient position. Slobin cited more examples from English; German (Leopold, 1939; Park, 1970); Polish (Grace Shugar, 1971); Turkish; Finnish (Argoff - forthcoming); Korean (Park, 1969) etc. Data from the acquisition of these languages illustrate that if prepositions are used to express locality then those locative markers will be
acquired later than in languages where suffixes are used as locative markers. Slobin formulated the following generalization on the basis of the above observation:

(1.4) "Universal: Post-verbal and post-nominal locative markers are acquired earlier than pre-verbal and pre-nominal locative markers." (p. 191)

The explanation Slobin gave as to why the suffixal locatives were acquired before the prefixal ones was based on principle A, in (1.3), which says that children pay attention to word endings because they fall in a perceptually salient position.

Slobin noticed that this universal was not confined to locative markers only, but that it also applies to other inflections in the language. He gave an example of the dative and accusative cases, which are acquired earlier in languages like Russian, Polish, Serbo-Croatian, Latvian, Finnish, Hungarian and Turkish, because these cases occur as nominal suffixes in these languages, unlike in German (Stern and Stern, 1970), where the locative marker occur as pre-nominal articles, thus acquired later. He also gave an example of the French negative morphemes "ne----pas." Gregoire (1937) noted that the first morpheme to be acquired in this case was "pas" in French, because, according to Slobin's principle - "pas" occurs in the final position, which is perceptually salient. Slobin then revised his universal as follows on the basis of the above data:

(1.5) "Universal A1: For any given semantic notion, grammatical realizations in the form of suffixes or postpositions will be acquired earlier than realizations in the form of prefixes or prepositions." (p. 192)
In dealing with the acquisition of morphology Slobin formulated the following principle:

(1.6) "Operating Principle E: Underlying semantic relations should be marked overtly and clearly." (p. 202)

This principle manifests itself in various morphological generalizations that the child makes as he/she acquires the language. One of the manifestations of this principle is in the following Slobin universal:

(1.7) "Universal E1: A child will begin to mark a semantic notion earlier if its morphological realization is more salient perceptually (ceteris paribus)." (p. 202)

Slobin points out that: "The notions of 'more salient perceptually' and 'ceteris paribus', of course, are in need of more precise definition" (p. 202). Slobin gave few examples that are supported by this universal. In dealing with locatives in Hungarian and Serbo-Croatian, Slobin pointed out that the position of perceptual salience in a word is its ending. In other words, a grammatical marker that is found at the end of a word will be perceptually salient than the one that is not, and will thus be acquired earlier.

One wonders whether the ending of the word is the only perceptually salient position in a word or there are others. For instance, Denny's (1977) paper on imitation does imply that the beginning of words as well as their endings are perceptually salient, because her subjects in the imitation experiment repeated the beginning and the endings of words. This finding suggests that the ending of words might be more perceptually salient; the beginning of
words might be less perceptually salient compared to the endings of words, and that the middle of a word might even be less perceptually salient. If that can be verified, then we can predict that the grammatical markers that are word final will emerge before the ones that occur at the beginning of the words; and the morphemes that occur in the middle of the words will be acquired last.

On the basis of overregularization, which is one of the processes used by children in acquiring a language, Slobin formulated the following principle:

(1.7) "Operating Principle F: Avoid exceptions." (p. 204)

This principle is manifested in a number of universals, one of them being the following:

(1.8) "Universal F1: The following stages of linguistic marking of a semantic notion are typically observed:

1. no marking,
2. appropriate marking in limited cases,
3. overgeneralization of marking (often accompanied by redundant marking),
4. full adult system." (p. 205)

Slobin gave the development of the past tense marker on English as an example. In (1), the early stage, children simply ignore past tense markers in their verbs. For instance, the verbs: 'break' and 'drop' are used without inflections in the past tense context. In (2), some inflections occur with certain words, and the markings are used appropriately, such as in 'broke' and 'drop.' At this stage no general rule have been formulated. In the third stage, there are some evidences of an existence of a rule which is over-applied in most
cases; including the correct cases in stage two, e.g., 'breaked', 'dropped' or 'breakted', 'dropted.' The verb break is used with the past tense marker /-ed/ instead of the internal change of vowel /-ea-/ to /-o-/ as in stage (2). In stage four, the child acquires the correct adult forms, viz., by restricting the rule, i.e., to apply the rule in correct context, e.g., 'broke' 'dropped.'

As the reader will see, this study will support some claims, or call for modifications at others, since SiSwati is different from the languages these principles or universals were derived from. Let me now turn to the organization of the dissertation.

Each chapter will discuss certain strategies that may be used by children in acquiring SiSwati. Each set of strategies will be formulated at the beginning of each chapter; then data will be presented that will support one or a set of strategies versus the other. Then a discussion will follow, in which I will try to explain or give reasons as to why these data support one strategy versus the other and then draw a conclusion.

Before stating briefly the content of each chapter, let me discuss data collection.

1.3.1 Data Collection

1.3.1.1 Subjects

Since this study is pseudo-longitudinal in nature, it was essential to choose subjects that were in different stages of language development. All subjects were monolinguals acquiring
SiSwati as their first language. There were two sets of subjects used in this study; those subjects that provided spontaneous data for the order of emergence of certain morphemes, and those that were used in the experiments.

1.3.1.1.1 Spontaneous Data Subjects

a) Cimcim Nkhosi (girl) was 26 months when the research began, and 36 months old when it terminated. When the research began, she was using nominal stems in her utterances, as we shall see in Chapter 3, but she did make use of the locative marker i.e., the suffixal one, but not the prefixal locative morpheme. There were no agreement used in her utterances, but she was capable of using the recent past 'tense' marker - which indicates that an action is completed - which occur as a suffix to the verb. Cimcim will therefore be the anchor subject to show the emergence of the morphemes such as prefixes and agreement markers.

b) Harold Zwane was 35 months old when he was first interviewed. He was 42 months when the research terminated. He was already using prefixes in his nouns, and the agreement markers did occur in his utterances. He therefore represented a higher stage in language development than Cimcim; at the same time he was between Cimcim and the older subjects used in experiments.

1.3.1.1.2 Experimental Data Subjects

There were three subjects used in the experiments. They were: Nomsile (girl); Sifiso (boy); Nomphumelelo (girl) who were 4 years
6 months, 5 years 3 months, and 5 years 11 months, respectively. I used older subjects than Cimcim and Zwane on account of various problems I ran into when trying to run an experiment using younger subjects. At times younger subjects did not know what I was looking for; they just looked at me without giving responses that were required in the experiment. At the same time, I wanted to find out whether older subjects like these had mastered their noun class system or not.

1.3.1.1.3 Other Subjects

Some data that will be used in this study will be from Thabie - a bilingual child - who was acquiring Southern Sotho\(^3\) and English. She was 20 months old when the research began in November of 1974.

1.3.1.2 Tape Recording and Transcription

The tape-recording, in the case of Cimcim and Zwane, was done at their respective homes. I visited the subjects weekly, and tape recorded them for an hour at each visit. They both had friends who were a year or so older or younger than they were. I brought toys, picture books and asked them to play games so as to stimulate the subjects to speak. At times as soon as I came, the subjects and their friends came to me and talked and played games. I had no problems with the language since I am a native speaker of SiSwati.

In the case of the experiments, each subject was interviewed individually in a different room and on a different day.
Some of the transcriptions were done on the same day after the tape recording, but most of them were done later.

1.3.1.3 Experiments

The experiments conducted were based on the models designed by Jean Berko (1958) and Anisfeld and Tucker (1968). The details as to how each picture was introduced, and the accompanying questions, are dealt with in Chapters 5 and 7 - where the experimental data are discussed.

1.3.1.4 Data Compilation

In spontaneous data, after the transcription of each tape was done, then the morphemes under study were analyzed. For instance, the nouns in tape x were put together according to their classes, and the month when they were tape recorded. Then the nouns of each month (which consisted of 2 tapes) were put together. If there were any changes in the form of the noun then that was noted. For instance, if the subject used the stem /-lumbi/ 'whiteman' in one month and if in the following month the same stem occurred as /-mlumbi/ then a note was made of when the form started showing up, and how it was used in the following months. The frequent occurrence of some nouns was determined by the subject of the conversation, therefore the frequency of nouns was not compiled.

In the experimental study, the subjects' responses were transcribed in one sheet of paper and their results were compared then and there.
1.3.2 Outline of Chapters 2-8

Chapter 2 shows the noun class system in adult grammar.

In Chapter 3, there are eight strategies proposed that the child might make use of in acquiring noun prefixes in SiSwati. The data presented in this chapter support the following strategies:

a) - that nominal stems emerge before their prefixes. The explanation for this fact might be attributed to the fact that nominal stems contain the basic meaning of the noun, therefore, they are content words, and prefixes are functional morphemes.

b) - that suffixal morphemes, especially locative morpheme /-ini/ in SiSwati was acquired earlier than its prefix counterpart /e-/. That the locative suffix was acquired before the prefix locative morpheme /e-/ was explained by Slobin's principle A, which is manifested in the Universal A1 (pp. 191-192).

c) - that the concept of number was acquired and marked before the emergence of prefixes because children used possessive pronouns to mark number before the emergence of prefixes.

d) - that certain singular and plural prefixes emerged before their plural and singular prefixes respectively.

In Chapter 4 the data show that the pairing of singular and plural prefixes take place before the child learns all the singular and plural prefixes in the language. In this chapter, the types of overgeneralization found in the acquisition of noun classes are discussed. The overgeneralizations that are revealed by the data are morphological rather than semantic.
Chapter 5 deals with experimental data. The experiments were designed to answer certain questions in connection with the acquisition of noun classes. One wonders whether children find the noun class system regular or not. If they do find it regular, then one would like to know the morphological rules that they formulate in order to cope up with this system. The data presented in this chapter revealed that SiSwati children do find the noun class system regular to a certain extent; and that the generalizations they made were morphological rather than semantic. The data also revealed that noun classification is not yet mastered between the ages of 4½ years - 5 years 11 months, since the subjects used in the experiments were of that age.

Chapter 6 deals with the agreement markers viz., the subject-verb-agreement marker (SVA); verb-object-agreement marker (OVA); and the possessive agreement marker (PA). On the basis of the data presented, the order of acquisition of the agreement morphemes in relation to each other as well as in relation to the noun prefixes is as follows:

a) - SVA markers are acquired before noun prefixes.
b) - SVA markers are acquired before the OVA markers.
c) - SVA markers are acquired before the PA markers.
d) - PA markers are acquired before the noun prefixes.
e) - PA markers are acquired before the OVA markers.
f) - The noun prefixes were acquired before OVA markers.

In Chapter 6, we shall notice that the SVA markers and the PA markers are the leftmost morphemes in the verbal construction and possessive
construction respectively. One of the factors that might be responsible for the acquisition of SVA markers and PA markers before the other morphemes might have to do with perceptibility of morphemes in different positions of the word. The principle of word contraction might also give an explanation as to why some of these morphemes are acquired later than others. Their grammatical and semantic complexity as Brown (1973) pointed out, might also be the major reason for this order of acquisition.

Chapter 7 reports on the experimental data on the acquisition of agreement markers discussed in Chapter 6: the SVA markers, the OVA markers, and the PA markers. In comparison with noun prefixes the acquisition of agreement markers seems to be conditioned partly by morphology and partly by semantics. The semantic conditioning of SVA markers are obvious in the story telling task.

Chapter 8 is a conclusion, which is drawn from the data that were discussed from Chapters 3 to 8.

1.4 Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AA</td>
<td>adjectival agreement</td>
</tr>
<tr>
<td>Adj.</td>
<td>adjective</td>
</tr>
<tr>
<td>bene.</td>
<td>benefactive</td>
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<tr>
<td>cop.</td>
<td>copulative</td>
</tr>
<tr>
<td>cop. form.</td>
<td>copulative formative</td>
</tr>
<tr>
<td>DCA</td>
<td>demonstrative copulative agreement</td>
</tr>
<tr>
<td>dim.</td>
<td>diminutive</td>
</tr>
</tbody>
</table>

26
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>loc.</td>
<td>locative</td>
</tr>
<tr>
<td>OVA</td>
<td>object-verb-agreement marker</td>
</tr>
<tr>
<td>PA</td>
<td>possessive agreement marker</td>
</tr>
<tr>
<td>PM</td>
<td>possessive morpheme</td>
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<tr>
<td>pl.</td>
<td>plural</td>
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<tr>
<td>pref.</td>
<td>prefix</td>
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<tr>
<td>RPTM</td>
<td>recent past tense marker</td>
</tr>
<tr>
<td>sg.</td>
<td>singular</td>
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<tr>
<td>SS</td>
<td>SiSwati</td>
</tr>
<tr>
<td>SVA</td>
<td>Subject-verb-agreement marker</td>
</tr>
<tr>
<td>inf.</td>
<td>infinitive or impersonal subject marker</td>
</tr>
</tbody>
</table>
Chapter 1

FOOTNOTES


2. Slobin, in *Studies of Child Language Development* (1973) states that there is some research going on in Swahili, a language which is not mutually intelligible with SiSwati. He also mentions that there is some work going on in Zulu. Zulu is a Bantu language and is mutually intelligible with SiSwati but has a different segmental system. We know that sound segments influence tone, and we therefore expect tone differences in these languages. For instance, compare the tones in SiSwati and Zulu:

<table>
<thead>
<tr>
<th>Zulu</th>
<th>Gloss</th>
<th>SiSwati</th>
</tr>
</thead>
<tbody>
<tr>
<td>zala</td>
<td>'bear' (a child)</td>
<td>tala</td>
</tr>
</tbody>
</table>

The noun prefixes in the two languages are somewhat different, e.g.:

<table>
<thead>
<tr>
<th>Class</th>
<th>Zulu</th>
<th>SiSwati</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) 1/2 (sg.)</td>
<td>umu-</td>
<td>umu-</td>
</tr>
<tr>
<td>(pl.)</td>
<td>aba-</td>
<td>ba-</td>
</tr>
<tr>
<td>1a/2a (sg.)</td>
<td>u-</td>
<td>Ø-</td>
</tr>
<tr>
<td>(pl.)</td>
<td>o-</td>
<td>bo-</td>
</tr>
<tr>
<td>7/8 (sg.)</td>
<td>isi-</td>
<td>si-</td>
</tr>
<tr>
<td>(pl.)</td>
<td>izi-</td>
<td>ti-</td>
</tr>
</tbody>
</table>
In (a) above, we notice that Zulu has initial vowels on the prefixes, while SiSwati has the initial vowels on the prefixes that have a nasal consonant only. In class 1a/2a singular, SiSwati has a /Ø-/ prefix while Zulu has vowel /u-/ . These differences might affect the order of acquisition of noun prefixes in these two languages. If there is any researcher who is working on Zulu, his/her topic is not specified in Slobin (1973) or in (1972).

Apronti, E.O. (1969), published an article on "The Language of a Two-Year Old Danmge," which was based on the utterances of his daughter. The language, Danmge is not a Bantu language.

3 Southern Sotho is a Bantu language spoken in Lesotho, Orange Free State, and in Transvaal. It is not mutually intelligible with SiSwati and it has a different tone system, as we shall see in Chapter 3.
Chapter 2

THE NOUN CLASSES IN ADULT GRAMMAR

2.0 Introduction

This section will show how nouns are classified in adult grammar.

SiSwati, like most Bantu languages, has an elaborate, pervasive noun class system. Nouns are classified according to their prefixes. A noun consists of (1) a prefix, which belongs to a particular class, and (2) a stem. Some classes show semantic correlation\(^1\) and some do not. For example:

(2.1) Class 1/2: umu - (sg. prefix)
      ba  - (pl. prefix)

This class contains only human nouns, though human nouns can be found in other classes, e.g.:

(2.2) a) um\(^2\)    - fana       'boy'
      b) um\(^2\)    - fati       'woman'
      c) umu        - ntfu       'person'
      d) ba         - fana       'boys'
      e) ba         - fati       'women'
      f) ba         - ntfu       'people'

(2.3) Class 7/8: si    - (sg. prefix)
      ti          - (pl. prefix)
This class contains a range of nouns such as:

(2.4) a) Nouns that denote languages:
   i) \textit{si} - Swati \quad \textquote{Swazi}'
   ii) \textit{si} - Ngisi \quad \textquote{English}'

b) Nouns that denote certain inherent or physical characteristics:
   i) \textit{si} - bindzi \quad \textquote{quiet person}'
   ii) \textit{si} - goga \quad \textquote{a cripple}'
   iii) \textit{s} - ati \quad \textquote{a wise knowledgeable person}'

c) Parts of the body:
   i) \textit{s} - andla \quad \textquote{hand}'
   ii) \textit{si} - su \quad \textquote{stomach}'

d) Miscellaneous:
   i) \textit{si} - lwane \quad \textquote{animal}'
   ii) \textit{si} - dzibi \quad \textquote{pit/hole}'
   iii) \textit{si} - bane \quad \textquote{lamp}'
   iv) \textit{si} - gwayi \quad \textquote{tobacco field}'

(2.5) \textbf{Class 14:} \textit{bu} - (used in both sg. and pl. context).

This class contains mainly of abstract nouns, but non-abstract nouns also occur, e.g.:

(2.6) a) \textit{bu} - ntfu \quad \textquote{manhood}'
   b) \textit{bu} - lwane \quad \textquote{animal hood}'
   c) \textit{bu} - so \quad \textquote{face}'
   d) \textit{bu} - hlalu \quad \textquote{beads}'
(2.7) Class 15: ku - (used in both sg. and pl. context.)
This is an infinitival prefix. Some nouns in this class
are ambiguous in that they can refer to either a
concrete noun or an action, e.g.:

(2.8) a) ku-dla 'food' or 'to eat'

Diachronically, noun classification in SiSwati, like in most Bantu
languages, might have been based on semantic categorization, that is,
nouns of similar semantic features were grouped together under one
class, as in the case of classes 1/2 or 15; but synchronically,
there are many counterexamples to this hypothesis, as shown above.
In some noun classes a range of nouns may be found, and one wonders
what criterion was used in classifying these nouns under one group.
Consider, for instance, the following examples:

(2.9) a) si - lima 'fool' (class 7/8)
b) si - lwane 'animal' (class 7/8)
c) si - nkhwa 'bread' (class 7/8)
d) si - fe 'trap' (class 7/8)

(2.10) a) umu - ntfu³ 'person' (class 1/2)
b) umu - ti³ 'village' (class 3/4)

Note that in (2.9) these nouns belong to different semantic cate-
gories and yet they are assigned the same class because they have
similar prefixes, while in (2.10), the two nouns belong to two
different classes and yet they have identical prefixes. Therefore,
the classification in (2.9) is morphological (i.e., similar
prefixes, same class, and yet different semantic categories) and in
(2.10) semantic (i.e., similar prefixes, different classes, and
different semantic categories). To put it differently, given a
semantic interpretation of a noun, there is no way of predicting the
noun class it will fall into. Therefore, on the basis of the above
example, synchronically, nouns in SiSwati are grouped into noun
classes partly on the basis of their similar (morphological) prefixes
and partly on semantic grounds.

Furthermore, nouns are paired into singular/plural and
assigned a number as in (2.1) - (2.10) above. The numbering of
classes used in this paper will follow that of other Bantu gram-
marians Givón (1969), Ziervogel (1952), Welmers (1973), who pair
the singular and plural prefixes and treat them as a manifestation
of a shared feature of the same class. In this classification the
odd number represent the singular prefix and the even number the
plural. This classification is chosen because it does imply that
the singular and the plural noun prefixes belong to the same group,
viz., one prefix marking the singularity of a noun and the other its
plurality. Meinhof's classification, which was predominantly posited
for comparing Bantu languages, assign a different number to each
prefix as follows:

(2.11)  Givón - Welmers          Meinhof
       Class 1/2:  umu - (sg.)     Class 1:  umu - (sg.)
                ba - (pl.)         Class 2:  ba - (pl.)

Meinhof's classification does not state graphically as to what
plural prefix a particular singular prefix takes or vice versa; as
Givón - Welmers' classification does. Meinhof's classification gives
an impression that these prefixes are not related; in other words,
it does not capture the intuitions of the native speaker of a Bantu language who knows that a particular singular prefix goes with a particular plural prefix.

In cases where a noun uses a singular prefix of one class and a plural prefix other than the one that is used by most nouns of that class, the pairing numbering system of Givón - Welmers will capture that, while Meinhof's numbering will not. For instance, a noun **um-Zulu** 'a Zulu' uses a singular prefix of class 1/2 /umu-/, and yet it takes a plural prefix of class 5/6 /ema-/ in **ema-Zulu** 'Zulus' instead of the expected plural prefix /ba-/ of class 1/2. The noun **um-Zulu ema-Zulu** 'a Zulu/'Zulus' can be numbered as belonging to class 1/6 instead of class 1/2. This will also be true for nouns like **in-khosi** 'king' which uses class 9/10 singular prefix /in-/, and takes /ema-/ of class 5/6 as a plural prefix in **ema-khosi** 'kings' instead of the expected /tin-/ of class 9/10. Nouns like **in-khosi/ema-khosi** 'king'/ 'kings' can be numbered as belonging to class 9/6 instead of class 9/10. This is not possible in Meinhof's numbering system nor in Doke's. Doke (1927) did claim that noun prefixes should be posited on the basis of their morphological shapes as well as the type of agreement markers they use, but he numbered both singular and plural prefixes as belonging to the same class for Zulu. Consider the following numbering systems:

\[(2.12) \quad \begin{array}{ccc}
\text{Givón-Welmers} & \text{Meinhof} & \text{Doke (1927)} \\
\text{Class 1/2: } \text{umu - (sg.)} & \text{Class 1: } \text{umu - (sg.)} & \text{Class 1: } \text{umu-(sg.)} \\
\text{ba - (pl.)} & \text{aba-(pl.)} & \text{Class 2: } \text{ba - }
\end{array}\]
Givón-Welmers  Meinhof   Doke (1927)

Class 3/4: umu - (sg.)  Class 3: umu -  Class 2: umu-(sg.)  
imi - (pl.)  Class 4: imi -

In (2.12), we notice that Doke's numbering system will not be able to handle nouns that use different singular class prefixes and different plural class prefixes, as in the case of in-khosi 'king' class (9/10) and ema-khosi 'kings' (class 5/6). Thus, the Givón-Welmers numbering system was chosen because it can handle these facts. At any rate, the children's data will enable us to devise a better numbering system. One should add that the practice of numbering these classes is arbitrary but handy for reference and comparative purposes.

2.1 The Noun Classes in Adult Grammar

2.1.1 Class 1/2

Consider the following sets of nouns:

(2.13) a) umu - ntfu  'person'
       b) umu - tfwa  'bushman'
       c) um - fana  'boy'
       d) um - elusi  'shepherd'/ 'herd boy'
       e) um - Sutfu  'a Sotho'
       f) um - lumbi  'whiteman'

35
(2.14) a) ba - ntfu 'people'
b) ba - tfwa 'bushman'
c) ba - fana 'boys'
b) b - elusi 'shepherds'/'herd boys'
e) be - Sutfu 'Sotho people'
f) be - lumbi 'whitemen'

In (2.13), the basic singular prefix of this class /umu-/, which occurs before consonant-initial monosyllabic stems as in (2.13a) and (2.13b); while its variant form /um-/ occurs before consonant-initial disyllabic stems as well as before vowel-initial stems as in (2.13c-f). In (2.14), the basic plural prefix of this class is /ba-/ which occurs before both consonant-initial monosyllabic and disyllabic stems as in (2.14a-c), and its variants /b-/ which occurs before vowel-initial stems as in (2.14d) and /be-/ which occurs before consonant-initial disyllabic stems whose first syllable consists of a vowel /-u-/ as in (2.14e-f). Thus the noun prefixes of class 1/2 can be schematically represented as follows:

(2.15) umu - /ba - (class 1/2)

Nouns like um-Zulu 'Zulu' ema-Zulu 'Zulus' which use class 1/2 singular prefix and class 5/6 plural prefix will be marked in the lexicon as belonging to class 1/6; i.e. they use singular prefix /umu-/ of class 1/2 and use plural prefix /ema-/ of class 5/6.

Nouns in this class denote humans. This does not imply that there are no nouns marked for the feature human in other classes.
2.1.2 Class 1a/2a

Consider the following nouns:

(2.16) a) ŋ - make 'mother'
b) ŋ - logwaja 'hare'/rabbit'
c) ŋ - babę 'father'
d) ŋ - shukela 'sugar'
e) ŋ - lwandle 'Lwandle'

(2.17) a) ŋ - unyoko 'your mother'
b) ŋ - unina 'his/her mother'
c) ŋ - uyihlo 'your father'
d) ŋ - uyise 'his/her/father'
e) ŋ - unma --- 'brother ---'

(2.18) a) bo - make 'mothers'
b) bo - logwaja 'hares'/rabbits'
c) bo - babę 'fathers'
d) bo - shukela 'types of sugar'
e) bo - lwandle 'Lwandle and Co.'

(2.19) a) bo - nyoko 'your mothers'
b) bo - nina 'his/her mothers'
c) bo - yihlo 'your fathers'
d) bo - yise 'his/her fathers'
e) bo - mna -- 'brothers'

In (2.16) there is no singular prefix, i.e. the prefix is not represented morphologically. Since the singular prefix of this class is not morphologically marked, we will mark the singular prefix of this class by using a zero morpheme /ŋ-/. In (2.17) there is no singular
prefix again, but the nominal stems are vowel-initial, and these are
the only nouns in this class that have this characteristic. Both
groups of nouns in numbers (2.16) and (2.17) form their plurals by
using the prefix /bo-/ as in (2.18) and (2.19) above. The nouns in
(2.17) undergo a vowel deletion rule in the plural. Thus, the
prefixes of this class can be posited as follows:

\[(2.20) \emptyset-/bo-- \quad (\text{class 1a/2a})\]

2.1.3 Class 3/4

Consider the following nouns:

\[(2.21)\]

\[\begin{align*}
 a) \text{umu} & \quad \text{ti} \quad \text{'village'} \\
 b) \text{umu} & \quad \text{sa} \quad \text{'kindness'} \\
 c) \text{um} & \quad \text{fula} \quad \text{'river'} \\
 d) \text{um} & \quad \text{oya} \quad \text{'wind'}
\end{align*}\]

\[(2.22)\]

\[\begin{align*}
 a) \text{imi} & \quad \text{ti} \quad \text{'villages'} \\
 b) \text{} & \quad \text{} \quad \text{no plural form for 'kindness'} \\
 c) \text{imi} & \quad \text{fula} \quad \text{'rivers'} \\
 d) \text{im} & \quad \text{oya} \quad \text{'types of winds'}
\end{align*}\]

In (2.21), the basic prefix is /umu-/ which occurs with consonant-
initial monosyllabic stems as in (2.21a-b), as we saw in (2.13a-b)
above. /umu-/ occurs with consonant-initial disyllabic stems as
well as vowel-initial stems as in (2.21c-d). This is similar to
(2.13c-f) above. The basic plural form in this class is /imi-/
which occurs before consonant-initial monosyllabic stems as well as
in disyllabic stems, as in (2.22a-b).\textsuperscript{5} /im-/ occurs with vowel-
initial stems as in (2.22d). The prefixes of this class can be
represented as follows:

(2.23) umu--/imi-- (class 3/4).

Though the singular prefixes of classes 1/2 and 3/4 are phonologically identical, they take different plural prefixes as can be seen in (2.15) and (2.23) above. Besides, as we noticed above, and in footnote 3, singular nouns in these classes take different object-verb-agreement markers: /-m-/ in class 1/2 and /-wu-/ in class 3/4. They also use different pronouns: class 1/2 singular uses /y-e-na/ while class 3/4 singular uses /w-o-na/. Nouns in class 1/2 are marked \[\text{+ human}\] while those of class 3/4 are marked \[- human\]. Therefore, classes 1/2, 3/4 according to Doke and Welmers should be classified separately.

2.1.4 Class 5/6

Consider the following nouns:

(2.24) a) \underline{li} - tshanga 'pumpkin'

b) \underline{li} - hlo or \underline{li}-so 'eye'

c) \underline{li} - orintji 'orange'

(2.25) a) \underline{ema} - tshanga 'pumpkins'

b) \underline{eme} - hlo 'eyes'

c) \underline{ema} - orintji 'oranges'

(2.26) a) \underline{ema} - nti 'water'

b) \underline{ema} - tshe 'saliva'

In (2.24), /li-/ is the singular prefix, which is used with consonant or vowel-initial stems be they monosyllabic or disyllabic etc. in shape, as in (2.24a-c). In (2.25), the plural prefix is /ema-/,
which also occurs with all types of stems that can occur with /li-/, as in (2.25a-c). This class also contains mass nouns such as the ones in (2.26a-b). Thus, the prefixes of class 5/6 can be represented as follows:

(2.27) li--/ema-- (Class 5/6)

2.1.5 Class 7/8

Consider the following set of nouns:

(2.28) a) si - su 'stomach'
    b) si - ye 'persistence'
    c) si - lima 'fool'
    d) s - ati 'a wise/knowledgeable person'

(2.29) a) ti - su 'stomachs'
    b) --------- 'no plural for persistence'
    c) ti - lima 'fools'
    d) t - ati 'wise/knowledgeable people'

In (2.28), the basic singular prefix /si-/ occurs with consonant-initial stems which may be monosyllabic or disyllabic in form, as in (2.28a-c), while /s-/ occurs with vowel-initial stems, as found in (2.28d). The basic plural prefix /ti-/ occurs with stems that have the same characteristics as those taking /si-/, as in (2.29a-b), and /t-/ occurs with vowel-initial stems, as in (2.29d). Some nouns that fall into this class are mared [human] such as 'fool/fools; 'knowledgeable person'/'knowledgeable people'; and some express
quality such as 'persistence.' The prefixes of class 7/8 can therefore, be posited as follows:

\[(2.30) \text{ si--/ti-- \hspace{1cm} (Class 7/8)}\]

2.1.6 Class 9/10

Consider the following nouns:

\[(2.31)\]

a) \textbf{in} - khomo \hspace{0.5cm} 'cow'

b) \textbf{in} - ja \hspace{0.5cm} 'dog'

c) \textbf{in} - khosi \hspace{0.5cm} 'king'

d) \textbf{in} - simu \hspace{0.5cm} 'field'

\[(2.32)\]

a) \textbf{tin} - khomo \hspace{1cm} 'cattle'

b) \textbf{tin} - ja \hspace{1cm} 'dogs'

c) \textbf{ema} - khosi \hspace{0.5cm} *tin-khosi \hspace{0.5cm} 'kings'

d) \textbf{ema} - simu \hspace{0.5cm} *tin-simu \hspace{0.5cm} 'fields'

In (2.31), the basic singular prefix /IN-/\(^9\) takes stems that are monosyllabic or disyllabic in shape whether they are vowel-or consonant-initial, as shown in (2.31a-d). This is also true of the plural prefix /tiN-/, as in (2.32a-b). There are a few nouns in this class that take /IN-/ in the singular form and take /ema-/ in the plural form, such as \textbf{ema}-khosi 'kings' and \textbf{ema}-simu 'fields.' Nouns that do that cannot be classified under a common feature; in other words, there is no way of predicting which nouns will take /ema-/ or /tiN-/ in the plural form. Thus, the prefixes of this class can be posited as follows:

\[(2.33) \text{ IN --/tiN-- \hspace{1cm} (Class 9/10)}\]
Nouns like ema-khosi 'kings' and ema-simu 'fields' above, can be numbered as nouns of class 9/6, since they use class 9/10 singular prefix /iN-/ and use class 5/6 plural prefix /ema-/ . Still, this does not solve the problem.

The plural form of class 9/10 or 9/6 /ema-/ raises a problem because it is phonologically identical to the plural forms of class 5/6, as in (2.26) above; and there is no way of predicting which nouns fall in class 5/6 or class 9/10, except for their singular prefixes; it is also true that those in class 9/10 are fewer in number. To put it differently, given a dummy noun that has a plural prefix /ema-/ , there is no way of predicting whether the singular variant of the noun given will be /li-/ of class 5/6 or /iN-/ of class 9/10. In the case of the singular prefixes of class 1/2 and class 3/4, one can predict whether the plural prefix of /umu-/ will be /ba-/ or /imi-/ on semantic grounds, viz., that nouns in class 1/2 are \( \exists \) human\(\) while those in class 3/4 are \( \exists \) human\(\).

Another problem has to do with the partial phonological similarities between the plural prefix of classes 7/8 /ti-/ and that of class 9/10 /tiN-/ . The difference between the two lies in the fact that the former has no nasal while the latter has. But there are a few nouns in class 7/8 that have nasal-initial stems such as the following one:

(2.34) si-nkhwa 'bread'

(2.35) ti-nkhwa 'pieces of bread'

In (2.35), the nasal could be analyzed as part of the prefix, thus giving rise to:
(2.36) tin-khwa 'pieces of bread'

with a prefix which is phonologically identical to /tin-/ of class 9/iu/. To put it differently again, given a plural dummy noun of either class 7/8 (with a nasal-initial stem) or class 9/10, there is no way of predicting the singular form of that noun, since nouns of class 7/8 and class 9/10 cannot be differentiated from each other by any other feature except for knowledge of the singular prefixes and the presence or the absence of the nasal in the plural prefix. Cole (1967) pointed out that the plural prefix of class 9/10 /tin-/ is a compound prefix, i.e. the /ti-/ of class 7/8 plural prefix was added to the singular form of class 9/10 prefix /in-/ . Thus, the plural prefix of class 9/10 is historically from class 8 + 9.

2.1.7 Class 11/10

Consider the following nouns:

(2.37) a) lu - tshi 'straw'

b) lu - nyawo 'foot'

c) lu - cotfo 'cord'

(2.38) a) lu - bisi 'milk'

b) lu - ju 'honey'

c) lu - khula 'weeds'

(2.39) a) tin - tshi 'straws'

b) tin - yawo 'feet'

c) tin - cotfo 'cords'
(2.40) a) * tim-bisi 'milks'
b) * tin-ju 'honeys'
c) * tin-khula 'weeds'

In (2.37), the singular prefix /lu-/ goes with any kind of stem, as shown in (2.37a-c). The plural prefix is /tiN-/ which has been discussed under class 9/10 above. Nouns in (2.40) have no plural alternatives, and yet some mass nouns do have both singular and plural forms, as we saw in the case of li-tshe 'a drop of saliva' and ema-tshe 'saliva.' Some nouns in this class may also take class 5/6 prefixes /li-/ and /ema-/, e.g.:

(2.41) a) lu - gebhuta 'shell'
b) tin - gebhuta 'shells'

(2.42) a) li - gebhuta 'shell'
b) ema - gebhuta 'shells'

(2.43) a) lu - tshendzele 'partridge'
b) tin - tshendzele 'partridges'

(2.44) a) li - tshendzele 'partridge'
b) ema - tshendzele 'partridges'

There is no difference in meaning between lu-gebhuta and li-gebhuta 'shell' or lu-tshendzele and li-tshendzele 'partridge.' This also applies to their plural forms. The /li-/ and /ema-/ usually occur in speech of young people, while /lu-/ and /tiN-/ seem to be found in the speech of old people - especially in the area where I was doing my research work. Ziervogel (1952) also pointed this out. Again, there is no way of predicting which nouns can fall in both classes 5/6 and

44
11/10, and which nouns cannot. At any rate, the /lu-/ seems to be losing out to /li-/ . The prefixes of this class then can be posited as:

(2.45) : lu-/tiN- (Class 11/10)

2.1.8 Class 14

Consider the following nouns:

(2.46) a) bu - so 'face'
b) b - oya 'hair'
c) bu - hlalu 'beads'

(2.47) a) tj - ani (\(\leq\) bu-ani) 'grass'
b) tjw - ala (\(\leq\) bu-ala) 'beer'

The singular prefix in this class is /bu-/ which takes consonant-initial stems, as can be seen in (2.46a-b). Its variant /b-/ goes with vowel-initial stems. Nouns of this class have no plural form. Some nouns in this class use the "palatalized" form of the prefix, such as tj-ani 'grass' and tjw-ala 'beer' in (2.47). To a non-Africanist, the "palatalized" forms might be taken as suppletion rather than the results of a synchronic phonological rule. Footnote 11 shows that this is synchronic phonological rule but that the nouns in (2.47) might have a suppletive prefix. At any rate, the basic noun prefix of this class can be posited as:

(2.48) bu-
2.1.9 Class 15

Consider the following nouns:

(2.49) a) ku - dla 'food' or 'to eat'
   b) kw - ala 'refusal' or 'to refuse'
   c) k - osa 'roasting' or 'to roast'

In (2.49) the basic prefix is /ku-/ which takes consonant initial stems, as in (2.49a). When the stem begins with a vowel, then the basic prefix is phonologically modified as follows: it becomes /kw-/ if the stem begins with the vowels /e-/ or /a-/ and it becomes /k-/ if the initial vowel of the stem is /o-. This class is called an "infinitival class." The basic prefix of this class can be posited as:

(2.50) ku -

To sum up, we can schematically represent the set of noun class prefixes in SiSwati as follows:

(2.51) **Class 1/2:**

| umu - | (sing.) |
| ba -  | (pl.) |

**Class 1a/2a:**

| Ø -   | (sg.) |
| bo -  | (pl.) |

**Class 3/4:**

| umu - | (sg.) |
| imi - | (pl.) |

**Class 5/6**

| li -  | (sg.) |
| ema - | (pl.) |
Class 9/10: in - (sg.)
    tin - (pl.)

Class 9/6: in - (sg.)
    ema - (pl.)

Class 11/10: lu - (sg.)
    tin - (pl.)

Class 14: bu - (sg./pl.)

Class 15: ku - (sg./pl.)

Some of these prefixes will be phonologically modified -- as shown above -- by certain phonological rules, such as vowel deletion or vowel gliding rule in cases where the stem commences in a vowel.

Another thing to note about these prefixes is that they are essentially empty morphemes, i.e., most of them have no meaning in isolation, but some of them do modify the meaning of some nominal stems. For instance, the stem /-ntfu/ can be used with certain prefixes and yield a different meaning, e.g.:

(2.52) Class 1/2: uma - ntfu 'person'
    Class 7/8: si - ntfu 'mankind'
    Class 14: bu - ntfu 'manhood'

Not all prefixes can modify the meaning of stems; nor do the above prefixes /si-/ and /bu-/ modify the meaning of all stems. Thus, the productivity of the above prefixes is limited to certain stems. Stems (non-derived ones) have no transparent meaning, i.e. given a stem in isolation the native speaker of SiSwati will find it difficult
to define it unless by associating it with the noun in which it occurs. This is also true for common stems like /-ntfu/ in (2.52).

2.2 Conclusion

Looking at noun classes in general there are certain things that seem to be regular about them. Given a nonsense word with one of the prefixes, it will be possible to predict its singular or plural form, e.g.:

(2.53) Class 5/6
li-kati - ema-kati 'cats'
li-sandza - ema-sandza (nonsense word)

There are some correlations between noun classes and meaning, i.e. nouns in various classes have common semantic traits, e.g. in class 1/2 all nouns designate humans - for details see Fortune (1955).

The classification of nouns on the basis of semantics cannot be absolutely maintained since there are many counterexamples, e.g. in classes 1a/2a we find nouns ranging from humans to inanimates, as shown in Ziervogel (1952), as well as in (2.16) above.

The morphological irregularities of the noun class system are:

a) Some nouns lack prefixes, e.g.:

(2.54) Class 1a/2a

a) ø - make 'mother'
b) ø - logwaja 'hare'/ 'rabbit'
c) ø - bani 'who'
d) **bo** - make 'mothers'

     e) **bo** - logwaja 'hares'/rabbit

     f) **bo** - bani 'who' (pl.)

In (2.54), the singular prefix of the nouns in class 1a/2a is not
morphologically marked and the plural prefix is /bo-/

b) Other nouns use the prefix of one class in the singular
and the plural prefix of a different class, e.g.: (2.55)

    **Class 1/2:** um-Zulu 'a Zulu'

     *be-Zulu

    **Class 5/6:** ema-Zulu 'Zulus'

In (2.55), we notice that the prefix /umu-/ in the noun um-Zulu
'a Zulu' use /ema-/ in the plural instead of the expected plural
prefix of class 1/2 /be-/. This is not typical with nouns that
denote nationalities either. For instance, we noticed earlier that
the noun um-Sutfu 'a Sotho', takes /be-/ as a plural prefix of class
1/2 be-Sutfu 'Sothos.'

c) Where the semantic classifications is still strong,
we find phonologically identical prefixes belonging
to two different classes, e.g.: (2.56)

    **Class 1/2:** umu - ntfu 'person'

       ba - ntfu 'people'

    **Class 3/4:** umu - ti 'village'

       imi - ti 'villages'

In class 1/2 all nouns are human, in class 3/4 all nouns are non-
human.
The picture one gets of noun classes in SiSwati raises a lot of questions such as: what is the order of emergence of noun classes in SiSwati? Synchronically, what role does semantics play in their classification?

Slobin stated that "a system which can be described by a small set of consistent and regular rules is easier to learn than one less consistent and irregular" (Slobin, 1973, pp. 188-189). He also makes a universal claim that a semantic notion that is expressed grammatically by the use of a suffix will be acquired earlier than in a different language where the same notion is expressed by use of prefixes. The question may be asked: Do Swati children learn number later than English children? Do they find the noun class regular or irregular? i.e. can they predict the singular or plural form of a given nonsense word? If the system is regular then the children will supply a correct singular/plural form of a given nonsense word. If not, then the system is irregular. These responses, tell us how the child perceives the noun class system.

Given the fact that children overgeneralize in the process of acquiring a language, is this manifested in acquiring noun prefixes? Is this overgeneralization morphological? That is, does the child assign one plural prefix to all singular nouns with the same prefix? For instance, in acquiring SiSwati do children ever produce the following forms:

\[(2.57) \text{umu} - \text{ntfu} \rightarrow \text{ba} - \text{ntfu} \quad \text{'people'}\]

\[\text{umu} - \text{ti} \rightarrow *\text{ba} - \text{ti (instead of: imi-ti)} \quad \text{'villages'}\]
Do we get any semantic overgeneralization? That is, do we get an instance where a single prefix is used for human nouns, another for animate but not human nouns, and another for inanimate nouns? e.g.:

(2.58) umu - ntfu → ba - ntfu  
         si - lima → *ba - lima (instead of: ti-lima)  
         in - khosi → *ba - khosi (instead of: ema-khosi)

'people'

'fools'

'kings'

Does the child consider si + lwane 'animal' as consisting of the two morphemes or as a unit? If she/he considers it as a unit at one stage in her process of plural acquisition we can expect to get forms like ti + si + lwane for 'animal.' More questions can be asked in connection with the noun classes. In the following section we shall look at the data on acquisition of noun classes in SiSwati, then try and answer some of the questions raised above.
Chapter 2

FOOTNOTES

1  Givón (1969) states that: "The Bantu noun gender system seems synchronically to be largely meaning free, traces of older semantic significance of this system still abound, and it is clear that at an earlier historical period this system represented a semantic categorization of the noun universe" (page 14). See also Givón (1970a). In this article, Givón proposed that nouns were originally classified semantically in Bantu languages.

2  The /-u-/ is deleted by a phonological rule.

3  Some Bantu linguists, including Doke (1927) and Welmers (1973) proposed that nouns should be divided on the basis of the morphological shape of the prefixes they occur with, as well as on the basis of concordial system they use. Doke (1927) states it as follows: "Nouns are divided into "classes" or "class genders" according to the form of their prefixes, and of the concordial agreement therewith--" (Doke, 1927, p. 36). And Welmers (1973) says that: "Bantu noun classes must be distinguished and defined therefore, not simply by noun prefixes, but in addition to morphemes, such as the subject pronoun prefixes ---, which stand in agreement or 'concord' with noun prefixes. It is the combination of noun prefix and concordial morphemes that is significant" (Welmers, 1973,
p. 162). The above claim implies that the prefixes in (2.10); namely /umu-/ of class 1/2 and /umu-/ of class 3/4, should be con-
sidered as belonging to different noun classes, even if they are
phonologically identical, not only because they take two different
plural prefixes /ba-/ (for class 1/2) and /imi-/ (for class 3/4),
but because they also use certain different concordial markers.
Consider the following sentences:

(1) **Subject - Verb - Agreement Marker (SVA Marker)**

a) **umu** - ntfu **u** - ya - hamba (class 1/2)

prefix - person SVA - ya - walk/go

'The person is walking.'

b) **umu** - ti **u** - ya - sha (class 3/4)

prefix - village SVA - ya - burn

'The village is burning.'

In (a) and (b), both nouns of class 1/2 and 3/4 use the same SVA
marker /u-/. Now consider the following sentences:

c) i) **Object - Verb - Agreement Marker (OVA Marker)**

**ngi** - funa **umu** - ntfu (class 1/2)

SVA - want prefix - person

'I am looking for a person (someone).'</n

ii) **ngi** - ya - m - funa (**umu-ntfu**) (class 1/2)

SVA - ya - OVA - want

'I want him.'
d) i) ngi - funa umu - ti (class 3/4)  
SVA - want prefix - village  
ii) ngi - ya - wu - funa (umu - ti) (class 3/4)  
SVA - ya - OVA - want  
'I want it.'

In sentences (c-ii), and (d-ii), we notice that the OVA markers used by the nouns umu-ntfu 'person' and umu-ti 'village' are different. The noun umu-ntfu 'person' used /-m-/ while the noun umu-ti 'village' uses /-wu-/. Therefore, umu-ntfu 'person' and umu-ti 'village' should be assigned in two different classes. In addition to the above sentences, nouns of class 1/2 singular use /y-e-na/ as a pronoun, while nouns of class 3/4 singular use /w-o-na/. In the subjunctive mood, class 1/2 singular nouns use /a-/ as an SVA marker, while nouns in class 3/4 singular use /u-/ as an SVA marker. These classes use different types of agreement markers because they also contain different semantic nouns. In classes 1/2 we get nouns that denote humans while those in class 3/4 denote non-humans.

By the same token, the claim made by Doke and Welmers implies that if the nouns of different classes use identical prefixes as well as identical agreement markers, then they should be grouped under one class. Consider the following nouns:

3) a) um-Zulu 'a Zulu' singular (class 1/2)  
ema-Zulu 'Zulus' plural (class 5/6)  
*ba-Zulu 'for Zulus' plural (class 1/2)  
b) li-kati 'cat' singular (class 5/6)  
ema-kati 'cats' plural (class 5/6)
c) **in** - khosi 'king' singular (class 9/10)

**ema** - khosi 'kings' plural (class 5/6)

**tin** - khosi 'for kings' plural (class 9/10)

In 3 (a, b, and c), we notice that the nouns um-Zulu 'a Zulu' li-kati 'cat' in-khosi 'king' fall in different classes on the basis of the singular prefixes they use, classes 1/2, 5/6 and 9/10 respectively. But the nouns um-Zulu 'a Zulu;' and in-khosi 'king' use the plural prefix /ema-/ of class 5/6. The nouns um-Zulu 'a Zulu' and in-khosi 'king' therefore, do not use the expected plural prefixes /ba-/ of class 1/2 and /tin-/ plural class 9/10 respectively, which occur with the plural nouns of the classes into which these nouns fall. Now consider the following sentences:

4) a) **ema** - Zulu a - ya - hamba (class 5/6)

Prefix - Zulu SVA - ya - go/walk

'The Zulus are going.'

b) **ema** - kati a - ya - hamba (class 5/6)

Prefix - cat SVA - ya - go/walk

'The cats are going.'

c) **ema** - khosi a - ya - hamba (class 5/6)

Prefix - king SVA - ya - go/walk

'The kings are going.'

In (4a-c), we notice that all the plural nouns use /a-/ as an SVA marker, and yet their singular alternatives use different SVA markers because they use different singular prefixes, e.g.:

5) a) **um** - Zulu u - ya - hamba (class 1/2)

Prefix - Zulu SVA - ya - go/walk

'A Zulu is going.'
b) li - kati  li - ya - hamba (class 5/6)
Prefix - cat  SVA - ya - go/walk
'The cat is walking.'

c) in - khosi  i - ya - hamba (class 9/10)
Prefix - king  SVA - ya - go/walk
'The king is walking.'

In (5a-c), we notice that the singular nouns um-Zulu 'a Zulu;' li-kati 'cat;' in-khosi 'king' use different SVA markers, /u-/ /li-/, and /i-/, respectively. This implies that the singular forms of these nouns should be numbered differently, but that their plural forms should be numbered alike. Thus, the above nouns should be numbered as follows:

6) a) um-Zulu  'a Zulu' (class 1/6)
     ema-Zulu  'Zulus'

b) li-kati  'cat' (class 5/6)
     ema-kati  'cats'

c) in-khosi  'king' (class 9/6)
     ema-khosi  'kings'

The plural forms of the above nouns use /-wa-/ as an OVA markers, and they also use the pronoun /w-o-na/. Therefore, their plural forms should be classified under one class as in (5a-c) above.

This class is numbered as a subclass of class 1/2 because it uses class 1/2 subject-verb-agreement marker (SVA), object-verb-agreement marker (OVA), and pronouns, e.g.
1) umu-ntfu  u - ya - gijima (class 1/2)
Prefix-person  SVA - ya - run
'The person is running.'

2) Ø -logwaja  u - ya - gijima (class 1a/2a)
Prefix-hare  SVA - ya - run
'The hare is running.'

3) ba - ntfu  ba - ya - gijima (class 1/2)
Prefix- people  SVA - ya - run
'People are running.'

4) bo - logwaja  ba - ya - gijima (class 1a/2a)
Prefix- hare  SVA - ya - run
'Hares are running.'

5 There is a tendency to delete the second /-i-/ of the plural prefix in speech, especially where the stem is consonant-initial and disyllable in form. Thus (imi-fula) is rendered /\tilde{im}'-fula/ in speech.

6 In (2.25b), the plural prefix is /eme-/ instead of /ema-/ on account of a vowel harmony rule which historically existed in the language. For comparative evidence see Givon (1970a).

7 There is a singular form of the noun 'saliva' li-tshe which is found in some idiomatic expressions.

a) ngi - hish - wa  li  - tshe (pl.)
   SVA - choke - passive prefix - saliva (liquid)
   'I am being choked by a drop of saliva.'
b) *ngi - hish - wa  
   ema - tshe  (pl.)  
   SVA - choke - passive prefix - saliva  
   (liquid)  
   'I am being choked by saliva.'

8  
SiSwati does not allow a sequence of vowels. In cases of  
li - orintji ema - orintji 'orange'/'oranges' native speakers either  
insert a glottal stop between the prefixal vowel and that of the  
borrowed stem, or they make a pause between the two vowels.  

9  
The prefix /iN-/ is analyzed as containing an archiphoneme  
/-N-/ by some grammarians including Doke (1927) and others, because  
it assimilates to the same place of articulation as that of the  
initial consonant of the stem. This phonological rule is common in  
many languages, e.g.: English  

1) iN - khomo  \( \rightarrow \)  iŋ - khomo  
   - buti  \( \rightarrow \)  im - buti  
   - tfo  \( \rightarrow \)  in - tfo  
   - ja  \( \rightarrow \)  iɲ - ja  
   'cow'  
   'goat'  
   'thing'  
   'dog'  

2) iN - possible  \( \rightarrow \)  im - possible  
   - tolerable  \( \rightarrow \)  in - tolerable  
   - complete  \( \rightarrow \)  iŋ - complete  

10  
In this classification, the plural form of this class is  
identical to that of class 9/10, which is why the plural nouns of  
this class are classified under class 9/10, as the numbering of the  
class indicates.
In SiSwati and Zulu, a sequence of a bilabial consonant followed by a glide /-w-/ is not allowed; should such a sequence occur in a derivation the bilabial consonant is changed into a palatal consonant. At times the glide /-w-/ is deleted after the bilabial consonant has been changed into a palatal. This process occurs in three derivations in both languages:

a) **Passive:** The passive extension in SiSwati and Zulu is /-iwa/ or /-wa/. /-iwa/ occurs with monosyllabic verb radicals so no "palatalization" process results, while /-wa/ occurs with the rest of the verbs, e.g.: boph + wa → bošwa *bophwa 'to be tied' lum + wa → lujwa *lumwa 'to be bitten'

b) **Diminutive:** The diminutive suffix is /-ana/.

imphuphu + ana → imphušana 'corn meal'
*imphuphana
*imphuphwana

inkhomo + -ana → inkhoŋana 'calf'
*inkhomana
*inkhomwana

There are a number of phonological rules that apply in this derivation, such as a gliding rule, which changes the final back vowel of a noun into /-w-/ and the palatalization rule, which is followed by a glide /-w-/ deletion rule.
c) **Locatives:** The locative morphemes are discontinuous, in that they consist of a locative prefix /e-/ and the suffix /-ini/, e.g.:

umlomo  -  e + umlomo + ini⇒emlojeni
'on/in the mouth'

ingubo  -  e + ingubo + ini⇒engutjeni
'on the dress'

A number of phonological rules apply here too, as in the diminutive derivation above. In this derivation there is a vowel deletion rule and a vowel coalescence rule.

This class is so called because words in this class behave as both nouns and verbs.

1. **As nouns:**
   a) They have a prefix:  **ku**  -  **dla**  'food'
   b) They control agreement in sentences, e.g.:
      i)  **ku**  -  **dla**  **ku**  -  **ya**  -  **sha**
         Prefix  -  food  SVA  -  ya  -  burn
         'The food is burning.'

2. **As verbs:**
   a) They can be negated.
      i)  **u-funa**  **ku**  -  **fundza**
         SVA-want  inf.  -  learn
         'She/he wants to learn.'
      ii)  **u-funa**  **ku**  -  **nga**  -  **fundz-i**
          SVA-want  inf.  -  not  -  learn-not
          'He doesn't want to learn.'
b) They can be used with OVA markers.
   i) u-funa ku - m - bona
   SVA-want inf. - OVA - see
   'He wants to see him.'
Chapter 3

THE ACQUISITION OF NOUN PREFIXES

3.0 Introduction

In the previous chapter we noticed that the picture of noun classes in adult grammar raises a number of interesting questions. Some of the questions in relation to the acquisition of noun prefixes will be discussed in this chapter.

In acquiring noun prefixes, there are a number of possible strategies a SiSwati child might use in order to arrive at the correct usage of (adult) prefixes. We will now consider some of these strategies.

3.1 Strategies Stated

3.1.1 The Morphemic Strategy vs. The Noun Unit Strategy

In SiSwati, nouns consist of a prefix and a stem, e.g.:

(3.1) a) umu - ntfu 'person'

   prefix - stem

b) ba - ntfu 'people'

   prefix - stem

In (3.1), the /umu-/ is a singular prefix and the /ba-/ a plural one; while /-ntfu/ is a stem. In SiSwati, nouns are always produced as a unit i.e., a prefix and a stem in nouns is considered a word. These
morphemes are never produced in isolation in adult speech. In most languages that have been studied, (see Ferguson/Slobin, 1973), the majority of the nouns that are common and available in the vocabulary of children are monomorphemic. In other words, most of the nouns that are frequently used by children in these languages are not made up of two morphemes as in the case of SiSwati. In these languages, children acquired nouns as a unit, as in "sweater chair"; "Adam chair" ---- (Brown, 1973, p. 220). At times two words are acquired together as a unit as in "allgone (ball); "allgone (soup); "allgone (kitty)" (Brown, 1973, p. 172). "All" and "gone" are two words in adult speech.

The structure of the noun in SiSwati raises interesting questions. Faced with SiSwati nouns, a child learning the language might learn the noun as a word or a unit, that is, learn a prefix plus a stem, we will call this strategy the Noun-Unit Strategy 1. On the other hand, a child might acquire the morphemes (prefix and a stem) separately. We will call this strategy the Morpheme Strategy 2.

If a child adopts the second strategy in acquiring nouns, then she/he has an option of either acquiring stems before prefixes (Stems before Prefixes, Strategy 3), or learning prefixes before stems (Prefixes before Stems, Strategy 4). Schematically, we can represent these strategies as follows:
Let us now look at the next set of possible strategies which a child might employ in acquiring affixes (prefixes or suffixes) in SiSwati.

3.1.2 Suffixes Before Prefixes vs. Prefixes Before Suffixes

SiSwati has prefixes and suffixes that can be attached to the noun. For instance, the concept of locality is expressed by use of two discontinuous morphemes /e-/-ini/. The /e-/ is prefixed to the noun prefix and the /-ini/ is suffixed to the noun stem as in the following examples:

(3.3) a) si - lwane
prefix - animal
'animal'

b) e - si - lwan - eni
loc.pref. - noun pref. - animal - loc. suffix
'on the animal.'

Since the locative marker consists of two discontinuous morphemes that are attached to the noun, a child might use one of the following
possible strategies in acquiring the locative markers in relation to the noun: the child might acquire the locative prefix /e-/ before the locative suffix /-ini/ (Locative Prefix Before Locative Suffix, Strategy 5). Or, the child might acquire the locative suffix /-ini/ before acquiring the locative prefix /e-/ (Locative Suffix Before the Locative Prefix, Strategy 6); or the child might acquire them both at the same time and use them simultaneously (Strategy 7).

Since the locative prefix /e-/ is attached to the prefix of the noun; the child might acquire the noun prefix before the locative prefix /e-/ (Noun Prefix Before the Locative Prefix, Strategy 8). Or, the child might acquire the locative prefix /e-/ before the noun prefix (Locative Prefix Before Noun Prefix, Strategy 9). Or the child might acquire them simultaneously (Strategy 10). Thus, the strategies a child might make use of in acquiring locative morphemes in SiSwati are:

(3.4) a) The locative prefix /e-/ might be acquired before the locative prefix /-ini/ (Strategy 5).

b) Or the locative suffix /-ini/ might be acquired before the locative prefix /e-/ (Strategy 6).

c) Or the child might acquire them both at the same time, and use them simultaneously (Strategy 7).

In connection with the nominal prefix and locative prefix, a child might use one of the following strategies:

d) The noun prefixes might be acquired before the locative prefix /e-/ (Strategy 8).
e) The locative prefix /e-/ might be acquired before the noun prefixes (Strategy 9).

f) Or both morphemes might be acquired at the same time and used simultaneously (Strategy 10).

The next set of strategies has to do with noun prefixes and the marking of number.

3.1.3 **Number Before Prefixes vs. Prefixes Before Number**

Some linguists, including Brown (1973), Rūke-Draviņa (1959), Slobin (1973) observed that children marked nouns for number, cases, diminutives, etc., beginning at the age of 23-24 months. Rūke-Draviņa (1959), Anisfeld and Tucker (1968) also noted that children express the concept of plurality by using numerals before singular nouns, e.g.: "two shoe" (Rūke-Draviņa, 1959), long before they use the adult plural morpheme marker.

In SiSwati, the concept of plurality is expressed by the use of noun prefixes - as we noticed in (3.1). If in SiSwati, as in English and Latvian, etc., the appropriate plural marker emerges later than the development of the concept of plurality in children, then the child might employ one of two possible strategies in order to cope with this development. The child might not mark the concept of plurality until the appropriate morpheme markers (prefixes) emerge. In other words, the prefixes will have to be acquired before the concept of plurality is marked (Prefixes Before the Marking of Number, Strategy 11). Or, the child will mark the concept of plurality by certain devices before the appropriate morphemes
(prefixes) emerge (Number will be Marked Before the Emergence of Prefixes, Strategy 12).

If children, in the process of acquiring SiSwati, mark number before the emergence of noun prefixes (Strategy 12), it would be interesting to find out what device they use, since in English, Latvian, German, Swedish etc., children used the numerals before the noun. Data from SiSwati will be presented to show the device that children use to mark number before the emergence of noun prefixes.

Let us now turn to the next set of strategies. These will deal with the emergence of prefixes: whether all nouns acquire singular prefixes before the development of plural ones.

3.1.4 Some Nouns use Singular Prefixes Before Using the Plural Prefixes, and Others use Plural Prefixes Before Singular Ones

Hooper (1978) made the following generalization, which was based on languages whose nouns were not made up of a prefix and a stem: "Singular noun forms are acquired before plural noun forms" (Hooper, 1978, p. 4). This implies that all plural nouns are derived from singular nouns.

In SiSwati, singular nouns do not form a stem (base) to which plural affixes are added; instead, in plural formation the singular prefix is replaced by a plural one. In addition to that, some mass or abstract nouns have singular prefixes such as: in-gati 'blood' si-sa 'kindness' and they both lack plural alternatives. Some of the mass or abstract nouns have plural prefixes and lack singular alternative prefixes such as: tin-hloni 'coyness.'
The mass nouns which we used as an example should not be taken as idiosyncratic in SiSwati, because there are almost as many mass or abstract nouns that have singular prefixes and no plural alternatives as there are mass or abstract nouns which use plural prefixes and have no singular alternatives. The problem is that there is no way of predicting which prefix (singular or plural) a mass noun or an abstract noun will use. There is a tendency among Bantu grammarians to say that liquid (mass) nouns use class 5/6 plural prefix /ema-/ e.g.: ema-nti 'water.' But there are a lot of liquid (mass) nouns in SiSwati that use singular prefixes of different classes, such as: lu-bisi 'milk' (class 11/10); um-chamo 'urine' (class 3/4); li-jungi 'sour-thin-porridge,' and there is no way of predicting which class these nouns will use.

Given the fact that (a) some nouns in SiSwati have singular prefixes and no plural alternatives; (b) some have plural prefixes and no singular alternatives; (c) the majority of nouns have both singular and plural prefixes; and also given the fact that these types of nouns (a-c) are represented in the child's vocabulary, a question arises, in relation to Hooper's generalization, as to what kind of prefixes will emerge first. The child might use one of the following strategies: she/he might learn all the singular prefixes in the language before learning any plural prefix, (Strategy 13). Or she/he might learn some singular and some plural prefixes before learning all the possible prefixes in the language (Strategy 14).

Now, let us look at SiSwati data and see which strategies these data support and why.
3.2 Discussion

In this section, we shall look at SiSwati data and see which strategies are supported by these data; and then give some explanation as to why these data developed the way they did. The SiSwati data will be mainly taken from Cimcim's utterances. Some of the data will be drawn from Thabie's utterances (Kunene, 1974), a bilingual child of Southern Sotho and English. Let us now look at the first set of strategies stated above.

3.2.1 The Morphemic Strategy vs. The Noun-Unit Strategy

To repeat, in SiSwati, all nouns consist of a prefix and a stem. For instance, the noun li-kati 'cat' is one word made up of two morphemes: the prefix /li-/ and the stem /-kati/. In other words, in SiSwati, the morpheme and the word boundaries do not coincide as they do in some English nouns, e.g.: in the noun #cat# both the morpheme and the word boundaries coincide; while in the SiSwati noun #li + kati# the morpheme and the word boundaries do not necessarily coincide. As we have stated earlier, children in acquiring SiSwati may learn the nouns as a unit (Strategy 1); or they may learn the nouns morpheme by morpheme, i.e., learning each noun morpheme separately (Strategy 2). Let us now look at SiSwati data and see which strategy they support.
3.2.1.0 Data

Consider the following nouns which were uttered by Cimcim at the age of 26 months:

(3.5)

<table>
<thead>
<tr>
<th>Cimcim</th>
<th>Gloss</th>
<th>Adult</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Ø - lumbi</td>
<td>'whiteman'</td>
<td>um-lumbi/be-lumbi</td>
<td>1/2</td>
</tr>
<tr>
<td>Ø - khwama</td>
<td>'bag'/ 'purse'</td>
<td>si-khwama/ti-khwama</td>
<td>7/8</td>
</tr>
<tr>
<td>b) Ø - hlabatshi</td>
<td>'soil'/ 'sand'</td>
<td>um-hlabatshi/imi-hlabatshi</td>
<td>3/4</td>
</tr>
<tr>
<td>Ø - kotapeni</td>
<td>'avocado'</td>
<td>li-kotapeni/ema-kotapeni</td>
<td>5/6</td>
</tr>
<tr>
<td>Ø - kathulo²</td>
<td>'shoe'</td>
<td>si-cathulo/ti-cathulo</td>
<td>7/8</td>
</tr>
</tbody>
</table>

In 3.5(a), if we compare Cimcim's utterances with those of an adult speaker, we notice that she only produced the stems of the nouns /-lumbi/ 'whiteman' and /-khwama/ 'bag'/ 'purse' and omitted the singular/plural prefixes. We notice that these stems are disyllabic in shape. One wonders whether Cimcim left the prefixes in these nouns because she could not produce trisyllabic morphemes. In 3.5(b), we see that Cimcim had no problem in producing trisyllabic stems. Therefore, we cannot say that she did not use prefixes because she could not produce trisyllabic words. From the above data, we notice that Cimcim simply produced the stems, be they disyllabic or trisyllabic in shape, but she constantly omitted the prefixes in her utterances. Thus, these data suggest that Cimcim acquired nouns not as a unit but that she acquired each morpheme that makes up the noun separately and at a different time.
Now consider the following nouns:

(3.6) | Cimcim      | Age      | Gloss   | Adult | Class |
          |            |          |        |       |       |
 a) Ø - lutshi | 26 Mos. | 'straw' | lutshi | 11/10 |
 b) li - lutshi | 36 Mos. | 'straw' | lutshi | 11/10 |
          | ti - lutshi | 36 Mos. | 'Straw' | tin-tshi | 11/10 |

In 3.6(a) and (b), if we look at adult nouns, we notice that the noun lutshi 'straw' has a monosyllabic stem /-tshi/ and a prefix /lu-/. When the same noun is used in the plural form as in 3.6(b) tin-tshi 'straws' the singular prefix /lu-/ is replaced by the plural prefix /tin-/, while the stem /-tshi/ remains constant. If we now look at Cimcim's rendition of the noun ti-lutshi 'straw' in 3.6(b), we notice that, at the age of 36 months, she used -lutshi 'straw' as if it were a stem (a monomorpheme) that took the prefix /li-/ in the singular form and /ti-/ in the plural form. On the basis of the noun li-lutshi 'straw' and ti-lutshi 'straws' in 3.6(b), which Cimcim produced after acquiring prefixes, we can conclude that Cimcim must have used -lutshi in 3.6(a) as a unit (a monomorpheme) rather than as a noun consisting of a prefix and a stem.

To put it differently, Cimcim, at the age of 26 months, used -lutshi as if it were a stem (a monomorpheme) in 3.6(a), since when she started acquiring prefixes she assigned a singular prefix /li-/ and a plural prefix /ti-/ to the stem -lutshi as in 3.6(b). Again, these data suggest that Cimcim acquired nouns morphemically rather than as a unit. The lumping together of the adult prefix /lu-/ and the stem /-tshi/ in the noun lutshi 'straw' was the result of wrong segmentation of the noun into its constituents on the part of Cimcim.
Finally, consider the following nouns:

(3.7) Cimcim  Age  Gloss  Adult  Class

Ø - tjani  26 Mos. 'grass'  tj-ani (<bu-ani)³  14

bu - tjani  36 Mos. 'grass'  tj-ani  14

In 3.7, if we compare Cimcim's noun -tjani 'grass' to that of an adult speaker, we notice that Cimcim used -tjani 'grass' as if it were a stem (monomorphemic), because when she started using prefixes, even at the age of 36 months, she used /bu-/ as a prefix and -tjani as if it were a stem in bu-tjani 'grass.' Again, these data suggest that Cimcim must have acquired the above noun morpheme by morpheme, rather than by acquiring it as a unit; because at the age of 26 months the noun 'grass' was rendered as -tjani, and later as bu-tjani, consisting of a prefix and a stem. Again, the result of lumping together the adult prefix /tj-/ and the stem /-ani/ in the noun tj-ani 'grass' must have been due to the wrong segmentation of the noun into a prefix and a stem on the part of Cimcim, as well as to the suppletive prefix /tj-/ in this noun tj-ani 'grass.' Most of the nouns of this class still use the non-suppletive prefix /bu-/ as in nouns like bu-so 'face;' bu-hlalu 'beads.'

To sum up: the data that have been discussed so far suggest that Cimcim acquired nouns morphemically rather than by acquiring them as a unit. Therefore, these data support the morphemic strategy versus the noun-unit strategy.

Since Cimcim acquired the nouns morphemically, then, let us look at the morpheme - prefix or stem - that was acquired earlier.
From the above data, we noticed that Cimcim produced nominal stems without prefixes, except in nouns with monosyllabic or VCV stems where Cimcim produced the prefix together with the stem. Now, let us look at some more data to see whether they confirm the strategy that the child will learn noun stems before noun prefixes.

3.2.2 The Stems will be Acquired Before the Noun Prefixes; vs. The Prefixes will be Acquired Before Noun Stems.

We noticed from the previous data that stems were acquired earlier than prefixes. Let us look at some more data before discussing why should this be the case.

3.2.2.1 More Data

Consider the following utterances that were produced by Cimcim at the age of 26 months:

(3.8) a) Cimcim: tfwana khala
   baby/child cry
   'The baby is crying.'

b) Adult: um - tfwana u - ya\(^4\) - khala
   prefix - baby/child SVA - ya - cry
   'The baby is crying.'

Cimcim said utterance 3.8(a) as she heard the baby crying. If we compare Cimcim's utterance in 3.8(a) to that of an adult speaker in 3.8(b) we notice that she omitted the prefix /umu-/ for the noun um-tfwana 'child'/ 'baby.' Cimcim also omitted the subject-verb-agreement marker (SVA) /u-/ and the morpheme /-ya-/ in the predicate
construction $u$-$ya$-$khala$ 'it is crying.' The morpheme $/umu-/i$ is a singular prefix of class 1/2; $/u-/i$ is an SVA marker of class 1/2 singular; and the $/-ya-/i$ is a morpheme that is used when there is no word following the predicate in a non-emphatic sentence. Thus, Cimcim has not only omitted the noun prefix $/umu-/i$ in her utterance, but she also omitted other functional or grammatical morphemes such as SVA marker $/u-/i$ and the morpheme $/-ya-/i$ in the predicate. Thus, these data suggest that the nominal stems are acquired before the nominal prefixes. The predicate construction too, points out that the verbal radical (stems) are acquired before the prefixal morphemes such as SVA markers and the $/-ya-/i$, as we shall see in Chapter 6.

The claim that the nominal stems are acquired before nominal prefixes can be further supported by the data from Thabie. At the age of 20 months, Thabie produced the following utterances:

(3.9) a) Thabie: $suetsa$ $teti^5$ $samaye$
tell moeketsi go
'Tell moeketsi to go.'

b) Adult: $suetsa$ $mo-eketsi$ $a$-$tsamaye$
tell prefix-eketsi SVA-go
'Tell moeketsi to go.'

In sentence 3.9(a), if we compare Thabie's utterances with that of an adult speaker we notice that, the prefix $/mo-/i$ is omitted. Thabie also omitted the SVA marker $/a-/i$. Thus, Thabie, like Cimcim, omitted prefix and retained the nominal stem, and in the predicate construction Thabie also omitted the SVA marker and produced only the verb radical.
To sum up: Cimcim's and Thabie's data suggest that nominal stems are acquired before noun prefixes. In cases of monosyllabic stems or stems of VCV type, the prefixes are produced together with the stems, but they are used as if they were part of the stem, as we saw in Cimcim's nouns like li-lutshi/ti-lutshi for 'straw'/straws' instead of lu-tshi tin-tshi. We also noticed that she produced tj-ani 'grass' as bu-tjani. These data therefore, support the strategy that the child acquires nominal stems before nominal prefixes.

We also noticed that both Cimcim and Thabie in their predicate constructions produced the verb radical and omitted all the prefixal morphemes that are attached to it. The full data on these will be discussed in Chapter 6. These data too support the strategy that says that stems emerge before prefixes.

Let us now look at the possible explanations as to why stems emerged before prefixes and not vice versa.

3.2.2.2. Discussion

In this subsection I will discuss some possible explanations as to why Cimcim and Thabie acquired nominal stems before they acquired nominal prefixes. Let us now turn to one of the principles with a possible explanation.
3.2.2.2.1 **Stems as Content Words**

Most linguists who have done some work on acquisition of language have observed that in "telegraphic speech" children omit function words, e.g. "gone suitcase," "where go birdie" from McNeill (1970). Brown and Fraser (1963), who studied a number of children, found that children leave out syntactic morphemes and retained information words.

In SiSwati, and Southern Sotho too, we noticed that Cimcim and Thabie omitted grammatical morphemes in their utterances, viz., noun prefixes and agreement markers. They produced the noun stems without prefixes. In attempting to explain the phenomenon of "telegraphic speech," (McNeill (1970) and Brown and Fraser (1963) came up with two hypotheses viz., that content words were used at this stage because they were:

a) the semantically most salient words (hypothesis A)

b) stressed words (hypothesis B)

These concepts coincide in English, as in most non-tone languages, while in SiSwati, a tone language, they do not necessarily do so. For instance, in SiSwati, as in most Bantu languages, the stress comes near the end of an utterance in the penultimate syllable, e.g.:

(3.10) a) u-funa ku-phula um-khono w-a-mi yena

\[ SVA \rightarrow \text{want to-break pref.-arm PA-PM-my he} \]

'He wants to break my arm.'

b) u-funa ku-phula um-khono w-a-mi

\[ SVA \rightarrow \text{want to-break pref.-arm PA-PM-my} \]

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c) u-funa ku-phula um-khono 
SVA-want to-break prefix - arm stress
'He wants to break an arm.'

c) u-funa ku-phula
SVA-want to-break stress
'He wants to break.'

e) u-ya-funa
SVA-ya-want stress
'He wants--------'

In 3.10(a)-(e) we notice that the penultimate syllable of the final word in an utterance is stressed. This means that all words that can occur in the final position of an utterance can be stressed^6 in Si-Swati. Consistent with this generalization, words that can be used in isolation, get a stressed penultimate syllable, e.g.:

(3.11) a) u-funa bani?
SVA-want who
'Who are you looking for?'

b) yena
him/her stress
'Him'/ 'her'

In 3.11(b), yena 'him'/ 'her' is a response to the question in 3.11(a). Since yena 'him'/ 'her' is used in isolation it can be stressed, as if it occurred at the end of an utterance as in 3.10(a). One wonders then, whether stems are acquired before prefixes because they may have a penultimate stress. If stress does play a role in the acquisition of morphemes or words, then we would expect that all
morphemes (words) that can occur in the position where they can be
stressed will be acquired at the same time. But, Cimcim never used
"absolute" pronouns as in 3.11(b) in her utterances. These data then
suggest that stress does not play a role in the order of acquisition
of words or morphemes in SiSwati.

In addition to that, if stress did play a role in the
acquisition of stems before prefixes, then we would expect Cimcim to
leave out all the unstressed syllables in the stems and produce what
is stressed, and possibly what follows the stressed syllable. But as
we noticed in the previous discussions, Cimcim, at the age of 26
months, produced disyllabic noun stems as well as polysyllabic ones
such as: -khwama for 'bag'/'purse' -kotapeni for 'avocado.' If
stress did play a role in the acquisition of stems before prefixes,
then we would expect Cimcim to have produced the stems for 'bag'/
'purse' as -khwama which she did. We would also expect her to
produce the stem for 'avocado' as -peni instead of -kotapeni. Cimcim
did not produce 'avocado' as -peni but as -kotapeni. From these
nouns then, we notice that stress seem to play no role in the
acquisition of stems before prefixes.

Now consider some of the Cimcim's utterances at the age of
26 months:

(3.12) a) Cimcim: bukela _ dla!
    look  food  stress
    'Look at the food!'

    b) Adult: bukela _ ku - dla
        look  prefix - food  stress

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(3.13) a) Cimcim: \textit{kigitsheka d\textipa{la}}\hfill
\begin{array}{c}
\text{spill} \quad \text{food} \quad \text{stress}
\end{array}
\vspace{0.5em}
\textbf{stress}
\begin{quote}
'The food is spilling over.'
\end{quote}

b) Adult: \textit{ku-ya-chitsheka ku-dla}
\begin{array}{c}
\text{SVA} \quad \text{ya} \quad \text{spill} \quad \text{prefix} \quad \text{food} \quad \text{stress}
\end{array}
\vspace{0.5em}
\text{stress}
\begin{quote}
'The food is spilling over!'
\end{quote}

In 3.12(a), Cimcim was showing me the food she had pretended to cook. If we compare Cimcim's utterance with that of an adult speaker, we notice that she omitted the /ku-/ in the noun \textit{ku-dla} 'food.' The noun \textit{ku-dla} 'food' in 3.12(a) is in the final position of an utterance, therefore, its penultimate syllable should have been stressed as in adult speech in 3.12(b). If stress did play a role in the acquisition of the stem \textit{-dla} 'food,' then the prefix /ku-/, which should have carried a stress in this environment, should not have been omitted by Cimcim. Cimcim stressed the last syllable /-la/ in 3.12(a) according to the regular stress rule. The above utterances in 3.12(a), again suggests that stress plays no role in the emergence of stems before prefixes in SiSwati.

In 3.13(a), Cimcim was pointing at the food that was spilling over from the containers that was held by the toddler Fana. In 3.13 (a), we notice that Cimcim omitted the stressed syllable (prefix) /ku-/ again. If stress did play a role in the acquisition of nominal stems before nominal prefixes, then the prefix /ku-/ should not have been omitted by Cimcim. Therefore, this utterance again suggests that stress does not play a role in the emergence of stems before prefixes.
Some investigators have also observed that stress does not seem to play a role in the acquisition of content words. For instance, Slobin (1973) pointed out that Pačesova (1968) in his longitudinal study of a Czech boy observed that his subject omitted all the syllables which were stressed initially. These syllables should not have been omitted if stress did play a role in their acquisition. Thus, in Czech, as in SiSwati, stress plays no role in the acquisition of content words during the "telegraphic speech" period.

Now, let us determine whether tone might be a variable. In SiSwati all prefixes have a high tone, e.g.:

(3.14) Cimcim     Gloss     Adult     Class
Ø - łangà     'sun'/ 'day'     li-łangà     5/6
Ø - kótapeni     'avocado'     li-kótapeni     5/6

and nominal stems may either have a high (H) or low (L) tone as in 3.14. In 3.14, in adult speech, we notice that the prefix /li-/ has a high tone and the stem /-łangà/ 'sun'/ 'day' has a LL tone, while the stem /-kótapeni/ 'avocado' has a HHHL tone. If we look at Cimcim's production of these nouns, we notice that she omitted the prefix /li-/, which has a high tone, and produced the stems with their correct tones. If tone were a factor, then why should she be able to produce both H and L tones in a word like kótapeni 'avocado?'

In Southern Sotho, prefixes have a low tone and the stems, as in SiSwati, may have a high tone or a low tone. Consider some of the nouns uttered by Thabie at the age of 20 months:
<table>
<thead>
<tr>
<th>(3.15) Thabie</th>
<th>Gloss</th>
<th>Adult</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>-sapø</td>
<td>'bone'</td>
<td>ลำ-sapø</td>
<td>5/6 (sg.)</td>
</tr>
<tr>
<td>-sapø</td>
<td>'bones'</td>
<td>ลำ-sapø</td>
<td>5/6 (pl.)</td>
</tr>
</tbody>
</table>

In adult speech, the nouns in 3.15 have a singular prefix /ลำ-/ and a plural prefix /ลำ-/ and both of them have L tones; while the stem /-sapø/ 'bone'/ 'bones' has a HL tone. If we look at Thabie's rendition of these nouns, we notice that she omitted both prefixes. Again, if tone were a factor, then why should Thabie be able to produce both H and L tones in a word like /-sapø/ 'bone'/ 'bones'?

These data, therefore, suggest that tone plays no role in the order of acquisition of nominal stems before nominal prefixes, because both Cimcim and Thabie produced nominal stems with appropriate tones, be it H or L or the combination of the two, and yet they both omitted the nominal prefixes whether they had a high or low tone in adult speech.

McNeill (1970), Brown and Fraser (1963) pointed out that, during the period of "telegraphic speech" children omit function words and retain information or content words. One wonders whether Cimcim and Thabie omitted the prefixes in SiSwati and Southern Sotho respectively, because they are functional morphemes; and that they produced nominal stems because they are contentive morphemes. Before drawing a conclusion as to why nominal stems are acquired before nominal prefixes, we need to recapitulate certain facts in connection with nouns in SiSwati.

In adult speech, nouns are always used with their prefixes, except in class 1a/2a singular where the prefix is not morphologically
marked, which we have represented as /Ø-/ . This implies that
cchildren never hear adult speakers use noun stems in isolation, i.e.,
without prefixes.

Another fact about nouns in SiSwati is that, prefixes, in
addition to their primary function of marking number, may have a
subtle, inherent meaning. Consider the following nouns:

(3.16) a) umu - ntu  ba - ntu  Class 1/2
    sg. pref. - person   pl. pref. - person
    'person'            'people'

    b) si - ntu  ___________  Class 7/8
        sg. pref. - person
        'mankind'

    c) bu - ntu  ___________  Class 14
        sg. pref. - person
        'manhood'

In 3.16(a), the prefix /umu-/ is singular and /ba-/ plural. The stem
/-ntu/ 'person' remains the same after both prefixes. Therefore,
what renders /-ntu/ 'person' singular or plural is the prefix it is
used with. In 3.16(a)-(c), again the stem /-ntu/ 'person' remains
the same, and yet its meaning is modified or changed by the use of the
prefixes /si-/ and /bu-/ . Neither of the nouns in 3.16(b) and (c)
have plural alternatives. This suggest that prefixes may have some
subtle inherent meaning since the prefixes /si-/ and /bu-/ modify
the meaning of the noun umu-ntu 'person' to si-ntu 'mankind' and
bu-ntu 'manhood.' One should add that except for a few cases such
as this, the meaning of the prefixes is now so insignificant (wilted)
and minute that it won them a title of "empty morphemes" from some Bantu linguists such as Harris (1951, p. 183).

From the example in 3.16 we may notice that, even when the stem is modified, the meaning of the new noun created still has to do with the genre of 'man' rather than anything else, say 'animal.' This implies that, if we compare the meaning of stems and the meaning found in prefixes, we may notice that the meaning contained in stems forms the basic meaning of the noun, and the prefix simply mark the number, or, in some cases, the property "count" of that noun. To put it differently, the basic meaning of nouns in SiSwati is contained in the stem, although in adult speech the stem never occurs without a prefix. Therefore, when Cimcim and Thabie produced noun stems without prefixes, they were preoccupied with the acquisition of content words, since the basic meaning of the nouns is contained in the stems. The noun stems which are used by children when acquiring SiSwati are tolerated by adult speakers probably because their reference can be understood. Thus, nominal stems seem to be acquired before prefixes simply because they are content morphemes.

3.2.2.3 Summary

In the foregoing discussion, we proposed two strategies that a child might use in acquiring nouns in SiSwati. The first set of possible strategies that a child might use in learning nouns in SiSwati were: first, that a child may acquire nouns as a unit
(Noun-Unit Strategy 1); second, that she/he may acquire nouns morphemically (The Morpheme Strategy 2). If Strategy 2 was adopted, then there were two possible strategies that a child may use: She/he may acquire the nominal stems before nominal prefixes (nominal stems before nominal prefixes, Strategy 3); or she/he may acquire the nominal prefixes before the nominal stems (Nominal Prefixes before Nominal Stems - Strategy 4).

Looking at SiSwati data we noticed that the child acquired nouns morphemically and that the morphemes that were acquired first were the nominal stems. In cases of monosyllabic or VCV nominal stems, we noticed that the prefixes were produced together with the nominal stems. But we also observed that the prefixes, at this point, were considered as part of the nominal stems rather than prefixes; because when the prefixes developed later, then the child added the prefix to the sequence of a prefix + the monosyllabic or VCV nominal stem, thus resulting into a sequence of prefix + prefix + stem, as we noticed in Cimcim's version of adult tin-tshi 'straws' which she produced as ti-lu-tshi 'straws.' The nominal prefixes were produced together with the stems in case of monosyllabic or VCV stems probably because Cimcim failed to segment these morphemes properly.

Thus, the SiSwati data support the strategies that nouns are acquired morphemically (Strategy 2) and that the nominal stems emerge before nominal prefixes (Strategy 3). The little data we saw on verbal constructions also support these strategies (2 and 3) as we shall see in Chapter 6.
The acquisition of nominal stems before nominal prefixes (Strategy 3) can be explained by an observation that has been made by several linguists, including McNeill (1970) and Brown and Fraser (1963), which says that, in "telegraphic speech" children omit functional words and retain content words. This might be the reason why in SiSwati, nominal stems which contain the basic meaning of the nouns (content words) are acquired before nominal prefixes - being functional words. We also noticed that, stress, as it has been observed in most languages, does not play a role in the order of acquisition of nominal stems before nominal prefixes. This is also true for tone. Let us now turn to the next set of strategies.

3.2.3 Suffixes will Emerge Before Prefixes vs. Prefixes will Emerge Before Suffixes

This subsection will deal with the order of acquisition of affixes that can be used with content words. In other words, after the acquisition of the content words - especially of nouns in this study - we want to find out what affixes emerge first, i.e. prefixes or suffixes.

To recapitulate, we noticed earlier that SiSwati expresses the concept of locality by use of two discontinuous morphemes; /e--ini/. The locative prefix /e-/ is prefixed to the noun and the /-ini/ is suffixed to the nominal stem. In learning to mark the concept of locality morphologically, a child may use one of the following possible strategies:
(3.17) a) A child might use the locative prefix /e-/ before using the locative suffix /-ini/. (Strategy 5)

b) Or, a child might use the locative suffix /-ini/ before using the locative prefix /e-/. (Strategy 6)

c) Or, a child might acquire both morphemes at the same time and use them simultaneously. (Strategy 7)

Since the locative prefix /e-/ is added in front of the nominal prefix, we would like to know the order of acquisition of both these morphemes. The child may use one of the following possible strategies:

d) A child might acquire the locative prefix /e-/ before the nominal prefix (Strategy 8).

e) Or, a child might acquire the nominal prefixes before the locative prefixal./e-/. (Strategy 9)

f) Or, the child might acquire both morphemes at the same time and use them simultaneously (Strategy 10).

Now, let us turn to SiSwati data and see which strategies they support.

3.2.3.1 Data

Consider some of Cimcin's utterances that were produced at the age of 26 months:
(3.18)

a) Cimcim: hlungu khon - eni\(^6\)
   hurt/painful arm - loc.
   'The arm hurts.'

b) Adult: ku - bu - hlungu e - m - khonw-eni\(^6\)
   inf. - prefix - hurt/painful loc.-pref.-arm-loc.
   'The arm hurts.'

If we compare Cimcim's utterances 3.18(a) with that of an adult speaker we realize that Cimcim omitted the morphemes /ku-/ and /bu-/ which come before the stative verb /-hlungu/ 'hurt'/ 'painful'. In the noun, she omitted the prefixal locative marker /e-/ which is used before the nouns, and she also omitted the part of the prefix /-m-/ of the noun um-khono 'arm.' But as in adult speech, Cimcim did use the locative morpheme /-eni/, which is suffixed to the noun stem. These data suggest that the locative suffix /-ini/ is acquired earlier than its locative prefixal counterpart /e-/ (Strategy 6).

If we compare the locative suffix /-ini/ to the noun prefixes then, we notice that the locative suffix /-ini/ emerges before the nominal prefixes. In other words, the locative suffix /-ini/ is acquired before both the locative prefix /e-/ and the nominal prefixes.

Consider the following utterances that were produced by Cimcim at the age of 27-28 months:

(3.19) a) Cimcim: nankhaya kotapeni nankhaya
   there-they-are avocado there-they-are

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e - hlahl - eni!
loc - tree - loc
'There are avocados, there they are on the tree!'

b) Adult: nankhaya  ema - kotapeni
there-they-are  prefix - avocado
nankhaya  e -si  -hlahl-eni
there-they-are  loc.-prefix-tree-loc.
'There are avocados, there they are on the tree!'

In 3.19(a), if we compare Cimcim's utterances with that of an adult speaker, we notice that she omitted the nominal prefix /ema-/ in the noun ema-kotapeni 'avocados' but as in adult speech, she used the locative prefix marker /e-/; and yet she omitted the noun prefix /-si-/ and she used the locative suffix /-ini/, in the locative construction e-si-hlahl-eni 'on the tree.' These data suggest that the locative prefix /e-/ is acquired before the nominal prefix.

Consider the following similar utterance which was also produced by Cimcim at the age of 27-28 months:

(3.20) a) Cimcim: bhac-ele  e - valw - eni.
   hide-ben.  loc. - door - loc.
   'I am hiding behind the door.'

b) Adult: ngi - ya - ku - bhac - ela
   SVA - ya - OVA - hide - ben.
e - si - valw - eni.
loc. - pref. - door - loc.
'I am hiding behind the door.'

In 3.20(a), if we compare Cimcim's utterance to that of an adult speaker we notice that she omitted the morphemes /ngi-; /-ta- and /Aku-/ which come before the verb radical, and yet as in adult speech she used the benefactive extension /-el-/.

In the locative construction, Cimcim, as in adult speech, used the locative prefix /e-/ but omitted the nominal prefix /-si-/, and used the locative suffix /-eni/, again as in adult speech. Once more, these data suggest that the locative prefix /e-/ is acquired before nominal prefixes. To repeat, these data in 3.19 and 3.20 suggest the acquisition of locative prefix /e-/ before the nominal prefixes (Strategy 8). I must add, that utterances like those in 3.19 and 3.20, were rare in Cimcim's speech; she used the locative suffix most of the time, without the locative prefixal /e-/. Still, these data do suggest the acquisition of the locative prefix /e-/ before the nominal prefix.

That suffixes emerge before prefixal affixes is further supported by Thabie's data. Thabie (Kunene, 1975) produced the following utterances at the age of 22 months:

(3.21) **Mother:** u - kai moeketsi?
      : SVA - where Moeketsi
      'Where is Moeketsi?'

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(3.22) a) Thabie: Kolo - ə.
    school - loc.
    'in school'

    b) Adult: u - se - kolo - ə.
    SVA - prefix - school - loc.
    'He is in school.'

Sentence 3.22(a) was given as a response to question 3.21. If we compare Thabie's utterance in 3.22(a) to that of an adult speaker in 3.22(b), we notice that Thabie omitted the SVA /u-/ and the noun prefix /-se-/ in the locative construction u-se-kolo-ə 'he is in school.' But as in the adult construction she did use the locative marker /-ə/ which is suffixed to the noun stem. Thabie, like Cimcim, omitted all the morphemes that precede the noun stem, be they prefixes or locative markers. Again these data suggest that suffixal locative markers emerge before locative prefixal affixes, and by extension the strategy that suffixes emerge before prefixes.

One may wonder whether the emergence of suffixes before the prefixes apply only to affixes that can be used with nouns or that it apply to all affixes whether they can be used with nouns or verbs. Consider the following utterance that was produced by Cimim at the age of 26 months:

(3.23) Lwandle: u - phi Tutu?
    SVA - where Tutu
    'Where is Tutu?'

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(3.24) a) Cimcim: hamb - ile
    go - recent past tense marker (RPTM)
    'gone'

b) Adult: u - hamb - ile
    SVA - go - RPTM
    'She is gone.'

In 3.24(a), Cimcim was responding to my question in 3.24. If we compare Cimcim's utterance in 3.24(a) with that of an adult speaker in 3.24(b), then we notice that Cimcim did not use the SVA marker /u-/, and yet like adult speakers, she used the recent-past-tense-marker /-ile/ which is suffixed to verb radicals. Thus, some of the suffixes that can be used with verb radicals emerge before prefixal affixes that can be used with verbs. The locative suffixal morpheme and the recent past tense marker emerged earlier than the noun prefixes, locative prefix /e-/, and the subject-verb-agreement marker that occurs before the verb radicals.

The above data on the acquisition of affixes suggest that the locative suffix /-ini/ emerges before its prefixal counterpart /e-/, thus supporting strategy 6. The locative suffix /-ini/ also emerged before the nominal prefixes. In the predicate construction, we also noticed that the recent-past-tense-marker emerged before any morpheme that could be prefixed to the verb radical. These data therefore suggest that some suffixes emerge before some prefixal affixes.
Some data above also suggested that the prefixal locative /e-/ emerged before the nominal prefix (Strategy 8). From the data presented thus far, the order of acquisition of the relevant morphemes in SiSwati is as follows:

(3.25) a) - acquisition of content words, e.g. nouns, verbs, we noticed that these are acquired in form of stems.

b) - then follows the acquisition of suffixes, e.g.: locative /-ini/ and the RPTM /-ile/.

c) - the acquisition of locative prefix /e-/.

Now, let us look at the possible explanation as to why suffixes emerged before prefixes.

3.2.3.2 Discussion

3.2.3.2.1 Slobin's Principle A

It has been observed by Slobin (1973) and others that all children are capable of learning affixes in different languages. Given the affixes of the language, it has been observed that the suffixes will emerge before the prefixes. Slobin (1973), on the basis of data from forty different languages formulated the following principle in trying to explain why suffixes are acquired before prefixes:

(3.26) "Principle A: Pay attention to ends of words."

(Slobin, 1973, p. 191)
The reason why children do that, according to Slobin, is because the end of the word is "perceptually salient." Therefore, the suffixes are acquired earlier than prefixes because they are in a "perceptually salient" position.

This principle, therefore, also gives a possible explanation as to why the locative suffix /-ini/ in SiSwati emerged before its prefixal locative counterpart /e-/ , and it also explains why the RPTM /-ile/ developed earlier than any agreement markers or morphemes that precede the verb radical. Both the locative morpheme /-ini/ and the RPTM /-ile/ are suffixes, and thus they occur in a more "perceptually salient" position, i.e. at the end of the word, than their prefixal counterparts. Thus, that is why they are acquired earlier than the prefixal morphemes.

That suffixes will emerge before prefixes in languages can be predicted by Slobin's (1973) universal A1 which says:

(3.27) "Universal A1: For any given semantic notion, grammatical realizations in the form of suffixes or postpositions will be acquired earlier than realizations in the form of prefixes or prepositions." (p. 192)

One interpretation of this universal is that given a semantic notion, the notion will be expressed earlier in the language that uses the suffixes than in the language that uses prefixes. Slobin, in order to support his universal cites data from Mikès (1967) and Mikeš and Vlahović (1966), who studied bilingual children who were learning Hungarian and Serbo-Croatian. Hungarian expresses the concept of locality by using suffixes while in Serbo-Croatian the same concept
is expressed by use of a prefix. Slobin observed that the concept of locality was morphologically expressed earlier in Hungarian than in Serbo-Croatian.

In SiSwati, as we have noticed from the above discussion, the concept of locality is expressed by two discontinuous morphemes; the locative prefix /e-/ and the locative suffix /-ini/. In the above discussion we also noticed that Cimcim was capable of using the locative suffix /-ini/ in her locative utterances but she did not make use of the locative prefix /e-/ until a month later. This implies that the /-ini/ was acquired earlier than the locative prefix /e-/. These data, like those of Hungarian and Serbo-Croatian, support Slobin's universal A1 above. The data on the RPTM also support this universal.

The reason why suffixal morphemes are acquired earlier is simply because they are in the "perceptually salient" position, at the end of the words, as compared to prefixal morphemes such as the locative prefix /e-/ and the agreement markers. Thus, these data support Slobin's universal A1, which is the morphological manifestation of Slobin's principle A, viz., that of paying attention to words' endings.

3.2.3.3. **Summary**

In the foregoing discussion, we proposed six possible strategies that might be used by a child in acquiring affixes in SiSwati. The affixes that we had in mind when these strategies were proposed were the two discontinuous morphemes that mark the concept of
locality in SiSwati /e---ini/. The /e-/ is added at the beginning of
the noun and the /-ini/ at the end of the noun. The possible
strategies we proposed that a child might use in acquiring these
morphemes were that the child might acquire /e-/ before the suffix
/-ini/ (Strategy 5); or that she/he might acquire /-ini/ before the
prefix /e-/ (Strategy 6); or that she/he might acquire them simultan-
eously (Strategy 7). In connection with the locative prefix /e-/ and
the nominal prefix we proposed the following strategies: that a
child will acquire the locative prefix /e-/ before the noun prefixes
(Strategy 8); or that she/he may acquire the nominal prefixes before
the locative prefixal /e-/ (Strategy 9); or that she/he may acquire
them both simultaneously (Strategy 10).

The SiSwati data we presented suggested that locative suffix
/-ini/ was acquired before the locative prefix /e-/ . The data on
verb construction also showed that the RPTM /-ile/ emerged before
any agreement markers or morphemes that can be used before the verb
radical. Later, the prefixal locative /e-/ emerged before the noun
prefixes. Thus, the order of acquisition of these morphemes can be
expressed as follows: suffixes emerged before prefixes, and that
within the types of prefixes that can occur before the nominal stem,
the locative prefix /e-/ emerged earlier than the noun prefix. Thus,
these data suggest that the locative morphemes /e---ini/ did not
emerge simultaneously, nor did the locative prefix /e-/ emerged
simultaneously with the noun prefix. The RPTM /-ile/ did not emerge
simultaneously with any agreement markers or morphemes that can be
used before the verb radical.

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The SiSwati data therefore support the strategy that locative suffix /-ini/ will emerge before the locative prefix /e-/. The RPTM suffix /-ile/ also emerged before any agreement markers or morphemes that can be prefixed to the verb radical. Thus, suffixes are acquired before prefixes.

The acquisition of suffixes before prefixes can possibly be explained by Slobin's universal A1, which predicts this order of acquisition; since this universal is a morphological manifestation of principle A, which says that children pay attention to the words' endings because they are in a "perceptually salient" position.

The next set of strategies deal with the marking of number before the emergence of prefixes.

3.2.4 The Concept of Number is Marked Before the Emergence of Prefixes vs. The Noun Prefixes Emerge Before the Marking of Number

This subsection deals with a possible device that a child might use in marking the concept of number before the acquisition of the appropriate morpheme (noun prefixes) in SiSwati.

Brown (1973), Rijk-Dravina (1959), Slobin (1973) observed that children started marking number in nouns at the age of 23-24 months. Anisfeld and Tucker (1968) "suggested that a numeral preceding a noun may be construed by the young child as a sufficient marker of plurality, resulting in such constructions as 'two book' and 'one-two shoe.' Such observations suggest that any attempt to study the nature of the child's pluralization rules must focus not only on his knowledge of 'adult' rules but also on any other rules which he may
adopt temporarily" (Anisfeld and Tucker, 1968, p. 212). This observ-
ervation implies that in some languages the concept of number may be
marked or expressed by other morphemes before the appropriate morpheme
to mark number develops.

In SiSwati, number is expressed morphologically by use of a
singular or plural prefix. In the previous discussions, we noticed
that at the age of 26 months Cimcin had not yet acquired noun
prefixes. Since other children, e.g. children acquiring English,
start marking nouns for number at the age of 23-24 months, one wonders
whether SiSwati children start marking nouns for number only after
the acquisition of noun prefixes, which would imply that SiSwati
children do not mark the concept of singular/plurality in their
utterances till after the acquisition of noun prefixes. This might
be one of the strategies a child might use in SiSwati in order to
cope with the problem of marking number before the acquisition of
noun prefixes (Strategy 11: Concept of Singular/Plurality is not
Marked till the Noun Prefixes are Acquired). An alternative to
Strategy 11 would be that a child might mark the concept of singular/
plurality before the emergence of noun prefixes (Strategy 12: The
concept of number is marked before the emergence of noun prefixes).
This might be possible, since it has been observed that children
acquiring some Indo-European languages used numerals before the noun
to be pluralized in order to mark number. One wonders what a SiSwati
child will use should the child adopt Strategy 12, since the numbering
system in SiSwati is highly complex. With these strategies and
questions in mind let us look at Cimcin's data.

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3.2.4.1 **Possessive Pronouns**

A word on possessive pronouns is in order here, since this was one of the possible "devices" Cimcim used in order to mark number in her utterances before she acquired noun prefixes.

In SiSwati a possessive pronoun can be segmented into three morphemes: the first morpheme is a possessive agreement marker (PA) agreeing with the noun possessed; the second morpheme is a possessive morpheme (PM); which could either be /-a-/ or /-e-/ in certain environments: the /-a-/ occurs with pronouns as well as nouns of class 1a/2a; while /-e-/ occurs with the rest of the nouns. The last morpheme is a possessive pronoun, e.g.:

(3.28) **Adult:** si - nkhwa

\[
\begin{align*}
\text{s} & - a - m\text{i} \\
\text{s} & - a - k\text{ho} \\
\text{s} & - a - k\text{he}
\end{align*}
\]

prefix - bread  PA - PM  \[
\begin{align*}
\{&\text{my} & \\
&\text{your (sg.)} & \\
&\text{his/her}
\}
\end{align*}
\]

\[
\begin{align*}
\{&\text{my} & \\
&\text{your (sg.)} & \\
&\text{his/her}
\}
\end{align*}
\]

bread'

(3.29) **Adult:** ti - nkhwa

\[
\begin{align*}
\text{t} & - a - m\text{i} \\
\text{t} & - a - k\text{ho} \\
\text{t} & - a - k\text{he}
\end{align*}
\]

prefix - bread  PA - PM  \[
\begin{align*}
\{&\text{my} & \\
&\text{your (sg.)} & \\
&\text{his/her}
\}
\end{align*}
\]

\[
\begin{align*}
\{&\text{my} & \\
&\text{your (sg.)} & \\
&\text{his/her}
\}
\end{align*}
\]

pieces of bread'

From the above examples, we notice that the first morpheme of the possessive pronoun is identical to the nominal prefix /si-/ in 3.29 and /ti-/ in 3.29. The /-i-/ of the prefix is deleted by a phonological rule that disallows vowel sequences in the language. Thus,
given the possessive pronoun, one can infer the shape of the noun prefix as well as the number of the noun possessed. Now let us look at the data from Cimcim.

3.2.4.2 Data

Consider the following utterances which were produced by Cimcim at the age of 26 months:

(3.30) a) **Cimcim:** yekela kathulo sami
leaveshoe my
'Leave my shoe!'  
b) **Adult:** yekela ti - cathulo t-a - mi
leaveshoepref. - shoe PA-PM-my
'Leave my shoes!'

(3.31) a) **Cimcim:** Kathulo sami khumul el - a - ni?
shoemy take-off - bene.-a-why
'Why are you taking my shoe off?'  
b) **Adult:** u - ti el - a - ni ti -
SVA - OVA - take-off - bene.-a-why pref. -
cathulo t - a - mi?
shoepa - pm - my
'Why are you taking my shoes off?'

(3.32) a) **Cimcim:** tsheng - el - e tutu katulo sami
buy - bene - RPTM Tutu shoes my
'Tutu bought me (a) shoe.'
b) Adult: u - ngi - tsheng - el - e tutu
     SVA - OVA - buy - bene- RPTM T
     ti - cathulo t - a - mi.
     pref. - shoe PA - PM - my
'Tuto bought me a (pair) of shoes.'

The examples from (3.30) show that Cimcim was not using the possessive pronouns to mark number at this stage, but that she was acquiring a new category (after acquiring the categories of noun and verb) viz., that of possessive pronouns.

Cimcim produced sentence 3.30(a) when her sister Banele took Cimcim's 'shoes' into the house. According to the situation Cimcim should have used the plural form to express that Banele was taking her 'shoes' and not 'shoe.' Therefore, the possessive pronoun used should have been tami 'my' instead of sami 'my,' if she wanted to signal that the noun kathulo 'shoe' was plural in form. Hence, this sentence does not fit into the content in which it was meant for i.e., the situation demanded the usage of a plural nominal phrase.

In sentence 3.31(a), Cimcim was wearing both 'shoes' and her sister Banele came and pulled them off simultaneously as Cimcim was seated on the mat. Again, she should have used tami 'my' instead of sami 'my' in referring to the fact that her sister took off both 'shoes.'

The context for 3.32 was that Tutu, Cimcim's mother, bought her a 'pair of shoes.' Cimcim was showing me the pair of 'shoes' as she was producing 3.32(a). In this case again, Cimcim should have used the plural form of the possessive pronoun tami 'my,' because
Tutu did not buy her 'one shoe' but a 'pair of shoes.' From the above examples Cimcim was using the possessive pronouns to indicate that she was the owner of 'shoe'/ 'shoes.' At this point she was not using the possessive pronouns to mark number but possession.

According to Kunene (1975, page 13) Thabie also acquired possessive pronouns before noun prefixes. When Thabie was still acquiring the possessive pronouns, she did not use them to indicate number, but simply to indicate possession. Consider some of Thabie's utterances at the age of 25 months:

(3.33) a) **Mother:** mo sese w-a mang?

   prefix - dress PA - PM - whose

   'Whose dress is it?'

   b) **Thabie:** waka

   'mine.'

c) **Adult:** w - a - ka

   PA - PM - mine

   'mine'

(3.34) a) **Mother:** tsebe y-a mang?

   ear PA - PM - whose

   'Whose ear is it?'

   b) **Thabie:** waka

   'mine'

c) **Adult:** y - a - ka

   PA - PM - mine

   'mine.'
In 3.33(a), the mother of Thabie asked the question as she was holding Thabie's dress. Thabie responded by using utterance 3.33(b). In sentence 3.33(b) the possessive agreement marker is correct, since it agrees with the possessed noun mo-sese 'dress.' The question in 3.34(a) was asked as Thabie's mother was holding Thabie's ear. Thabie responded with 3.34(b). If we compare her response to that of an adult speaker in 3.34(c), then we notice that the possessive agreement marker she used was not "correct." She should have used /y-/ as a possessive agreement marker which is used with nouns of class 9/10 singular, rather than the /w-/ she used. Thabie seems to have been using waka 'my' no matter what class the possessed noun belong to. In other words, waka 'mine' was one of the early possessive pronouns she acquired. There were a number of wrong possessive agreement markers used by Thabie between the age of 25-26 months. Again, Thabie, like Cimcim, was acquiring a new category of words, viz., the possessive pronouns.

At the age of 28-30 months Cimcim used possessive pronouns as well as demonstrative copulatives in order to mark number in nouns as well as to express possession. The nouns in most cases were still prefixless. Consider Cimcim's utterances that were produced between the ages of 28-30 months:

(3.35) a) Cimcim: -khwama s - a - kho.

  bag       : PA - PM - your

  'your bag.'

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b) Adult: si - khwama s - a - kho.
   prefix - bag PA - PM - your
   'your bag...'

(3.36) a) Cimcim: funa tshatsha cathulo t - a - kho.
   want take shoe PA - PM - your
   'I want to take your shoes.'

b) Adult: ngi-funa ku -tshatsha ti -cathulo
   SVA-want inf.-want pref.-shoe
   t - a - kho.
   PA - PM - your
   'I want to take your shoes.'

Cimcim said sentence 3.35(a) when she was reporting on Banele who was searching my bag. Sentence 3.36(a) was said as we were moving away from a sunny spot to the shade. Cimcim was telling me that she wanted to take 'my shoes.' In sentence 3.36(a) the noun 'shoes' is used without a prefix /ti-/, which could have designated that the noun is in the plural form and is in class 7/8. If we look at the possessive pronouns used in both sentences, then we notice that in 3.35(a), /s-/ is the possessive agreement marker used with nouns of class 7/8 singular. Despite the fact that the noun khwama 'bag'/ 'bags' is used without a prefix, its number is reflected in the possessive agreement marker /s-/; and of course the context demanded a singular construction. In sentence 3.36(a), the noun cathulo 'shoe'/ 'shoes' also occurred without a prefix. The possessive agreement marker /t-/ again, did reflect the intention of the speaker, viz., that the noun was to be in the plural form. Since the
prefixes had not yet developed, number in these constructions was signaled by the possessive agreement marker.

Between the age of 29-30 months Cimcim produced utterances such as the following:

(3.37) a) i) **Cimcim:** bisa cathulo s-a-mi Fana!
   bring-back shoe PA-PM-my Fana
   'Bring back my shoe Fana!'

   ii) **Cimcim:** tshatsha cathulo t-a-kho Zanele!
   take shoe PA-PM-your Zanele
   'Take your shoes, Zanele.'

b) i) **Adult:** Buyisa si -cathulo
   bring-back pref.-shoe
   s - a - mi Fana!
   PA - PM - my F.
   'Bring back my shoe, Fana!'

   ii) **Adult:** Tshatsha ti -cathulo t-a-kho
   take pref.-shoe PA-PM-your
   Zanele!
   Z.
   'Take your shoes, Zanele.'

Sentence 3.37(aj), was said by Cimcim as Fana took away Cimcim's 'shoe.' Cimcim was ordering him to bring back her si-cathulo 'shoe' as he was crawling away with it. The noun cathulo 'shoe' has no prefix, and yet the possessive agreement marker /s-/ signals singularity of the noun possessed. In sentence 3.37 (a,ii), Cimcim was reminding Zanele to pick up her (Zanele) ti-cathulo 'shoes' as
we were preparing to leave. Again the noun *cathulo* 'shoes' was used without a prefix and yet its intended number was signaled by the possessive agreement marker */t-/, which is used with plural nouns of class 7/8. From the above sentences, which are typical of other utterances which Cimcim produced, we notice that number was expressed by use of possessive pronouns before the prefixes developed. The nouns in Cimcim's utterances 3.37(a, i and ii) *cathulo* 'shoe'/'shoes' lack the nominal prefixes */si-/ and */ti-/*, which denote singularity and plurality respectively.

At times Cimcim used demonstrative copulatives (DCA) to mark number in nouns. Consider the following sentences:

(3.38) a) **Cimcim:** nankha swidi

here - DCA sweet

'Here are (some) sweets!'

b) **Adult:** nankha ema - swidi

here - DCA pl. pref. - sweet

'Here are (some) sweets.'

Cimcim produced sentence 3.38(a) as I was taking some 'candy'/'sweets' out of my purse. The demonstrative copulative *nankha* 'here they are,' signals the number of the prefixless noun *swidi* 'candy'/'sweets' in 3.38(a). The demonstrative copulative *nankha* 'here they are' is used with plural nouns that use the plural prefix */ema-/*. Thus, demonstrative copulatives used by Cimcim also signaled the number of the noun. These constructions which Cimcim used in order to express number in nouns were correct for the situation/context in which they were used.
To sum up on number: in the above discussion we noticed that at the age of 26 months, Cimcim was acquiring possessive pronouns as a category. At this time, she used possessive pronouns only to mark the concept of possession. At the age of 27-30 months, Cimcim used the possessive pronouns as well as demonstrative copulative in order to signal number in her prefixless nouns. Thus, these data support the strategy that number can be marked by other means before the emergence of noun prefixes (Strategy 12). This implies that the concept of plurality has developed in the child since she is marking it already. In other words the concept of plurality seems to develop before the emergence of prefixes. One wonders why does the child choose possessive pronouns as well as demonstrative copulatives to mark number.

Let us look at possible explanations as to why the child uses possessive pronouns as well as demonstrative pronouns in order to mark number.

3.2.4.3 Discussion

Most investigators, including Brown (1973), Rõke Draviña, (1959), Slobin (1973) observed that their subjects started marking for plurality on nouns at the age of 23-24 months. Brown (1973) stated it as follows: "Children seem to have grasp of it \( \sqrt{\text{sg.} / \text{pl.}} \) distinction even in Stage I, since the reference operation called "recurrence" and expressed by 'more' or 'nother' usually refers to additional instances of a type already present or recently present" (Brown, 1973, p. 330). One interpretation of Brown's
statement is that, at this stage, children are capable of making a "distinction between one instance of a type named and more than one"... (Brown, 1973, p. 330). If that is the case, then the only thing that remains is for a child to express this notion by using "grammatical reflexes of singular and plural number" (Brown, 1973, p. 330).

Cimcim, as we noticed in the above discussion, started using possessive pronouns and demonstrative copulatives to mark number at the age of 27-30 months, though at the age of 26 months she was still acquiring the possessive pronouns. It is not clear to me whether the concept of plurality developed earlier than the age of 23-24 months, as suggested by Brown (1973) and others. If, as in English, Russian etc. children, the concept of number did develop earlier than the age of 23-24 months in Cimcim, then one wonders as to why Cimcim did not start making it at the same time, 23-24 months, as the English and Russian children did. 12

If Cimcim did develop the concept of plurality earlier, and did not mark it morphologically at the same time as the English and Russian children did, then the reason why she did not do that may be possibly explained by Slobin's Universal El:

(3.39) "Universal El: A child will begin to mark a semantic notion earlier if its morphological realization is more salient perceptually (ceteris paribus)"...
(Slobin, 1973, p. 202)

Slobin does point out "That the notions of 'more salient perceptually' and 'ceteris paribus,' of course, are in need of more precise definition"... (Slobin, 1973, p. 202). One possible
interpretation of the above universal is that, if a concept is marked by a morpheme that occurs in "perceptually salient" position, then that concept will be morphologically marked earlier in children's utterances.

Slobin formulated this universal on the basis of the data from two bilingual girls who were acquiring Hungarian and Serbo-Croatian. Hungarian and Serbo-Croatian expresses the concept of locality differently. Hungarian uses suffixes which are attached to nouns, in order to express the concept of locality and directionality. Slobin (1973) gave the following examples:

\[(3.40) \text{ hojo } \quad \text{ 'boat'} \]
\[\text{ hojo - ban } \quad \text{ 'in the boat'} \]
\[\text{ hojo - tal } \quad \text{ 'away from the boat'} \text{ (p. 188)} \]

He noted that these inflections are monosyllabic and systematic in that they apply to all nouns and give the same meaning. In Serbo-Croatian, the concept of locality is encoded by use of preposition as in English 'on', 'from' etc., and that part of this information is encoded in the noun. Thus, the concept of locality in Serbo-Croatian uses prefixes and they are used in a more complex way than in the case of Hungarian, which uses suffixes.

Slobin noticed that, at the age of two years, the two bilingual children were capable of using productively and appropriately the locative markers in Hungarian, but the two bilingual children had barely begun to use locative expressions in Serbo-Croatian. This means that the two bilingual girls had developed the concept of plurality since they marked it in Hungarian even if they
did not mark it in Serbo-Croatian. They were capable of marking number in Hungarian because the concept was simply expressed by use of prepositions, while in Serbo-Croatian the concept was expressed by use of prepositions. Slobin, after making cross-linguistic comparisons, argued that "suffixes are acquired earlier than prefixes or prepositions, for comparable meanings" (Dale, 1976, p. 46).

On the basis of the foregoing discussion, one can say that the concept of plurality was marked earlier in English and Russian, as in Hungarian, because all these languages express the concept of plurality by means of suffixes. In the case of Cîmcîm, who was acquiring SiSwati, the concept of plurality was marked later because SiSwati uses prefixes to express the concept of plurality - like Serbo-Croatian which uses prepositions. On the basis of this universal, as well as Universal A1 (in 3.27), we can predict that the morphological realization of number will be marked Tâter in SiSwati (which uses prefixes) than in English, Russian etc., (which use suffixes). Thus, the SiSwati data support Slobin's Universal A1 and E1.

We have not yet explained why Cîmcîm used possessive pronouns and demonstrative copulatives in order to express number before the emergence of noun prefixes, which are the appropriate markers for number in SiSwati. By way of explanation, in some languages that have been studied, investigators observed that at times children used numerals or words such as 'many' 'several' in order to express number. Rûke-Draviņa (1959) pointed out that in Germanic standard languages children used expressions like: "German: zwei pfund;
Swedish: *tres glas* etc.; and in Latvian children used number "where the number 'two' is followed by a formal singular" (Ruke-Dravina, 1959, p. 257).

In SiSwati, we noticed that Cimcim used possessive pronouns and demonstrative copulatives to mark number, simply because these were the only possible newly acquired syntactic categories that she could make use of at that time in order to express number indirectly. We will recall that in the usage of possessive pronouns, the morpheme that signaled number in the prefixless possessed noun was the possessive agreement marker. For instance, if the possessive agreement marker was /t-/, then we noticed that the intended number of the prefixless noun was plural; if the possessive agreement was /s-/ , then we noticed that the intended number of the noun was singular. One should point out that the context in which the utterances were used confirmed the number that was signaled by the possessive agreement marker.

The usage of (possessive) pronouns in order to signal number in utterances is not unique to SiSwati. Brown observed it in English too: By the time the noun inflected for plurality attained criterion the children also almost always used pronouns with singular or plural number correct according to the reference situation or to the NP antecedent" (Brown, 1973, p. 331). He pointed out that some children in acquiring English used pronouns: 'some,' etc., in contrast with 'one,' etc. It would be interesting to find out whether most children do use possessive pronouns as well as demonstrative copulatives to mark number in SiSwati.

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Cimcim never used numerals to mark number at the age of 27-30 months, because numerals in SiSwati, as in most Bantu languages, are complex in construction, in that they use adjectival agreement markers and fall under the category of adjectives. It would be interesting to find out what a bilingual child, acquiring English and SiSwati would use in marking number before the emergence of the appropriate number markers in both languages.

At any rate, Cimcim, like English children, did mark number before the emergence of prefixes. The marking of number in nouns occurred earlier in children acquiring English, at the age of 23-24 months, than in Cimcim who started marking it at the age of 27-30 months. This supports Slobin's Universals E1 and A1. The children acquiring English used numerals and words like 'some,' 'several' or pronouns, while Cimcim used possessive pronouns and demonstrative copulatives. In both languages, the appropriate markers developed after the concept of plurality was marked by other devices. Brown (1973), in his study on the order of acquisition of the fourteen morphemes in English, ranked number as No. 4. the marking of plurality seems to develop later in most languages, as Ruke-Dravina pointed out for Latvian: "Even psychologically, the priority of formally marked plural forms does not seem to me to be urgently needed, for the concept of plurality can easily be expressed by the formally singular form with the addition of a number" (Ruke-Dravina, 1959, p. 257). As we noticed in the above discussion, some languages used different morphemes such as numerals to mark number before the appropriate markers emerged.
3.2.4.4 Summary

In the foregoing discussion, we were looking at the development of the concept of number in children acquiring SiSwati. We advanced two strategies that the child may follow, if the concept of number develops before the appropriate morphemes that mark number in SiSwati. One possible strategy that a child might use to cope up with the situation might be not to mark the concept of number until the appropriate morphemes that mark it develop (Strategy 11). The other strategy would be that the child would mark number before the appropriate markers emerge (Strategy 12).

From the SiSwati data discussed above, we noticed that Cimcim did mark the concept of number before the emergence of singular and plural prefixes in SiSwati. Cimcim used possessive pronouns and demonstrative copulatives in order to express the concept of number morphologically.

Therefore the SiSwati data support the strategy of marking number before the appropriate markers develop (Strategy 12). This phenomenon is not peculiar to SiSwati, because it has been observed in other languages, such as English, Russian, Latvian, etc., that children did use different devices in order to mark number before the emergence of appropriate markers. In the SiSwati data, in comparison with the data from other languages, we noticed that Cimcim started making number much later (27-30 months) say than English children, who started marking for it at the age of 23-24 months.
The fact that Cimcim started marking for number later than English subjects was explained by Slobin's Universal El and Al, which predict that if a notion is expressed by means of a suffix in one language, and by prefix in another, then the same notion will be morphologically marked earlier in the language that uses suffixes than in the language that uses prefixes. Probably that is why the appropriate plural markers developed earlier in English than they did in SiSwati. Thus, the SiSwati data in addition to English etc., data support Slobin's Universals El and Al.

Let us now look at the strategies that deal with the emergence of singular and plural prefixes.

3.2.5 Some Nouns use Singular Prefixes Before Using the Plural Ones and Others use Plural Prefixes Before Using the Singular Ones vs. All Nouns use Singular Prefixes Before Using the Plural Ones.

Before advancing some strategies that the child may make use of in dealing with noun prefixes, let us recapitulate certain facts about nouns in SiSwati.

3.2.5.1 Some Characteristics of Nouns

To repeat, in SiSwati, nouns consist of a prefix and a stem, unlike in most non-Bantu languages where most nouns are monomorphemic. Nouns in most languages can be classified according to certain syntactic features such as concrete, count, mass, abstract, etc. In some languages, such as in English, abstract nouns are usually non-count, while concrete nouns are usually count nouns, etc. Most nouns
in English are monomorphic while in SiSwati all nouns have to have a prefix (singular or plural) whether they are mass, abstract, count, or concrete nouns. The structure of nouns in SiSwati raises a number of interesting questions such as: which prefixes will abstract or mass nouns use? Will these type of nouns (abstract or mass) be found in a particular class or not? Let us look at the facts about such nouns in SiSwati adult speakers.

Most Bantu grammarians claim that mass nouns mainly occur in class 5/6 in Bantu languages. In SiSwati mass nouns are found in different classes, and it is true that the commonly used ones occur in class 5/6. Consider the following nouns:

<table>
<thead>
<tr>
<th>(3.41)</th>
<th>Nouns in Adults</th>
<th>Gloss</th>
<th>Class</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>a)</td>
<td>in-gati</td>
<td>'blood'</td>
<td>9/10</td>
<td>Singular</td>
</tr>
<tr>
<td></td>
<td>lu-bisi</td>
<td>'milk'</td>
<td>11/10</td>
<td>Singular</td>
</tr>
<tr>
<td></td>
<td>lu-ju</td>
<td>'honey'</td>
<td>11/10</td>
<td>Singular</td>
</tr>
<tr>
<td></td>
<td>um-chamo</td>
<td>'urine'</td>
<td>3/4</td>
<td>Singular</td>
</tr>
<tr>
<td></td>
<td>um-shibo 14</td>
<td>'broth'</td>
<td>3/4</td>
<td>Singular</td>
</tr>
<tr>
<td></td>
<td>lu-hluti</td>
<td>'liquid from a wound'</td>
<td>11/10</td>
<td>Singular</td>
</tr>
<tr>
<td>b)</td>
<td>um-hluti</td>
<td>'soup'</td>
<td>3/4</td>
<td>Singular</td>
</tr>
<tr>
<td></td>
<td>imi-hluti</td>
<td>'soups'</td>
<td>3/4</td>
<td>Plural</td>
</tr>
<tr>
<td>c)</td>
<td>ema-si</td>
<td>'sour milk'</td>
<td>5/6</td>
<td>Plural</td>
</tr>
<tr>
<td></td>
<td>ema-nti</td>
<td>'water'</td>
<td>5/6</td>
<td>Plural</td>
</tr>
<tr>
<td></td>
<td>ema-finyila</td>
<td>'mucus'</td>
<td>5/6</td>
<td>Plural</td>
</tr>
<tr>
<td></td>
<td>ema-nga</td>
<td>'lies'</td>
<td>5/6</td>
<td>Plural</td>
</tr>
<tr>
<td></td>
<td>ema-simba</td>
<td>'shit'</td>
<td>5/6</td>
<td>Plural</td>
</tr>
</tbody>
</table>
In 3.41(a), the nouns *in-gati* 'blood,' *lu-bisi* 'milk,' *lu-ju* 'honey,' *um-chamo* 'urine,' *um-shibo* 'broth,' *lu-hluti* 'liquid from the wound' take singular prefixes in adult speech. We notice that some of the above nouns use singular prefixes: */in-/* of class 9/10, */lu-/* of class 11/10 and */umu-/* of class 3/4. The nouns in 3.41(a) have no plural alternatives, i.e., they do not take plural prefixes.

In 3.41(b), the noun *um-hluti* 'soup' uses the singular prefix of class 3/4 */um-/* and the same noun takes a plural prefix */imi-/* as in *imi-hluti* to mean 'different types of soups' or it can be used to refer to the 'same type of soup in different containers.' That is how this noun can be used in adult speech. In 3.41(a), we noticed that the nouns *um-shibo* 'broth' *um-chamo* 'urine,' use singular prefix of class 3/4 */umu-/* and yet they do not have plural alternatives.

In 3.41(c), nouns like *ema-si* 'sour-milk,' *ema-nti* 'water,' *ema-finyila* 'mucus' *ema-nga* 'lies,' *ema-simba* 'shit,' use class 5/6 plural prefix */ema-/*. The nouns in 3.41(c) are interesting in that some of them can have a possible corresponding singular forms. For instance, consider the following sentences:

(3.42) a) Adult: kute *ema-nti* lapha ekhaya
    no pref.-water here home

    'There is no water (here) at home.'

    b) Adult: kute ngisho *li-nti* lapha ekhaya
    no say pref.-water here home

    'There is not even a drop of water (here) at home.'

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In 3.42(a) the noun *ema-nti* 'water' is usually used with the plural prefix /ema-/ in adult speech, while *li-nti* 'a drop of water' does occur in rare constructions as in 3.42(b). Sentence 3.42(b) is almost an idiomatic expression, in that the singular form of the noun *li-nti* 'drop of water' should follow the verb *-sho* 'say.' If the verb *-sho* 'say.' is deleted in 3.42(b), then the sentence becomes marginal or unacceptable with some speakers. Most of the liquid nouns in 3.41(c) that can be used with a singular prefix /li-/ can be interpreted as meaning 'a drop of ___' in English. Givón (1969) in his study on ChiBemba also noted that some of the mass nouns that fall under class 5/6 usually use the plural prefix /ama-/ but that they can also take a singular prefix /li-/.

From the above data we notice that the nouns in 3.41(a) are always used with singular prefixes in adult speech and that they never take a plural prefix. This implies that children always hear these nouns with a singular prefix. In 3.41(b), on the other hand, the noun *um-hlutini* 'soup' can take both singular and plural prefix. The noun *um-hlutini* 'soup' usually occurs in singular form. The nouns in 3.41(c) usually occur with the plural prefix /ema-/ in adult speech, and those that can take a singular prefix occur under rare occasions (or in idiomatic expressions). In other words, children frequently hear these nouns used with their plural prefix /ema-/.

I have my doubts if children ever hear the singular forms of these nouns in adult speech, since they are used very rarely.

Abstract nouns in SiSwati are also found in different classes instead of occurring in class 14, which has been traditionally
associated with them, e.g.:

(3.43) Nouns in Adults  |  Gloss  |  Class  |  Number
a) si-sa | 'kindness' | 7/8 | Singular
b) lu-laka | 'harshness' | 11/10 | Singular
c) tin-hloni | 'coyness' | 9/10 | Plural
e) ma-hloni | 'shyness' | 5/6 | Plural
d) bu-so | 'face' | 14 | Singular
b) oya | 'hair' | 14 | Singular
bu-hle | 'beauty' | 14 | Singular

In 3.43, nouns like si-sa 'kindness,' lu-laka 'harshness' use singular prefixes and they do not take plural prefixes. In 3.43(c), both nouns tin-hloni 'coyness' and ema-hloni 'shyness' use plural prefixes /tin-/ and /ema-/ respectively. Neither noun ever uses singular prefixes. Nouns in 3.43(d) use /bu-/ which is regarded as a singular prefix of class 14. Again, we notice that some nouns use singular prefixes only, and others plural prefixes only.

In summary, mass nouns as well as abstract nouns in SiSwati may use a singular or a plural prefix. Some mass nouns can use both singular and plural prefixes as we noticed with the noun um-hluti/imi-hluti 'soup'/soups'. These facts raise a number of questions in connection with their acquisition.

When the prefixes begin to be used together with the stems that the child has been producing, there are a number of strategies that a child may follow in acquiring the appropriate prefixes of the nouns. The child might learn the singular prefixes of the nouns before learning their plural alternatives. In other words all the
nouns should be used with a singular prefix first before a plural one (Strategy 13). Or, the child might acquire some nouns with singular prefixes before learning their plural alternatives, and learn some nouns with their plural prefixes before learning their singular alternative prefixes (Strategy 14).

Now let us look at the SiSwati data and see which strategy did Cimcim use.

3.2.5.2 Data

At the age of 27-34 months Cimcim used some of the following nouns:

<table>
<thead>
<tr>
<th>(3.44) Cimcim</th>
<th>Gloss</th>
<th>Adult</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) -tfwana 'child'/ 'baby'</td>
<td>um-tfwana</td>
<td>1/2</td>
<td></td>
</tr>
<tr>
<td>-mtfwana 'child'/ 'baby'</td>
<td>um-tfwana</td>
<td>1/2</td>
<td></td>
</tr>
<tr>
<td>umtfwana 'child'/ 'baby'</td>
<td>um-tfwana</td>
<td>1/2</td>
<td></td>
</tr>
<tr>
<td>amtfwana 'child'/ 'baby'</td>
<td>um-tfwana</td>
<td>1/2</td>
<td></td>
</tr>
<tr>
<td>b) -finyila 'mucus'</td>
<td>ema-finyila</td>
<td>5/6</td>
<td></td>
</tr>
<tr>
<td>afinyila 'mucus'</td>
<td>ema-finyila</td>
<td>5/6</td>
<td></td>
</tr>
<tr>
<td>emafinyila 'mucus'</td>
<td>ema-finyila</td>
<td>5/6</td>
<td></td>
</tr>
<tr>
<td>c) -lutshi 'straw'</td>
<td>lu-tshi</td>
<td>11/10</td>
<td></td>
</tr>
<tr>
<td>li-lutshi 'straw'</td>
<td>lu-tshi</td>
<td>11/10</td>
<td></td>
</tr>
<tr>
<td>ti-lutshi 'straws'</td>
<td>tin-tshi</td>
<td>11/10</td>
<td></td>
</tr>
</tbody>
</table>

In the previous discussions, we noticed that at the age of 26 months, Cimcim used stems without prefixes, except in cases of monosyllabic stems as well as VCV stems where the stems were produced together with their prefixes. In the case of monosyllabic and VCV type of stems where the prefixes were used together with these types of stems, Cimcim used them as monomorphemes. We know this because when she started using prefixes then she assigned singular and
plural prefixes to these nouns. For instance, in 3.44(c), we notice that the noun lu-tshi 'straw' in adult speech was rendered by Cimcim as -lutshi 'straw' at the age of 26 months, and li-lutshi 'straw,' ti-lutshi 'straws' at the age of 36 months.

In the process of acquiring noun prefixes, there was a time when Cimcim used her nominal stems with vowels as in 3.44(a), where she used a-mtfwana for 'child'/'baby' and a-finyila for 'mucus.' I must add immediately that the stage of using prefixless nouns, the stage of using vowels with stems, and the stage of using proper prefixes, are not clearly distinguished, especially between the age of 27-34 months. These stages overlap, and each one is marked by certain predominant characteristics which will not concern us here. The use of a vowel with nominal stems - as we shall see in Chapter 6 - occurred at the same time as the agreement marker(s) started to emerge. In most cases, again, as we shall see in Chapter 6, the vowel that occurred with the nominal stems was used either as an agreement marker in a noun used as a copulative or to mark a topicalized noun. With these facts in mind let us look at the nouns used by Cimcim in 3.44(a) and (b).

In 3.44, we notice that the nouns -tfwana 'child'/'baby' and finyila 'mucus' were at one time used without prefixes. The noun -mtfwana 'child'/'baby' at times occurred with a nasal /-m-/ initially. This was true for most nouns in class 1/2, 3/4, 9/10 singular. One might mention here that in adults these classes have a nasal in their prefixes, /umu-/ for classes 1/2, 3/4, and /in-/ for class 9/10. At times these nouns occurred with vowels such as
/a-/ as in a-mtfwana 'child'/ 'baby' and a-finyila 'mucus,' then eventually the appropriate prefixes emerged.

In the case of the noun ema-finyila 'mucus,' the prefix Cimcim used was /ema-/, which is the plural prefix of class 5/6, and she never used the singular prefix /li-/. If it is true that singular forms in nouns emerge before plural forms, then we would have expected Cimcim to use li-finyila 'a drop of mucus' which is possible in rare constructions, instead of ema-finyila for 'mucus' but she did not.

In the case of umtfwana 'child'/ 'baby' Cimcim used the singular prefix /umu-/. I must add that it is difficult to say with certainty whether the /um-/ was used by Cimcim as a prefix or whether she used /u-/ as a prefix and considered mtfwana as a stem. At any rate, the point I would like to make here is that Cimcim produced a singular prefix of this noun before acquiring the plural one. In fact, she never used the plural form of the noun 'child'/ 'baby' between the age of 27-30 months, which is bantfwana in adults.

Thus, from the examples in 3.44(a) and (b) we notice that the nouns ema-finyila 'mucus' and um-tfwana 'baby'/ 'child' developed their prefixes at the same time. The noun ema-finyila 'mucus' used the plural prefix first before using the singular one, while the noun um-tfwana 'child'/ 'baby' used the singular prefix first before using the plural alternative one. These data, therefore, support the strategy that some nouns will be acquired with their plural prefixes first, before their singular alternatives, and that some will be acquired with their singular prefixes first, before their
plural alternatives. The claim that the singular forms of nouns emerge before the plural ones will not account for the fact that in SiSwati some nouns have a plural prefix and no alternative singular prefix; and that for these the plural prefix may emerge before the singular prefix.

If all nouns use their singular prefixes first, i.e., before the plural prefixes, then we would expect the child to produce the singular form of nouns before the plural forms. We would even expect a child to use the singular forms of nouns - at one stage - in the plural context in order to denote 'one' or 'two' referents, as Hooper observed: "Until the proper formal marking is acquired, then, one inflectional form tends to replace all others, in this case the singular form of the noun replaces the plural form" (Hooper, 1978, p. 4). But the data we have seen so far suggest something more than this statement. At any rate, one can still argue that probably the noun ema-finyila 'mucus' might have developed with the plural prefix but that the child used it as a singular noun, thus, used it both in singular and plural contexts.

Consider some of Cimcim's nouns that she used at the age of 35-36 months (as shown on page 122). In 3.45(a-e), is a sample of nouns that were used by Cimcim. The left column was supposed to contain singular nouns and the right column was supposed to have plural nouns, as in the adult speaker column. When I asked Cimcim to give singular or plural nouns for nouns in these classes without using possessive pronouns or demonstrative copulatives, Cimcim simply used one form for both singular and plural. When asked for
<table>
<thead>
<tr>
<th>Number</th>
<th>Gloss</th>
<th>Adult</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>sg.</td>
<td>'ear'/'ears'</td>
<td>in-dlebe/tin-dlebe</td>
<td>9/10</td>
</tr>
<tr>
<td>pl.</td>
<td>'ear'/'ears'</td>
<td>in-dlebe/tin-dlebe</td>
<td>9/10</td>
</tr>
<tr>
<td>sg.</td>
<td>'glass'/'glasses'</td>
<td>in-gilazi/tin-gilazi</td>
<td>9/10</td>
</tr>
<tr>
<td>pl.</td>
<td>'glass'/'glasses'</td>
<td>in-gilazi/tin-gilazi</td>
<td>9/10</td>
</tr>
<tr>
<td>pl.</td>
<td>'stone'/'stone' (fruit)</td>
<td>in-dvumbu/tin-dvumbu</td>
<td>9/10</td>
</tr>
<tr>
<td>sg.</td>
<td>'hand'/'hands'</td>
<td>s-andla/t-andla</td>
<td>7/8</td>
</tr>
<tr>
<td>pl.</td>
<td>'hand'/'hands'</td>
<td>s-andla/t-andla</td>
<td>7/8</td>
</tr>
<tr>
<td>sg.</td>
<td>'hat'/'hats'</td>
<td>si-gcoko/ti-gcoko</td>
<td>7/8</td>
</tr>
<tr>
<td>pl.</td>
<td>'hat'/'hats'</td>
<td>si-gcoko/ti-gcoko</td>
<td>7/8</td>
</tr>
</tbody>
</table>
instance: yini loku? 'What is this?' - holding her ears - then she would say tin-dlebe 'ears.' Then when asked the same question right after the first response, but now holding one ear, she gave the same plural form in the context which required the singular form instead of the expected singular noun in-dlebe 'ear.' In this case we notice that Cimcim was using a plural noun where the singular form of a noun would have been appropriate. When asked the same question later, now, starting by holding 'one' of her ears, then she would give in-dlebe 'ear' as a response, and when asked the same question right after the first response now holding both her 'ears,' then she would give a response as in-dlebe 'ear' in the context that required the plural noun tin-dlebe 'ears.' At the beginning I thought that she had a problem since the referents for this noun, and a few others such as in 3.45(d), come in pairs, but then she did the same with other nouns whose referents do not come in pairs, such as the nouns in 3.45(b, c, and e).

From the above data it is not clear to me whether the child was using the prefixes to designate number, but what is interesting is that she gave the correct form of a noun when the question was asked for the first time in both cases. What seems to be clear is that Cimcim was using singular forms of nouns in situations where the plural forms would be used, and she used plural forms in situations where the singular forms would be used. These data suggest that plural nouns were used in singular contexts, thus replacing the singular forms, as singular forms were used to replace plural forms. Probably at this stage, Cimcim might have been pairing
these nouns in order to decipher the function of these prefixes, i.e., which prefixes designated singularity and plurality in each pair of nouns.

Now consider the following utterances produced by Cimcim at the age of 35-36 months:

(3.46) a) Cimcim: ngi-hish-wa  ema  - tshe.
       SVA-choke-passive  pl. pref. - saliva
       'I am choked by saliva.'

b) Adult: ngi-hish-wa  li  - tshe
       SVA-choke-passive  sg. pref. - saliva
       'I am being choked by saliva.'

Cimcim was coughing as a result of choking from her saliva. I asked her what was wrong. She responded by using sentence 3.46(a). If we compare Cimcim's utterance with that of an adult speaker, we notice that Cimcim used the noun ema-tshe 'saliva' with a plural prefix /ema-/.

In adult speech the noun li-tshe 'a drop of saliva' is used with a singular prefix /li-/.

The noun ema-tshe 'saliva' should occur with a singular prefix in this context. Sentence 3.46(b) is commonly used in adult speech when somebody is choked by 'saliva.' If singular nouns are acquired before plural ones, then at least we would expect Cimcim to have used /li-/ instead of /ema-/ because this expression occurs now and then in adult speech. This example does imply that in the noun ema-tshe 'saliva,' the first prefix to emerge was the plural prefix /ema-/ rather than the singular prefix /li-/, and that it was used in the plural context.
Some mass nouns have no singular alternative prefix at all, and yet Cimcim was capable of using the correct form of the noun in the appropriate context, e.g.:

(3.47) a) Cimcim: u - butsha _ema_ - simba  
SVA - pick-up pl. pref. - shit  
Ø - e-tin -ja  
PA-PM-pl.pref.-dog

'She is picking up dogs' shit!'

b) Adult: (Same as in 3.47(a)).

(3.48) a) Cimcim: u -nyatshel-e _ema_ - simba  
SVA - step-on-RPTM pl.pref.-shit  
Ø - e -n -ja.  
PA-PM-sg.pref.-dog

'She stepped on (the) dog's shit.'

b) Adult: (Same as in 3.48(a)).

Banele was picking up something in the field and I asked Cimcim what Banele was doing. Cimcim responded by using sentence 3.47(a). I learned later that Banele was ordered by her grandmother to go and pick up several mounds of dogs' shit that were scattered over the field. In sentence 3.46(a) Cimcim used the plural prefix /ema-/ which fitted the context since there were several mounds of shit in the field. If the noun _ema-simba_ 'shit' was a count noun that takes a singular form, then a plural prefix of that noun could have been used in this context.

In sentence 3.48(a), we were walking together, Banele, Cimcim and myself. Banele looked under her foot and dashed off. I asked
Cimcin what was wrong with her sister. Cimcin gave me sentence 3.48(a) as a response. In this case, Banele stepped on one mound of dog's shit, and yet Cimcin used the correct prefix /ema-/ (plural) with the stem /-simba/ 'shit.' If the noun ema-simba 'shit' was a count noun with a singular alternative prefix, then a singular prefix /li-/ could have been in order in this context. But the noun ema-simba 'shit' never uses a singular prefix /li-/ . Again, Cimcin must have acquired the plural prefix /ema-/ for the noun ema-simba 'shit.'

Another example that shows that in some nouns the plural prefix is acquired before the singular one, is from the noun eme-hlo 'eyes.' Whenever I asked Cimcin to give me the noun for eme-hlo 'eyes,' she always responded by using the stem /-hlo/ with the plural prefix /eme-/ . This happened whether I was touching her one eye or both eyes. This seems to be just the opposite of what Hooper (1978) was saying for singular form of nouns, viz., that they are used even in plural context before the emergence of a formal marker (One should add immediately that Hooper made that claim on the basis of languages that do not have singular or plural prefixes plus a stem in order to constitute a noun). To go back to Cimcin, the noun eme-hlo 'eyes' being plural in form was used by Cimcin even in the singular context. In fact Cimcin never used the singular form of this noun. If Cimcin had acquired the singular prefix /li-/ before the plural prefix /eme-/ , then she should have used the singular prefix /li-/ to denote one eye or two eyes. Therefore, this example shows that Cimcin acquired the plural prefix of some
nouns before acquiring their singular alternative.

To sum up: on the basis of the above data, we noticed that with some nouns the singular prefix emerged before its plural alternative prefix; with some nouns, especially mass nouns that use the plural prefix, the plural prefix was acquired earlier in these nouns than its singular alternative prefix. In cases where mass nouns have no singular prefix, then the plural prefix emerged first. In cases of some nouns that come in pairs, both singular and plural prefixes seems to emerge at the same time as suggested by some of Cimcim's nouns.

The data we have discussed so far do not support the strategy that the child will acquire the singular form of nouns before acquiring their plural form; but they do support the strategy in which some singular and some plural prefixes will emerge before other singular/plural prefixes (Strategy 14).

According to Strategy 14, then, before the appropriate use of prefixes, we would expect that nouns that emerged with the singular prefixes will be used also in plural context (as Hooper claimed), and that nouns that emerged with plural prefixes will also be used in singular contexts, as we saw in the case of li-tshe 'saliva' and ema-tshe 'saliva,' where the latter was used in the place of the former.

Let us now turn to the possible explanation for this development of noun prefixes in SiSwati.
3.2.5.3 Discussion

Ervin-Tripp (1973) observed that singular forms of nouns do not necessarily emerge before the plural ones. A child might use a singular form of one noun before using its plural form; and in other nouns a child might use a plural form of a noun before using its singular form. She stated this fact as follows:

If the semantic motivation for inflectional variation is not apparent, (e.g. in the gender variation instance) the child may store the most frequent lexical form. He may learn shoes before shoe, but dog before dogs. (Ervin-Tripp, 1973, p. 273)

From Cimcim's data we noticed that in some nouns the singular prefix emerged before its plural alternative prefix, as in the case of the noun umntfwana 'child'/'baby.' In some nouns, such as ema-finyila 'mucus,' eme-hlo 'eyes,' the plural prefix emerged before the singular prefix that could be used with the singular noun li-hlo 'eye.' These data suggest that in some nouns the singular prefix emerged before its plural alternative, and in some nouns the plural prefix emerged before some singular alternative prefix. This observation can be explained by appealing to probable frequency, viz., that a child will first acquire the form of the prefix that most frequently occurs in a particular noun. For instance, the child never hears the singular form of the noun ema-finyila 'mucus.' So, she learned this noun with its plural prefix first. In the case of eme-hlo 'eyes' the plural form might be the frequent form than the singular form li-hlo 'eye.'
3.2.5.4 Summary

In the foregoing discussion, we proposed two strategies that the child might use in acquiring appropriate noun prefixes with regard to the order of acquisition of singular and plural prefixes in nouns. The first possible strategy we proposed was that, faced with SiSwati noun prefixes, a child might learn the singular forms of nouns first before learning their plural alternatives (Strategy 13). The second was that a child might acquire some nouns with singular prefixes before acquiring their plural prefixes, and acquire some nouns with plural prefixes before acquiring their singular alternatives (Strategy 14).

In SiSwati the data, we noticed that Cimcim acquired the singular prefixes of some nouns before acquiring their plural prefix, as in the case of the noun umtfwana 'child'/ 'baby' whose plural prefix Cimcim never used between the age of 27-30 months. With other nouns, Cimcim acquired their plural prefix before acquiring their singular alternatives. We noticed that in the case of the noun eme-hlo 'eyes' whose singular alternative 1:j-hlo Cimcim never used. It thus appears to be the case that with some nouns the child will learn the singular prefixes before learning the plural ones, and that with other nouns the child will learn the plural prefix before learning the singular counterpart. One possible explanation for this development has to do with the frequency of the noun. If the noun commonly occurs with its plural prefix then the child might learn the plural prefix of that noun before learning its singular prefix. If, on the other hand, the noun is frequently used with
the singular prefix, then the possibility is that the child will acquire the singular prefix of that noun before acquiring its plural form.

3.3 Conclusion

In Chapter 2, we noticed that the noun in SiSwati is bimorphemic, consisting of a prefix and a stem, unlike most nouns in (non-Bantu) languages where there is available data on child language acquisition. In this chapter, therefore, we were mainly concerned with the order of acquisition of various parts of the SiSwati noun: the acquisition of the (bimorphemic) noun; the acquisition of affixes that can be used with the noun; with special reference to the locative discontinuous markers /e---ini/; the emergence of noun prefixes; and the morphemes that are used to mark number before the emergence of noun prefixes. There were a number of possible strategies proposed that the child might use in the acquisition of the various aspects of the noun that were under study. We then looked at SiSwati data to see which strategies they supported, and then discussed possible explanations as to why certain strategies were supported by the data versus others. I will not repeat all the fourteen strategies that were proposed in this chapter, but only those that were supported by the data.

In dealing with the acquisition of the noun (bimorpheme) from the SiSwati data, we noticed that the nominal stems were acquired before the nominal prefixes. This supported the view that the noun stem is acquired before the prefixes. We noticed that this was also
true for monosyllabic stems and VCV stems, where the prefixes were produced together with their stems, but appeared to be treated by the child as if they were part of the stem rather than as prefixes. This became clear when the subject started acquiring prefixes, because these forms were assigned prefixes, thus resulting in a noun with two prefixes, as we noticed with the noun ti-lu-tshi for 'straws' and li-lu-tshi for 'straw' instead of tin-tshi 'straws' and lu-tshi 'straw' respectively. That stems emerged before prefixes was further supported by the predicate construction, where we noticed that the verb radical was used without any of the agreement markers which are prefixed to the verb radical. The possible explanation we advanced as to why stems were acquired before prefixes was that stems, as well as verb radicals, contain the basic meaning of the noun or verb in case of verb radicals. In other words stems were acquired earlier because they are content words. We noticed that stress and tone did not play a role in the order of acquisition of these morphemes. This has been observed in many other languages.

In dealing with the acquisition of locative marker /e---ini/, we noticed that the suffix /-ini/, which is suffixed to the noun stem, was acquired before its prefixal counterpart /e-/, which is prefixed to the noun. In predicate constructions, we also noticed that the recent past tense marker /-ile/, which is suffixed to the verb radical, was acquired before any agreement markers, which can be prefixed to verb radical. These data supported the strategy that suffixes are acquired before prefixes. As a possible explanation for the order of acquisition of these morphemes we gave Slobin's
Principle A, which says that children pay attention to words’ endings. This Principle is morphologically manifested in Slobin's Universal A1, which predicts that if a semantic notion is expressed by prefixes and suffixes, then this notion will be expressed earlier by means of suffixes before it can be expressed by means of prefixes. This was the case with locative markers.

We also noticed that the locative prefix /e-/ emerged earlier than the noun prefixes. The explanation for this will be discussed in Chapter 6.

Since we noticed that the prefixes emerged later, then we wondered whether Cimcim had developed the concept of plurality at the age of 27 months since most children in other languages have been reported to mark nouns for number at the age 23-24 months. On the basis of the data, we noticed that Cimcim, after acquiring possessive pronouns and demonstrative copulatives, at the age of 26 months, started using these morphemes at the age of 27-30 months to mark number in prefixless nouns. These constructions contain an agreement marker which signal the number and class of the noun possessed. It has been observed in many languages that children use other devices to mark number before the emergence of appropriate marker. It would be interesting to find out whether children acquiring SiSwati use only possessive pronouns as well as demonstrative copulatives in order to mark number before the emergence of prefixes or whether they also use other means – excluding the context.
Finally we looked at the emergence of noun prefixes. We noticed that with some nouns Cimcim acquired their singular prefixes before acquiring their plural alternatives, and in some nouns she acquired their plural prefixes before acquiring their singular alternatives. In order to explain this order of acquisition we appealed to the probable frequency of prefixes in each noun.

On the basis of the above discussion, the order of acquisition of the morphemes we dealt with in this chapter can be posited as follows:

a) - nominal stems (verb radicals also emerge at this time).

b) - locative suffix /-ini/ (Recent Past Tense Marker in verbs /-ile/.

c) - possessive pronouns (1st and 2nd person).

d) - locative prefix /e-/.

e) - prefixes - singular as well as plural ones.

In the next chapter we will discuss the acquisition of noun classes, that is, the pairing of the singular with plural prefixes.
Chapter 3

FOOTNOTES

1
The basic locative su-fix is /-ini/; but when the noun ends up in a /-high/ vowel, then the initial vowel of the locative suffix is lowered e.g.:

a) (i) um - bala
   prefix - leg.
   'leg'

(ii) e - m - bal - eni.
   loc. pref. - pref. - leg. - loc. suffix
   'on the leg'

b) (i) si - tulo
   prefix - chair
   'chair'

(ii) e - si - tulw - eni.
   loc. pref. - no prefix - chair - loc. suffix
   'on the chair'.

but:

c) (i) in - dlu
   prefix - house
   'house'

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(ii) e    - n    - dl    - ini.
  loc.pref. - prefix - house - loc. suffix
  'in the house'

d)  (i) ema    - nti
  prefix - water
  'water'

(ii) e    - ma    - nt    - ini.
  loc.pref. - prefix - water - loc. suffix
  'in the water'

2  At this time - 26 months of age - Cimcin was using a con-
sonant substitution rule. She was substituting /R/ for the click
/G/.

3  In Chapter 2, I pointed out that in SiSwati as well as in
Zulu, a sequence of a bilabial consonant followed by a vowel /-w-/,
or /-y-/ is not allowed; should such a sequence occur in a deriva-
tion, the bilabial is changed into a palatal consonant. This process
occurs in three derivatives in the language:

Passive: bopha → boswa -- not*bophwa  'to be tied'

Diminutive: umlomo → umlomana --- not *umlomana 'small mouth'

Locative: umkhumbi → emkumbini --- not *emkhumbini 'in the
  boat'

4  The /-ya-/ is used when there is no adjunct following the
verb in non-emphatic sentences.

5  Thabie was still using a consonant substitution rule.
6 The /e-/ is the result of a vowel lowering rule. If the final vowel of a noun is [\_high\_] then the initial /i-/ of the locative suffix /-ini/ is lowered. The /-w-/ in the adult speech is the result of a gliding rule, which changed /-O-/ into a glide /-w-/ . Cimcim simply deleted the glide, or the vowel after the lowering rule.

7 The suffix /-ile/, which is used when there is no word (adjunct) following the verb, in non-emphatic sentence, is traditionally called the recent - past-tense marker (RPTM). This suffix has a shorter version /-e/ which occurs when there is an adjunct following the verb in non-emphatic sentences, e.g.:

1) u - hamb - ile.
   SVA - go - RPTM
   'She/he is gone.'

2) u - hamb - e itolo
   SVA - go - RPTM yesterday
   'She/he left yesterday.'

I will call this morpheme the RPTM to follow the traditional classification, simply because it does not affect my present study. However, this morpheme is better viewed as tense-aspect than as a tense marker. When used with verbs it means that the action has been completed. It can be used with /be-/ (which denotes that an action was taking place while something else was going on), in the recent past tense; remote past tense (which is tonally marked) and the future tense, e.g.:
3) `a - be - dl - ile` (Recent Past)
   SVA - be - eat - RPTM
   'She/he had finished eating (by then).'</n
4) `a - be - dl - ile` (Remote Past)
   SVA - be - eat - RPTM
   'She/he had finished eating (by them).'</n
5) u - ta - b - a - dl - ile. (Future)
   SVA - future - be - SVA - eat - RPTM
   'She/he will have eaten (by then).'</n
At this stage I will not parse the possessive in its
morphemes because at this point it was not clear to me whether Cimcim
was considering it as one unit, i.e. monomorphemic, or not. As soon
as she started using different pronouns in possessive constructions
then I parse it into three morphemes.

We might notice that, if we compare Cimcim's utterance to
that of an adult, Cimcim has topicalized the noun kathulo 'shoe.'
Did she do that in order to avoid using certain grammatical morphemes?
It is too early to answer this question with certainty.

Again I will not parse the possessive pronoun at this stage,
because I was not sure whether Thabie was considering waka 'mine'
as one unit, i.e., monomorphemic, or not.

The words in the brackets are mine. In Stage I the utter-
ances range between one or two words long. There are no inflections
in this stage.
One could test for the concept of plurality by asking the child to bring 'one' item or 'two' or 'more' items, and see whether she will bring the correct number of items each time she is commanded to do so.

I glossed the noun um-shibo as 'broth,' but there is no equivalent for it in English.
Chapter 4

THE ACQUISITION OF NOUN CLASSES

4.0 Introduction

In Chapter 3, we were mainly concerned with the order of acquisition of the noun and its affixes - with special reference to the locative markers. We noticed that in the acquisition of nouns in SiSwati, the child started off by acquiring the nominal stems, then the suffixes and finally the prefixes which mark number in nouns.

In this chapter we will deal with possible strategies the child might use in matching or pairing a certain singular prefix with a particular plural prefix. And we shall also look at the type of overgeneralizations the child will make in trying to master the adult noun classification. Let us now look at the possible strategies the child might use in order to arrive at the adult pairing of singular and plural prefixes.

4.1 Strategies Stated

Given a noun li-kati 'cat' and ema-kati 'cats,' we would like to know the strategy or strategies the child might use in order to arrive at the adult pairing of the singular prefix /li-/ with the plural prefix /ema-/. One thing the child might do is to learn all the nouns with their singular prefixes or plural prefixes...
individually, and at a later stage start matching them. This implies that the pairing of all the singular/plural prefixes will take place at the same time (Strategy 1).

A second alternative is that, the child might learn some nouns with few singular prefixes and some with plural ones and then start to match them; and then on the basis of these prefixes, the child might gradually match the rest of the singular and plural prefixes. This implies that the pairing of singular/plural prefixes will take place before learning all the possible noun prefixes in the language (Strategy 2).

In Chapter 2 we noticed that some of the noun classes are distinguished semantically. For instance, we noticed that the singular prefix /umu-/ can be of class 1/2 or class 3/4. Adult speakers know which plural prefix to use with nouns of class 1/2 and 3/4 if they know the meaning of the noun. If the noun denotes human, i.e., belonging to class 1/2, then they will use the plural prefix /ba-/, but if the noun in question is a nonhuman noun of class 3/4, then the plural prefix to use is /imi-/. Without knowing the meaning of the singular noun that takes the prefix /umu-/, one cannot predict which plural prefix that noun will take. In the process of pairing singular and plural noun prefixes the child might make certain overgeneralizations. The types of overgeneralizations the child might use may be semantic (Strategy 3); or morphological (Strategy 4), or both semantic and morphological (Strategy 5). I will discuss later what we would expect if the child were making each of these types of overgeneralizations.
4.2 Harold Zwane

Since this study was meant to be pseudo-longitudinal in nature, a word about the subject who provided the data for this chapter is in order here.

To repeat, Zwane was 35 months old when he was first interviewed and 42 months old when the research terminated. He was already using prefixes on his nouns. Most of Zwane's data consisted of spontaneous utterances, but at times he was asked to give the plural or singular forms for certain nouns. The questions were interspersed between his spontaneous utterances, thus they were not fully experimental but conditioned by the context. For example, Zwane was pointing at the picture of a 'whiteman' in his picture book and I asked him question 4.1(b). After the response in 4.1(c), I then proceeded to ask question 4.1(d) below:

(4.1) a) Zwane: ha! ha! ha!
         ha! ha! ha!

b) Lwandle: yini Zwane? u - bon - a - ni?
what Zwane SVA - see - a - what
'What is it Zwane?' 'What do you see?'

c) Zwane: ngi - bona um - lumbi
SVA - see pref. - whiteman
'I see a whiteman.'

d) Lwandle: Loku na - loku - ke yini?
this and - this - then what
'What is this and that then?'

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e) (i) **Zwane:** bo - m - lumbi²

  pl.pref. - sg.pref. - whiteman

  'whitemen'

(ii) **Adult:** be - lumbi

  pl.pref. - whiteman

  'whitemen'

I asked question 4.1(d) as I was pointing to a group of 'whitemen' that were in the picture book. Zwane gave 4.1(e,i) bo-m-lumbi as a response for 'whitemen.' This should have been be-lumbi 'whitemen' according to adult speech, /be-/ being the plural prefix and /-lumbi/ 'whitemen' the nominal stem.

These data, therefore, are not fully experimental and yet some linguists have pointed out that "the study of spontaneous speech does not provide a sufficient basis for understanding what the child 'knows' about language at various stages of development..." (Shipley, Smith and Gleitman, 1969, page 322). This suggests that experimental data are needed in order to confirm or shed some light on observations made on spontaneous data. Experimental data on noun classes will be discussed in the next chapter. Let us now turn to the data and see what strategy Zwane was using in acquiring noun classes.
4.3 Discussion

4.3.1 Pairing of Singular/Plural Prefixes Before Learning All the Various Noun Classes in the Language vs. Learning All The Prefixes in the Language and Then Pair Them Later.

4.3.1.1 Data:

Consider some of Zwane's nouns which he used between the age of 35-42 months:

<table>
<thead>
<tr>
<th>(4.2)</th>
<th>Zwane</th>
<th>Class</th>
<th>Gloss</th>
<th>Adult</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>a)</td>
<td>li-nwabu</td>
<td>5/6</td>
<td>'chameleon'</td>
<td>lu-nwabu</td>
<td>11/10</td>
</tr>
<tr>
<td></td>
<td>li-bisi</td>
<td>5/6</td>
<td>'milk'</td>
<td>lu-bisi</td>
<td>11/10</td>
</tr>
<tr>
<td></td>
<td>li-khuni</td>
<td>5/6</td>
<td>'brand'</td>
<td>lu-khuni</td>
<td>11/10</td>
</tr>
<tr>
<td>b)</td>
<td>li-limi</td>
<td>5/6</td>
<td>'tongue'</td>
<td>lu-lwimi</td>
<td>11/10</td>
</tr>
<tr>
<td></td>
<td>ema-limi</td>
<td>5/6</td>
<td>'tongues'</td>
<td>ti-lwimi</td>
<td>11/10</td>
</tr>
</tbody>
</table>

In 4.2(a), we notice that the prefix of the nouns lu-nwabu 'chameleon' lu-bisi 'milk,' lu-khuni 'brand' and lu-lwimi 'tongue'/ 'language' in adult speech is /lu-/ of class 11/10; while in Zwane's utterances the prefix /li-/ of class 5/6 was used. No nouns from class 11/10 ever occurred with a singular prefix /lu-/ in Zwane's utterances.

When Zwane was asked to give a plural form of the noun lu-lwimi 'tongue'/'language,' which he rendered as li-limi 'tongue'/'language' in his utterances, he gave ema-limi 'tongues'/'languages.' His plural form of 'tongues'/'languages' as we might notice uses the adult class 5/6 plural prefix /ema-/.

The plural form of this noun
in adult speech is ti-lwimi 'tongues'/ 'languages.' This example, even if Zwane used inappropriate singular and plural prefixes, shows that he was already correctly pairing his nouns before he even mastered the appropriate prefixes of the language.

Zwane seems to have developed a rule that says: for any adult noun that uses the prefix /lu-/ , substitute /li-/. The rule can be schematically represented as follows:

\[(4.3) /lu-/ /li-\]

Zwane probably used the singular prefix /li-/ of class 5/6 instead of the singular prefix /lu-/ of class 11/10 simply because both prefixes are more or less phonologically similar in that they both begin with an /li-/. We shall see in Chapter 5 that even if children are made to produce the prefix /lu-/ before asked to give the plural nouns of class 11/10, they will use /ema-/ as a plural prefix instead of the expected adult prefix /tin-/. Whatever the reason is that makes the child use /li-/ instead of the adult /lu-/, these data suggest that Zwane started pairing his singular/plural prefixes before mastering all the prefixes in the language.

Now consider the following nouns used by Zwane:

\[(4.4)\]

<table>
<thead>
<tr>
<th>Zwane</th>
<th>Age</th>
<th>Class</th>
<th>Gloss</th>
<th>Adult</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) umu-khwa³</td>
<td>36 Months</td>
<td>3/4</td>
<td>'knife'</td>
<td>umu-khwa</td>
<td>3/4</td>
</tr>
<tr>
<td>um-khono</td>
<td>36 Months</td>
<td>3/4</td>
<td>'arm'</td>
<td>um-khono</td>
<td>3/4</td>
</tr>
<tr>
<td>b) ti-mu-khwa</td>
<td>36 Months</td>
<td>7/8</td>
<td>'knives'</td>
<td>imi-khwa</td>
<td>3/4</td>
</tr>
<tr>
<td>Zwane</td>
<td>Age</td>
<td>Class</td>
<td>Gloss</td>
<td>Adult</td>
<td>Class</td>
</tr>
<tr>
<td>------------</td>
<td>----------</td>
<td>-------</td>
<td>-----------</td>
<td>-----------</td>
<td>-------</td>
</tr>
<tr>
<td>c) i) ti-mu-khwa</td>
<td>36 Mos.</td>
<td>7/8</td>
<td>'knives'</td>
<td>imi-khwa</td>
<td>3/4</td>
</tr>
<tr>
<td>bo-mu-khwa</td>
<td>36 Mos.</td>
<td>1a/2a</td>
<td>'knives'</td>
<td>imi-khwa</td>
<td>3/4</td>
</tr>
<tr>
<td>ii) ti-m-khono</td>
<td>37-38/Mos.</td>
<td>7/8</td>
<td>'arms'</td>
<td>imi-khono</td>
<td>3/4</td>
</tr>
<tr>
<td>bo-m-khono</td>
<td>37-38/Mos.</td>
<td>1a/2a</td>
<td>'arms'</td>
<td>imi-khono</td>
<td>3/4</td>
</tr>
<tr>
<td>d) bo-mu-khwa</td>
<td>39-42/Mos.</td>
<td>1a/2a</td>
<td>'knives'</td>
<td>imi-khwa</td>
<td>3/4</td>
</tr>
<tr>
<td>bo-m-khono</td>
<td>39-42/Mos.</td>
<td>1a/2a</td>
<td>'arms'</td>
<td>imi-khwa</td>
<td>3/4</td>
</tr>
</tbody>
</table>

In 4.4(a), we notice that Zwane's singular nouns *umu-khwa* 'knife,' *um-khono* 'arm' were produced phonologically identically to those of an adult speaker. In 4.4(b) however, Zwane used /ti-/ of class 7/8 as a plural prefix instead of the expected plural prefix /imi-/ of class 3/4. In 4.4(c), again he used plural prefix /ti-/ of class 7/8 and used it alternatively with /bo-/ of class 1a/2a instead of the expected /imi-/ of class 3/4. Finally, in 4.4(d), Zwane used the plural prefix /bo-/ of class 1a/2a constantly instead of the expected /imi-/ of class 3/4. Both prefixes /ti-/ of class 7/8 and /bo-/ of class 1a/2a that were used by Zwane were added to the singular forms of the nouns, e.g. *ti-mu-khwa* or *bo-mu-khwa* for 'knives,' instead of replacing the singular prefixes. For instance, in adult speech the plural prefix /imi-/ of class 3/4 replaces the singular one /umu-/, e.g. *umu-khwa* 'knife,' *imi-khwa* 'knives.' The possible explanation as to why Zwane used these plural prefixes for nouns in class 3/4 might be that he did not know when to use the plural prefix of class 3/4 /imi-/ since class 1/2 has a similar prefix /umu-/. Zwane never used this prefix in spontaneous speech either. Again, these data
suggest that pairing of nouns into classes starts before the child masters all the possible noun prefixes in the language.

Now consider some of the nouns that Zwane used between the age of 35-42 months:

(4.5)

<table>
<thead>
<tr>
<th>Zwane</th>
<th>Class</th>
<th>Gloss</th>
<th>Adult</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) um-lumbi</td>
<td>?</td>
<td>'whiteman'</td>
<td>um-lumbi</td>
<td>1/2</td>
</tr>
<tr>
<td>Ø-gezi</td>
<td>?</td>
<td>'electricity'</td>
<td>Ø-gezi</td>
<td>1a/2a</td>
</tr>
<tr>
<td>umu-tshi</td>
<td>?</td>
<td>'medicine'</td>
<td>umu-tshi</td>
<td>3/4</td>
</tr>
<tr>
<td>bu-so</td>
<td>?</td>
<td>'face'</td>
<td>bu-so</td>
<td>14</td>
</tr>
<tr>
<td>ku-dla</td>
<td>?</td>
<td>'food'</td>
<td>ku-dla</td>
<td>15</td>
</tr>
<tr>
<td>b) bo-m-lumbi</td>
<td>1a/2a</td>
<td>'whitemen'</td>
<td>be-lumbi</td>
<td>1/2</td>
</tr>
<tr>
<td>bo-Ø-gezi</td>
<td>&quot; &quot;</td>
<td>'electricity'</td>
<td>bo-Ø-gezi</td>
<td>1a/2a</td>
</tr>
<tr>
<td>bo-mu-tshi</td>
<td>&quot; &quot;</td>
<td>'medicine'</td>
<td>ìîìì-tshi</td>
<td>3/4</td>
</tr>
<tr>
<td>bo-bu-so</td>
<td>&quot; &quot;</td>
<td>'faces'</td>
<td>bu-so</td>
<td>14</td>
</tr>
<tr>
<td>bo-ku-dla</td>
<td>&quot; &quot;</td>
<td>'food'</td>
<td>ku-dla</td>
<td>15</td>
</tr>
</tbody>
</table>

In 4.5(a), I have put question marks under class because I am not sure whether Zwane was considering all those nouns as having a /Ø-/ prefix in the singular since he used the /bo-/ of class 1a/2a as a plural prefix for these nouns. In 4.5(a) we noticed that Zwane's nouns were phonologically identical to those of an adult speaker. But if we look at the nouns in 4.5(b), then we notice that Zwane used prefix /bo-/ for nouns such as bo-m-lumbi 'whitemen,' bo-mu-tshi 'medicines;' bo-bu-so 'faces' and bo-ku-dla 'food' in order to mark plurality in these nouns; while in adult speakers these nouns use different plural prefixes. For instance, be-lumbi 'whitemen' uses
the plural prefix /be-/, imi-tshi 'medicine' uses plural prefix /imi-/, while bu-so 'face' and ku-dla 'food' have no plural prefix in adult speech. These data, therefore, suggest that Zwane had not yet figured out the plural prefixes of these nouns, so he used the plural prefix /bo-/ for all nouns that fall into class 1/2, 3/4, 14, and 15. It seems therefore, that /bo-/ was a plural prefix marker Zwane used if he did not know the plural prefix of the noun in question. The plural prefix /bo-/, whenever it was used with nouns, was added to the singular form of a noun. In the case of nouns in class 1a/2a, the class to which the prefix /bo-/ belongs, the prefix is added to the nominal stem since the singular nouns of class 1a/2a have a /Ø-/ prefix.

These data again suggest that Zwane started pairing his nouns before mastering all the possible prefixes in the language. It also suggest that Zwane had a general rule which he used in cases where he had not yet figured out the plural prefix of the noun in question; in those cases, he used the plural prefix /bo-/ which was added to the singular form of a noun. The prefix /bo-/ seems to have been used as a catch-all plural prefix; we shall see later why.

Now consider some of the prefixes that seem to have been paired by Zwane:

(4.6)

<table>
<thead>
<tr>
<th>Zwane</th>
<th>Class</th>
<th>Age</th>
<th>Gloss</th>
<th>Adult</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) li-fastela</td>
<td>5/6</td>
<td>35 Mos.</td>
<td>'window'</td>
<td>li-fastela</td>
<td>5/6</td>
</tr>
<tr>
<td>li-sokisi</td>
<td>5/6</td>
<td>35 Mos.</td>
<td>'stocking'</td>
<td>li-sokisi</td>
<td>5/6</td>
</tr>
<tr>
<td>li-tje</td>
<td>5/6</td>
<td>35 Mos.</td>
<td>'stone'</td>
<td>li-tje</td>
<td>5/6</td>
</tr>
</tbody>
</table>
(4.6)

<table>
<thead>
<tr>
<th>Zwane</th>
<th>Class</th>
<th>Age</th>
<th>Gloss</th>
<th>Adult</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>si-gcoko</td>
<td>7/8</td>
<td>35 Months</td>
<td>'hat'</td>
<td>si-gcoko</td>
<td>7/8</td>
</tr>
<tr>
<td>si-tulo</td>
<td>7/8</td>
<td>35 Months</td>
<td>'chair'</td>
<td>si-tulo</td>
<td>7/8</td>
</tr>
<tr>
<td>in-dlebe</td>
<td>9/10</td>
<td>35 Months</td>
<td>'ear'</td>
<td>in-dlebe</td>
<td>9/10</td>
</tr>
<tr>
<td>im-bali</td>
<td>9/10</td>
<td>35 Months</td>
<td>'flower'</td>
<td>im-bali</td>
<td>9/10</td>
</tr>
<tr>
<td>b) ti-fastela</td>
<td>7/8</td>
<td>35 Months</td>
<td>'windows'</td>
<td>ema-fastela</td>
<td>5/6</td>
</tr>
<tr>
<td>ti-sokisi</td>
<td>7/8</td>
<td>35 Months</td>
<td>'stockings'</td>
<td>ema-sokisi</td>
<td>5/6</td>
</tr>
<tr>
<td>ti-tje</td>
<td>7/8</td>
<td>35 Months</td>
<td>'stones'</td>
<td>ema-tje</td>
<td>5/6</td>
</tr>
<tr>
<td>ti-gcoko</td>
<td>7/8</td>
<td>35M/Onwards</td>
<td>'hats'</td>
<td>ti-gcoko</td>
<td>7/8</td>
</tr>
<tr>
<td>ti-tulo</td>
<td>7/8</td>
<td>35M/Onwards</td>
<td>'chairs'</td>
<td>ti-tulo</td>
<td>7/8</td>
</tr>
<tr>
<td>tin-dlebe</td>
<td>?</td>
<td>35M/Onwards</td>
<td>'ears'</td>
<td>tin-dlebe</td>
<td>9/10</td>
</tr>
<tr>
<td>tim-bali</td>
<td>?</td>
<td>35M/Onwards</td>
<td>'windows'</td>
<td>tim-bali</td>
<td>5/6</td>
</tr>
<tr>
<td>c) ema-fastela</td>
<td>5/6</td>
<td>36M/Onwards</td>
<td>'windows'</td>
<td>ema-fastela</td>
<td>5/6</td>
</tr>
<tr>
<td>ema-sokisi</td>
<td>5/6</td>
<td>36M/Onwards</td>
<td>'stockings'</td>
<td>ema-sokisi</td>
<td>5/6</td>
</tr>
<tr>
<td>ema-tje</td>
<td>5/6</td>
<td>36M/Onwards</td>
<td>'stones'</td>
<td>ema-tje</td>
<td>5/6</td>
</tr>
</tbody>
</table>

In 4.6(a) we notice that Zwane's singular forms were the same as those of adult speakers. In 4.6(b), we notice that for nouns ema-fastela 'windows' ema-sokisi 'stockings' and ema-tje 'stones,' Zwane used the plural prefix of class 7/8 /ti-/ yielding nouns like ti-sokisi 'stockings,' ti-fastela 'windows,' and ti-tje 'stones,' instead of using the expected prefix /ema-/ in adult speech. We notice that Zwane used the prefix /ti-/ of class 7/8 with these
prefixes at the age of 35 months. Between the period of 35-36 months, there was a time when Zwane used plural prefixes /ti-/ and /ema-/ alternatively and then the /ti-/ was eventually driven out in the middle of the 36th month of age. From these data we notice that at the age of 35 months Zwane used the plural prefix /ti-/ for nouns of classes 3/4, 5/6, 7/8, 9/10 and 11/10. This implies that the class 7/8 prefix /ti-/ was overgeneralized to other classes.

These data also suggest that the pairing of singular/plural noun prefixes comes before the mastering of all the noun prefixes in the language. This implies that the pairing begins with a few noun classes, while the prefixes of the nouns the child has not yet figured out are put into a catch-all class. In the case of Zwane, the plural prefix he used for the catch-all class was /bo-/. Zwane never used the plural prefix /imi-/ of class 3/4 in his utterances between the age of 35-42 months; and yet he was capable of giving plural forms of the nouns in this class by using the plural prefix /bo-/. He was also capable of giving singular nouns when given plural ones. The reason why Zwane might have used the prefix /bo-/ in order to mark plurality in nouns of classes 1/2, 3/4, 14, and 15, will be discussed in Chapter 5.

In the previous examples we noticed what prefixes Zwane used in order to form the plurals of given singular nouns. Now let us look at the singular prefixes he used when given plural nouns:
(4.7)

<table>
<thead>
<tr>
<th>Zwane</th>
<th>Age</th>
<th>Class</th>
<th>Gloss</th>
<th>Adult</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) i-cathulo</td>
<td>35 Mos.</td>
<td>9a/8</td>
<td>'shoe'</td>
<td>si-cathulo</td>
<td>7/8</td>
</tr>
<tr>
<td>i-bunu</td>
<td>41 Mos.</td>
<td>9a/8</td>
<td>'buttock'</td>
<td>si-bunu</td>
<td>7/8</td>
</tr>
<tr>
<td>i-ntfombatana</td>
<td>42 Mos.</td>
<td>9a/8</td>
<td>'girl'</td>
<td>in-ntfombatana</td>
<td>9/10</td>
</tr>
<tr>
<td>b) ti-ntfombatana</td>
<td>42 Mos.</td>
<td>9a/8</td>
<td>'girls'</td>
<td>ema-ntfombatana</td>
<td>9/10</td>
</tr>
</tbody>
</table>

In 4.7(a), I asked Zwane to give the singular forms for the nouns ti-cathulo 'shoes,' ti-bunu 'buttocks' and he gave nouns in 4.7(a) as a response. In the case of the nouns i-ntfombatana 'girl,' and ti-ntfombatana 'girls' in 4.7(a) and (b), Zwane produced them spontaneously as he was looking at the pictures of a 'girl' and a group of 'girls.' In 4.7(a), we notice that Zwane used /i-/ as a singular prefix for these nouns instead of the expected prefix /si-/ in nouns like si-cathulo 'shoe' and si-bunu for 'buttock.' The singular prefix for 'girl' should have been in-ntfombatana 'girl' instead of the /i-/ which Zwane used. Again, these data suggest that pairing started before Zwane knew all the prefixes of the language. But, Zwane never used a plural prefix where a singular prefix was intended and never used the singular prefix where a plural prefix was intended. It seems that he knew which prefixes marked singularity and which ones marked plurality in nouns although he did not always know how to assign them correctly to noun classes.

In SiSwati, there is no noun prefix /i-/ in the adult noun class system, except in the case of some borrowed nouns, e.g.:
(4.8)  |   Singular      |   Gloss  |   Plural     |   Class  |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>i-penseli</td>
<td>'pencil'</td>
<td>ti-penseli</td>
<td>7/8</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>ema-penseli</td>
<td>5/6</td>
<td></td>
</tr>
<tr>
<td>i-bhola</td>
<td>'ball'</td>
<td>ti-bhola</td>
<td>7/8</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>ema-bhola</td>
<td>5/6</td>
<td></td>
</tr>
<tr>
<td>i-moto</td>
<td>'car'</td>
<td>ti-moto</td>
<td>7/8</td>
<td></td>
</tr>
</tbody>
</table>

In 4.8, we notice that some of these borrowed nouns can use two plural prefixes as in the case of ti-penseli, ema-penseli for 'pencils;' ti-bhola, ema-bhola" for 'balls.' Some nouns use only one plural prefix, as in the case of ti-moto 'cars.' In most cases, borrowed nouns that use /i-/ as a singular prefix use /ti-/ of class 7/8 as a plural marker.

The prefix /i-/ which is found in some borrowed nouns in adult speech and the prefix /i-/ that was used by Zwane in deriving singular nouns like i-cathulo 'shoe' i-bunu 'buttock' can be related to the initial /i-/ of the singular prefix /in-/ of class 9/10. As we shall see later, these data suggest that Zwane did not consider the nasal /-n-/ of the prefix /in-/ of class 9/10 as part of the prefix, but used it as if it were part of the stem. If that is the case, then this will render adult prefixes of class 9/10 /in-/ singular, and /tin-/ plural as /i-/ and /ti-/ respectively. The data in 4.7 above again suggest that pairing into singular/plural prefixes precedes the mastering of all the possible noun prefixes in the language.

To recapitulate, at the beginning of this chapter we posited two strategies that a child might use in pairing singular with plural
prefixes. One strategy proposed was that a child might learn a few singular and plural prefixes and then start to match them in pairs before she/he masters all the possible prefixes in the language (Strategy 2). The other strategy we proposed was that a child might learn all the existing prefixes in the language before pairing up the nouns into singular and plural (Strategy 1).

From the above discussion we noticed that the SiSwati data supported Strategy 2, where the child begins to pair nouns into singular and plural before mastering all the possible prefixes in the language. Let us now turn to possible explanations as to why the child uses Strategy 2 instead of Strategy 1.

4.3.1.2 Discussion

Slobin pointed out that most investigators observed "the fact that the child acquires the basic function of an inflectional system before mastering particular details of form of inflections" (Slobin, 1973, p. 209). One interpretation of this observation is that, the child acquires what a morpheme expresses before mastering the phonological changes that particular morpheme might undergo in different contexts. Slobin pointed out that in Russian it had been observed that children used cases in correct contexts and yet in most instances they failed to use "the appropriate suffix within a given case" (Slobin, 1973, p. 209). This again implies that the child learns the function of a morpheme before mastering its phonological variations in different contexts or environments.
In the present study we noticed that Zwane used appropriate noun prefixes with some of his nouns with inappropriate prefixes with others, e.g. his use of the singular prefix /li-/ of class 5/6 adult nouns that use prefix /lu-/ . At times the inappropriate prefixes were used simply because Zwane did not know the appropriate forms, compare the plural prefix /bo-/ for nouns in classes 1/2, 3/4, instead of their expected plural noun prefixes /ba-/ , and /imi-/ respectively.

From the examples given above, we noticed that Zwane never used a singular prefix where he intended using a plural prefix, or use a plural prefix where he intended using a singular one. The prefixes which were inappropriately used were always selected from the correct number which signaled the intended concept (number) in the noun. This implies that Zwane knew that some noun prefixes marked singularity and some plurality in nouns, but at this stage, he was learning which singular noun prefixes go with which plural noun prefixes. The above observation by Slobin therefore predicts that in acquiring noun class prefixes, the child will first learn the concept of which is expressed by prefixes, and then later the various appropriate noun class prefixes. Zwane's data therefore support Slobin's observation.

4.3.1.3 Summary

In the foregoing discussion we considered strategies that a child might use in pairing singular and plural noun prefixes. In looking at Zwane's data we observed that as soon as Zwane knew a
couple of singular and plural prefixes, then he started pairing them into singular/plural prefixes. These data supported the strategy that the child will learn few noun prefixes of each kind and then start to pair them before learning all the possible prefixes in the language. Since Zwane started pairing some prefixes before knowing all the possible noun prefixes of the language he had a catch-all class, i.e., a class which contained nouns of different classes which he assigned one plural prefix. The plural prefix Zwane chose was /bo-/ of class 1a/2a. In Chapter 5 we shall look at possible reasons why the plural prefix /bo-/ was chosen. In the case of plural prefixes that are phonologically similar and yet use different singular prefixes, as in the case of classes 7/8, which uses /ti-/, and 9/10, 11/10, which use /tin-/ as a plural prefix, Zwane used one singular prefix /i-/ for all nouns of these classes when he was asked to derive singular forms from plural ones.

The explanation as to why Zwane started pairing before learning all the prefixes of the language can be found in Slobin's observation that children acquire the function of the morphemes before knowing their phonological or morphological variations.

Let us now look at the processes the child might use in pairing the singular/plural prefixes.
4.3.2 **Pairing of Singular/Plural Prefixes: Morphology vs. Semantics**

Three strategies were proposed at the beginning of this chapter that the child might use in the process of pairing singular-plural prefixes. One possibility was that a child might use morphology alone as a criterion in arriving at the adult pairing of singular-plural prefixes (Strategy 4). Another was that a child might use semantics alone as a criterion (Strategy 3). The final possibility is that a child might use both semantics and morphology as a criterion for classifying his or her nouns (Strategy 5). Before looking at the SiSwati data to see which strategy they seem to support, there are certain facts we must recapitulate in connection with nouns.

First, in Chapter 3, we noticed that the meaning in prefixes is not always transparent. The meaning of prefixes can be said to be transparent in those cases where the prefixes are capable of modifying the meaning of some nouns in a consistent fashion. For instance, in Chapter 3, we noticed that the prefixes /si-/ and /bu-/ modified the meaning of the noun umu-ntfu 'person' to yield si-ntfu 'mankind' and bu-ntfu 'manhood.' But this is not the case with all the nouns. In most cases, whatever inherent meaning the prefixes might have had is no longer clear synchronically. For instance, the singular prefixes /li-/ of class 5/6, /in-/ of class 9/10 in nouns such as: li-kati 'cat;' in-tfo 'thing;' ema-kati 'cats,' tin-tfo 'things' seems to designate the singularity and plurality in these nouns, and nothing more. In the majority of cases, therefore, the primary function of the prefixes is to mark number in

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nouns. By saying that I do not imply that prefixes are "empty morphemes."

Second, in Chapter 2 we also noticed that certain singular prefixes are replaced by certain plural prefixes in nouns. For instance, the singular prefix /li-/ in the noun li-kati 'cat' is replaced by the plural prefix /ema-/ in the noun ema-kati 'cats.' In other words, a certain morphological singular prefix will be matched with a morphologically different plural prefix. One wonders therefore, whether noun prefixes in SiSwati are classified on the basis of their morphological shapes. In connection with language acquisition, does this imply that a child uses a morphological criterion in order to arrive at the adult pairing of singular/plural noun prefixes? Before looking at the data from language acquisition let us look at some of the things we would expect, given the SiSwati noun system, if the child used morphology (Strategy 4) as a criterion for pairing singular/plural prefixes.

4.3.2.1 Morphology as a Criterion

If the child uses morphology as a criterion for pairing singular/plural prefixes, then we would expect that prefixes which are phonologically similar will be paired with singular or plural prefix. For example, the nouns in 4.9(a), both having the singular/ prefix /umu-/, should be assigned the same plural prefix. Similarly, the nouns in 4.9(b) and (c), having the same plural prefix, should be assigned a unique singular prefix:
(4.9)  |  **Singular**  |  **Class**  |  **Gloss**                  |  **Plural**                                        
|------|----------------|-------------|-----------------------------|---------------------------------------------------
| a)   | umu-ntfu       | 1/2         | 'person'                    | ba-ntfu                                           
|      | umu-ti         | 3/4         | 'village'                   | *ba-ti (instead of: imi-ti)                       
|      |                |             |                             |                                                   
| Plural |                |             |                             |                                                   
| b)   | tin-siba       | 11/10       | 'feathers'                  | *in-siba (instead of: lu-siba)                    
|      | ti-nkhwa       | 7/8         | 'breads'                    | *in-khwa (instead of si-nkhwa)                    
|      | tin-khomo      | 9/10        | 'cattle'                    | in-khomo                                          
| c)   | ema-khosi      | 9/10        | 'kings'                     | *li-khosi (instead of: in-khosi)                  
|      | ema-simu       | 9/10        | 'fields'                    | *li-simu (instead of: in-simu)                    
|      | ema-Zulu       | 1/2         | 'Zulu'                      | *li-Zulu (instead of: um-Zulu)                    
|      | ema-tje        | 5/6         | 'store'                     | li-tje                                            

At some stage in the acquisition of noun classes we would expect the child to assign one plural prefix to all the nouns with the same singular prefix, as might be the case with nouns of class 1/2 and 3/4 which use /umu-/ as a singular prefix. The child might use prefix /ba-/ for these nouns, as in 4.9(a). In cases of similar plural prefixes the child might assign them one singular prefix, as in the case of plural prefix /tin-/ of classes 9/10, 11/10 as well as /ti-/ of class 7/8 (if the stem of the noun is nasal—initial), as in 4.9(b). This will also be true for 4.9(c), where the nouns use the same plural prefix /ema-/.

In 4.9(a)-(c), we notice that these noun prefixes are not matched that way in adult speech.
The classification of singular/plural prefixes as presented in 4.9, also implies that a singular prefix of one class cannot be used with a plural prefix of another class. For instance, nouns such as um-Zulu 'Zulu' of class 1/2 are expected to take a plural prefix of class 1/2 /ba-/ instead of /ema-/ prefix of class 5/6 which is used in adult speech. If the child used ba-Zulu 'Zulus' as a plural form of this noun, instead of the expected /ema-/ , then the child will be making a morphological overgeneralization.

4.3.2.2 Semantics as a Criterion

If, on the other hand, the child uses semantics as a criterion for pairing singular/plural prefixes then we would expect semantic overgeneralizations. For instance a child might assign one plural prefix to each of the following semantic groups; nouns denoting humans, nouns denoting nonhumans; and nouns denoting inanimates; e.g.:

(4.10)

<table>
<thead>
<tr>
<th>Singular</th>
<th>Class</th>
<th>Gloss</th>
<th>Plural</th>
<th>Instead of:</th>
</tr>
</thead>
<tbody>
<tr>
<td>umu-ntfu</td>
<td>1/2</td>
<td>'person'</td>
<td>ba-ntfu</td>
<td></td>
</tr>
<tr>
<td>um-Zulu</td>
<td>1/2</td>
<td>'Zulu'</td>
<td>*ba-Zulu</td>
<td>um-Zulu</td>
</tr>
<tr>
<td>Ø-make</td>
<td>1a/2a</td>
<td>'mother'</td>
<td>*ba-make</td>
<td>bo-make</td>
</tr>
<tr>
<td>li-Mpondo</td>
<td>5/6</td>
<td>'a Phondo'</td>
<td>*ba-Mpondo</td>
<td>ema-Mpondo</td>
</tr>
<tr>
<td>si-lima</td>
<td>7/8</td>
<td>'fool'</td>
<td>*ba-lima</td>
<td>ti-lima</td>
</tr>
<tr>
<td>in-khosi</td>
<td>9/10</td>
<td>'king'</td>
<td>*ba-khosi</td>
<td>ema-khosi</td>
</tr>
<tr>
<td>lu-hlanya</td>
<td>11/10</td>
<td>'lunatic'</td>
<td>*ba-hlanya</td>
<td>tin-hlanya</td>
</tr>
</tbody>
</table>

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(4.11)

<table>
<thead>
<tr>
<th>Singular</th>
<th>Class</th>
<th>Gloss</th>
<th>Plural</th>
<th>Instead of</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ø-logwaja</td>
<td>1a/2a</td>
<td>'hare'/'rabbit'</td>
<td>*ti-logwaja</td>
<td>bo-logwaja</td>
</tr>
<tr>
<td>um-sundvu</td>
<td>3/4</td>
<td>'earth worm'</td>
<td>*ti-sundvu</td>
<td>imi-sundvu</td>
</tr>
<tr>
<td>li-kati</td>
<td>5/6</td>
<td>'cut'</td>
<td>*ti-kati</td>
<td>ema-kati</td>
</tr>
<tr>
<td>si-lwane</td>
<td>7/8</td>
<td>'animal'</td>
<td>ti-lwane</td>
<td></td>
</tr>
<tr>
<td>in-ja</td>
<td>9/10</td>
<td>'dog'</td>
<td>ti-nja</td>
<td></td>
</tr>
<tr>
<td>lu-nwabu</td>
<td>11/10</td>
<td>'chameleon'</td>
<td>ti-nwabu</td>
<td></td>
</tr>
</tbody>
</table>

(4.12)

| Ø-shukela   | 1a/2a | 'sugar'      | *ema-shukela | bo-shukela     |
| um-fula     | 3/4   | 'river'      | *ema-fula    | imi-fula       |
| li-tje      | 5/6   | 'stone'      | ema-tje      |                |
| si-nkhwa    | 7/8   | 'bread'      | *ema-nkhwa   | ti-nkhwa       |
| in-chatsha  | 9/10  | 'ankle'      | *ema-chatsha | tin-chatsha    |
| lu-siba     | 11/10 | 'feather'    | *ema-siba    | tin-siba       |

In 4.10 we notice that all the nouns given as an example denote humans, and that they fall in different classes in adult speech they use different singular and plural prefixes. If the child uses semantics as a criterion for pairing his/her noun prefixes, then we would expect him/her to use some semantic generalization in the process of acquiring nouns as in 4.10, where nouns, denoting humans are assigned one plural prefix, and in 4.11 nonhuman nouns are assigned another plural prefix, and in 4.12 the inanimate nouns are assigned yet another plural prefix.
4.3.2.3  **Semantics - Morphology as a Criterion**

There is another possible criterion that the child might be using in acquiring singular-plural prefixes, a combination of semantic morphological criteria. If the child uses this strategy in the acquisition of singular-plural prefixes, then we would expect that some of the prefixes will be paired on the basis of semantics and some on the basis of morphology. This claim might be reasonable but it would be difficult to establish which singular-plural prefixes are paired on the basis of semantics and which ones are paired on the basis of morphology. With these facts in mind let us now turn to the data and see which strategy Zwane was using in pairing his singular-plural prefixes.

4.3.2.4  **Data**

Consider some of the following nouns that were used by Zwane at the age of 35-42 months.

<table>
<thead>
<tr>
<th>(4.13)</th>
<th>Zwane</th>
<th>Gloss</th>
<th>Adult</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>a)</td>
<td>li-cembe</td>
<td>'leaf'</td>
<td>li-cembe</td>
<td>5/6</td>
</tr>
<tr>
<td></td>
<td>si-khwama</td>
<td>'bag'/ 'purse'</td>
<td>si-khwama</td>
<td>7/8</td>
</tr>
<tr>
<td></td>
<td>in-cwadzi</td>
<td>'book'/ 'letter'</td>
<td>in-cwadzi</td>
<td>9/10</td>
</tr>
<tr>
<td></td>
<td>im-bali</td>
<td>'flower'</td>
<td>im-bali</td>
<td>9/10</td>
</tr>
<tr>
<td></td>
<td>i-mtfombatana</td>
<td>'girl'</td>
<td>in-tfombatana</td>
<td>9/10</td>
</tr>
<tr>
<td></td>
<td>in-simu</td>
<td>'field'</td>
<td>in-simu</td>
<td>9/10</td>
</tr>
</tbody>
</table>
(4.13) | Zwane | Gloss | Adult | Class |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>b)</td>
<td>ema-cembe</td>
<td>'leaves'</td>
<td>ema-cembe</td>
<td>5/6</td>
</tr>
<tr>
<td></td>
<td>ti-khwama</td>
<td>'bags'/ 'purses'</td>
<td>ti-khwama</td>
<td>7/8</td>
</tr>
<tr>
<td></td>
<td>tin-cwadzi</td>
<td>'letters'/ 'books'</td>
<td>tin-cwadzi</td>
<td>9/10</td>
</tr>
<tr>
<td></td>
<td>tim-bali</td>
<td>'flowers'</td>
<td>tim-bali</td>
<td>9/10</td>
</tr>
<tr>
<td></td>
<td>ti-ntfombatana</td>
<td>'girls'</td>
<td>ema-ntfombatana</td>
<td>9/10</td>
</tr>
<tr>
<td></td>
<td>tin-simu</td>
<td>'fields'</td>
<td>ema-simu</td>
<td>9/10</td>
</tr>
</tbody>
</table>

In 4.13(a), if we compare Zwane's prefixes to those of an adult speaker, we notice that Zwane's prefixes /li-/ , /si-/ , /in-/ and /im-/ in nouns li-cembe 'leaf', si-khwama 'bag'/ 'purse', in-cwadzi 'book'/ 'letter' and im-bali 'flower' are phonologically similar to those of an adult speaker. In the case of the noun i-ntfombatana 'girl,' Zwane used /i-/ instead of using the expected prefix /in-/. In 4.13(b), if we compare Zwane's prefixes with those of an adult speaker, we notice that he used appropriate prefixes with his plural nouns except for the noun ti-ntfombatana 'girls' where Zwane used the plural prefix /ti-/ of class 7/10 instead of the expected prefix /ema-/ in adult speech. The majority of nouns in class 9/10 use the plural prefix /tin-/ as in nouns like a tin-cwadzi 'books'/ 'letters,' tim-bali 'flowers' in 4.13(b). There are a few nouns, as I pointed out in Chapter 2, in class 9/10 that use plural prefix /ema-/ instead of the expected /tin-. Nouns like ema-ntfombatana 'girls' in 4.13(b) are examples of such nouns. Most of these nouns which use singular prefix /in-/ of class 9/10 and plural prefix /ema-/ of class 5/6 seem to be assigned the plural prefix of class 9/10 /tin-/ rather than that of class 5/6 /ema-/ in Zwane's
utterances. Zwane seems to overlook that exception in this example, and he also used prefix /ti-/ of class 7/8 with the noun ti-mtfom-batana, which actually takes the plural prefix /ema-/ of class 5/6. From these data, we notice that Zwane seems to look at the singular prefix of a noun and then produces the required plural form of that noun by using the plural prefix of that class. In cases where the noun class has two possible plural prefixes, as in class 9/10, where some singular nouns use the plural prefix /tin-/ and others use the plural prefix /ema-/!, the plural prefix that is overgeneralized is the one that occurs with the larger number of nouns. In this case, we noticed that the plural prefix of class 9/10 /tin-/ was overgeneralized to nouns that use /ema-/ as a plural prefix in that class, as in in-simu 'field' tin-simu 'fields.' This overgeneralization is morphological since the child seems to have formulated a rule that says: If the singular prefix of a noun is /in-/ then use /tin-/ with all nouns in the plural form of this class.

In 4.4(b,c), and 4.6(b,c), we also noticed that the plural prefix /ti-/ of class 7/8 was used by Zwane as a plural marker for nouns in class 3/4 and 5/6 instead of the expected plural prefix markers /imi-/ and /ema-/ respectively. This happened at the age of 36-38 months. For instance, we noticed that at this period the plural form of nouns like imi-khwa 'knives' (class 3/4) in adult speech was rendered by Zwane as ti-mu-khwa 'knives,' and ema-fastela 'windows' (class 5/6) was rendered by Zwane as ti-fastela 'windows.' In the case of ti-mu-khwa 'knives,' the plural prefix /ti-/ was added to the singular noun, while in the case of ti-fastela

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'windows,' it replaced the singular prefix. The reason for this will be discussed in Chapter 5. The /ti-/ seems to be one of the prefixes Zwane acquired earliest, since he generalized it to other classes. The overgeneralization even in these examples is morphological in nature rather than being semantic.

Now consider some of the nouns that Zwane produced at the age of 35-37 months. I asked Zwane to give me the singular forms of the nouns in 4.14. The questions were interspersed between his spontaneous utterances:

<table>
<thead>
<tr>
<th>(4.14) Lwandle</th>
<th>Gloss</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>ema-swidi</td>
<td>'candy'/'sweets'</td>
<td>5/6</td>
</tr>
<tr>
<td>ti-bunu</td>
<td>'buttocks'</td>
<td>7/8</td>
</tr>
<tr>
<td>ti-cathulo</td>
<td>'shoes'</td>
<td>7/8</td>
</tr>
<tr>
<td>tin-yawo</td>
<td>'feet'</td>
<td>11/10</td>
</tr>
<tr>
<td>tin-wele</td>
<td>'hair'</td>
<td>11/10</td>
</tr>
<tr>
<td>tin-dlebe</td>
<td>'ears'</td>
<td>9/10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(4.15) Zwane</th>
<th>Class</th>
<th>Gloss</th>
<th>Adult</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>li-swidi</td>
<td>5/6</td>
<td>'candy'/'sweet'</td>
<td>li-swidi</td>
<td>5/6</td>
</tr>
<tr>
<td>i-bunu</td>
<td>9a/8</td>
<td>'buttock'</td>
<td>si-bunu</td>
<td>7/8</td>
</tr>
<tr>
<td>i-cathulo</td>
<td>9a/8</td>
<td>'shoe'</td>
<td>si-cathulo</td>
<td>7/8</td>
</tr>
<tr>
<td>i-nyawo</td>
<td>9a/8</td>
<td>'foot'</td>
<td>in-nyawo</td>
<td>11/10</td>
</tr>
<tr>
<td>i-nwele</td>
<td>9a/8</td>
<td>'hair'</td>
<td>in-nwele</td>
<td>11/10</td>
</tr>
<tr>
<td>i-ndlebe</td>
<td>9a/8</td>
<td>'ear'</td>
<td>in-dlebe</td>
<td>9/10</td>
</tr>
</tbody>
</table>
Zwane was asked to furnish singular forms for the nouns in 4.14, and he gave the responses in 4.15. In 4.15, if we compare Zwane's prefixes with those of an adult speaker, we notice that the singular prefix /li-/ was appropriately used in the noun li-swidi 'candy' 'sweet,' but the rest of the singular prefixes that he used were not similar to those of an adult speaker. Zwane used /i-/ as a singular prefix for the various singular prefixes used by adults, such as /si-/
in si-cathulo 'shoe,' si-bunu 'buttock,' /lu-/ in lu-nyawo 'foot,' and lu-nwele 'hair.' In the case of in-dlebe 'ear,' it is difficult to establish whether Zwane used the nasal /-n-/ as part of the prefix or stem.

One wonders why Zwane used /i-/ as a singular prefix for these nouns. One possible explanation for the use of the /i-/ as a singular prefix may have to do with the partial phonological similarity between the plural prefix /ti-/ of class 7/8 and /tin-/ of class 9/10 and 11/10. The latter prefix has a nasal while the former does not. Thus, given a plural noun that belong to either of these classes; 7/8, 9/10, or 11/10, Zwane would form the singular by using one prefix for all the nouns from these classes because he might not be aware of the distinction between /ti-/ and /tin-/.

In 4.13, we noticed that Zwane rendered the singular form of the noun 'girl' as i-mtfombatana and its plural form as ti-mtfombatana 'girls,' instead of the expected in-ntfombatana for 'girl' and ema-ntfombatana for 'girls.' If we look at Zwane's rendition of this noun, we notice that he treated the nasal /-n-/ as part of the stem rather than as part of the prefix. If that is true for this noun, Zwane
might have considered the nasal in nouns like i-nyawo 'foot' and i-nwele 'hair' as part of the stem and not of the prefix. If that is the case, then the adult plural prefix /ti-/ is represented as /ti-/ in Zwane's utterances, since the /-n-/ is treated as if it were part of the stem. The reanalysis of the nasal as part of the stem renders the plural prefixes of classes 7/8, 9/10 and 11/10 similar in that they all become /ti-/. If the nasal of the plural prefix /ti-/ is considered as part of the stem in Zwane's utterances, then there are two possibilities in connection with the singular prefix /in-/ of class 9/10. Zwane might consider the nasal of this prefix as part of the prefix. If that is the case then it would mean that the plural form of this class is obtained by adding the plural prefix /ti-/ onto the singular nouns as in in-simu 'field' and ti-in-simu 'fields.' In adult speech this noun does suggest that the nasal is part of the prefix in that the nasal does not show up in the plural forms like ema-simu 'fields,' ema-khoshi 'kings.' Zwane might also consider the nasal as part of the stem, in which case the singular prefix of class 9/10 would be /li-/ . Nouns like ema-simu 'fields' ema-khosi 'kings' are not a problem in this case because in Zwane's utterances they co-occur with the plural prefix /ti-/ (instead of /ema-/ ) which is added onto the singular form of the noun, e.g. i-nsimu 'field' will be ti-nsimu 'fields.' Zwane used the singular prefix /i-/ for this class, as can be seen from the noun i-mtfombatana 'girl.' If that is the case, then the adult prefixes of classes 7/8, 9/10, and 11/10 are rendered as
follows in Zwane's utterances:

(4.16) Adult   Class    Zwane      Class
   a) si-/ti-  7/8       (si-)/ti-
                   i-/ti-       9a/8
   b) in-/tin- 9/10      i-/ti-       9a/8
   c) lu-/tin- 11/10     i-/ti- or
                   li-/ema       5/6

In 4.16 we notice that Zwane used /ti-/ for both adult plural prefixes /ti-/ and /tin-/. If /ti-/ was considered as a plural prefix for classes 7/8, 9/10 and 11/10, then giving a plural noun from these classes and asking for a singular form might present a problem to the child. In order to solve this problem Zwane used class 9a/8 singular prefix /i-/.

Another thing we noticed in 4.15 was that nouns like i-bunu 'buttock' and i-cathulo 'shoe' were also used with the singular prefix /i-/ in Zwane's utterances instead of the expected adult /si-/ of class 7/8. Again, this shows that Zwane considered the nasal as part of the stem rather than as part of a prefix. In other words, given a plural prefix of nouns of class 7/8, 9/10 and 11/10, Zwane used one singular prefix /i-/.

These data, therefore, suggest that the child looks at the morphological shape of the prefix given in order to derive the form of the prefix that will express the required number in the noun. Thus, these data support a morphological criterion for the noun classification rather than a semantic one.

That morphology plays a role in the acquisition of noun classification can be further supported by the following data:

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(4.17)

<table>
<thead>
<tr>
<th>Zwane</th>
<th>Class</th>
<th>Gloss</th>
<th>Adult</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>li-limi/ema-limi</td>
<td>5/6</td>
<td>'tongue'/</td>
<td>lu-lwimi/</td>
<td>11/10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>'tongues'</td>
<td>ti-limi</td>
<td></td>
</tr>
<tr>
<td>li-nyawo/ema-nyawo</td>
<td>5/6</td>
<td>'foot'/</td>
<td>lu-nyawo/</td>
<td>11/10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>'feet'</td>
<td>ti-nyawo</td>
<td></td>
</tr>
<tr>
<td>tin-nyawo</td>
<td>5/10</td>
<td>'feet'</td>
<td>tin-nyawo</td>
<td>11/10</td>
</tr>
<tr>
<td>li-sambulele/ema-sambulele</td>
<td>5/6</td>
<td>'umbrella'/ s-ambulelo/</td>
<td>7/8</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>'umbrellas' t-ambulelo</td>
<td></td>
<td></td>
</tr>
<tr>
<td>s-ambulele/t-ambulele</td>
<td>7/8</td>
<td>'umbrella'/ s-ambulelo/</td>
<td>7/8</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>'umbrellas' t-ambulelo</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In 4.17, if we compare Zwane's nouns with those of an adult speaker, we notice that the noun lu-lwimi 'tongue' and lu-nyawo 'foot' in adult speech use the singular prefix /lu-/ and their plural forms ti-limi 'tongues,' tin-nyawo 'feet' use the plural prefix /tin-. Both prefixes /lu-/ and plural /tin-/ belong to class 11/10. In Zwane's utterances, however, the same nouns li-limi 'tongue,' ema-limi 'tongues' and li-nyawo 'foot,' ema-nyawo 'feet,' used the class 5/6 singular prefix /li-/ and the class 5/6 plural prefix /ema-/. In the case of the noun tin-nyawo 'feet' when Zwane was asked to give the plural form of the noun 'foot,' he would start off by using ema-nyawo 'feet' as a response, and then correct himself at times and use the appropriate prefix /tin-/, as in 4.17. But in spontaneous speech Zwane never referred to tin-nyawo 'feet' as ema-nyawo but always used the correct form. One wonders therefore why Zwane used ema-nyawo for 'feet.'

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The possible explanation is as follows: Zwane never used the singular prefix /lu-/ of class 11/10 in his utterances. Adult singular nouns of class 11/10 which use the prefix /lu-/ were used with the singular prefix /li-/ of class 5/6 in Zwane's utterances. This rule also applied to the noun li-nyawo 'foot' (class 5/6) which falls under adult class 11/10. When Zwane was then asked to produce the plural form of the noun 'foot' he used ema-nyawo 'feet' (class 5/6) since he considered the singular prefix of this noun as /li-/ of class 5/6. Zwane corrected himself from using ema-nyawo 'feet' for tin-nyawo simply because he might have acquired this noun with its plural prefix /tin-/. In other words he was not deriving the plural tin-nyawo 'feet' from the singular form li-nyawo 'foot.' Ema-nyawo 'feet' was the derived form from the singular li-nyawo 'foot.' This derivation shows that the child uses morphology in order to give the correct form of the required noun prefix, again showing that the criterion Zwane seems to have been using in pairing his nouns was a morphological one rather than a semantic one.

In 4.17, if we compare Zwane's noun li-sambulele 'umbrella' with that of an adult speaker, we notice that at one stage he used this noun with a singular prefix /li-/ of class 5/6 and /ema-/ , which is the plural prefix of the same class. Zwane never corrected himself when he used this plural form of the noun ema-sambulele 'umbrellas,' as he did in the case of the noun ema-nyawo 'feet.' At a later stage, when he started using the singular prefix /s-/ with the singular noun s-ambulele 'umbrella' as in adults, then he used the appropriate plural prefix /t-/ with it t-ambulele 'umbrellas.'
Thus, in 4.17, we noticed that when Zwane assigned a "wrong" class prefix to a noun, and was asked to derive an alternative form of that noun, the prefix he used was derived from the class of the given noun. This implies that the child looks at the form of the prefix in the given noun, and then uses the prefix that goes together with the prefix of the noun given in singular-plural pairing. These data again suggest that the child is using a morphological criterion in order to arrive at the adult classification of nouns.

The data that we have discussed so far suggest that the child uses morphology in order to pair his or her nouns into singular and plural. At the beginning of this subsection I pointed out that if the child is using a morphological criterion in order to pair his/her nouns, then we might notice some examples of morphological overgeneralizations in the process of acquiring noun classes. Let us now look at some morphological overgeneralizations Zwane used.

4.3.2.4.1 Morphological Overgeneralizations in Zwane's Utterances

Zwane regularized some irregular forms. For instance, in the case of the noun i-mtfombatana 'girl' (class 9/10), we noticed that Zwane used ti-mtfombatana (class 9a/8) girls as plural form rather than the plural prefix /ema-/ of class 5/6 as in adult speech. In this case Zwane had a general rule that apparently said all nouns with singular prefix /i-/ of class 9a/8 use /ti-/ as a plural prefix. Nouns that used the singular prefix of class 9/10 and then used a different plural prefix other than that of class 9/10, as in the
case of the noun ema-ntfombatana 'girls,' were no exceptions to this rule. In other words, they fell in line with all the nouns of class 9/10 and used the plural prefix /ti-/ of that class. Thus, this rule made all the nouns regular in class 9/10, with no exceptions as in adult speech.

We also noticed that Zwane used one singular prefix /i-/ for nouns of different classes that use similar or partial similar plural adult prefixes. To use the same examples as in 4.14 and 4.15 above, we noticed that nouns with plural prefixes /ti-/ or /tin-/ were given one singular form /i-/ , e.g.:

\[(4.18) \text{Zwane} \quad \text{Class} \quad \text{Gloss} \quad \text{Adult} \quad \text{Class} \]
\[
i-bunu \quad 9a/8 \quad 'buttock' \quad si-bunu \quad 7/8
\]
\[
i-cathulo \quad 9a/8 \quad 'shoes' \quad si-cathulo \quad 7/8
\]
\[
i-nyawo \quad 9a/8 \quad 'foot' \quad lu-nyawo \quad 11/10
\]
\[
i-nwele \quad 9a/8 \quad 'hair' \quad lu-nwele \quad 11/10
\]
\[
i-ndlebe \quad 9a/8 \quad 'ear' \quad in-dlebe \quad 9/10
\]

\[(4.19) \text{Lwandle} \quad \text{Class} \quad \text{Gloss} \]
\[
ti-bunu \quad 7/8 \quad 'buttocks'
\]
\[
ti-cathulo \quad 7/8 \quad 'shoes'
\]
\[
tin-nyawo \quad 11/10 \quad 'feet'
\]
\[
tin-nwele \quad 11/10 \quad 'hair'
\]
\[
tin-dlebe \quad 9/10 \quad 'ears'
\]

In 4.19, we notice that the plural nouns that were given to Zwane to change them into singular forms have either /ti-/ or /tin-/ adult plural prefixes. In 4.18, we notice that Zwane used one singular prefix for all of them, which was /i-/. Thus, this is a
morphological overgeneralization based on the similarity of prefixes, since, according to him, similar plural prefixes should be assigned one singular prefix.

Zwane used plural prefixes with nouns that normally do not take them. For instance, in 4.5 above we noticed that Zwane gave plural forms for nouns bu-so 'face' (class 14), and ku-dla 'food' (class 15) as bo-bu-so 'faces' (class 1a/2a); bo-ku-dla 'types of food' (class 1a/2a). These nouns have no plural forms in adult speech. We might notice that the plural prefix marker /bo-/ was added to the singular form of a noun.

Zwane had one type of overgeneralization which was not necessarily morphological. In cases where he had not yet figured out the plural prefixes of certain nouns, then he used one plural morpheme to mark plurality in these nouns. In 4.20 we notice the following:

<table>
<thead>
<tr>
<th></th>
<th>Zwane</th>
<th>Class</th>
<th>Gloss</th>
<th>Adult</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>a)</td>
<td>um-lumbi</td>
<td>?</td>
<td>'whiteman'</td>
<td>um-lumbi</td>
<td>1/2</td>
</tr>
<tr>
<td></td>
<td>umu-tshi</td>
<td>?</td>
<td>'medicine'</td>
<td>umu-tshi</td>
<td>3/4</td>
</tr>
<tr>
<td></td>
<td>Ø-gezi</td>
<td>1a/2a</td>
<td>'electricity'</td>
<td>Ø-gezi</td>
<td>1a/2a</td>
</tr>
<tr>
<td>b)</td>
<td>bo-m-lumbi</td>
<td>1a/2a</td>
<td>'whitemen'</td>
<td>be-lumbi</td>
<td>1/2</td>
</tr>
<tr>
<td></td>
<td>bo-mu-tshi</td>
<td>1a/2a</td>
<td>'medicines'</td>
<td>imi-tshi</td>
<td>3/4</td>
</tr>
<tr>
<td></td>
<td>bo-yezi</td>
<td>1a/2a</td>
<td>'electricity-lights'</td>
<td>bo-gezi</td>
<td>1a/2a</td>
</tr>
</tbody>
</table>

In 4.20(a), we notice that the singular nouns um-lumbi 'whiteman' (class 1/2) and umu-tshi 'medicine' (class 3/4) have the same prefix /umu-. We will recall that nouns of class 1/2 denote humans.
while those of class 3/4 denote nonhumans. In adult speech, the meaning of the nouns is the only criterion which will enable the adult speaker to predict whether to use the plural prefix /ba-/ of class 1/2, or /ini-/ of class 3/4, when given the singular form. In Chapter 5, I will show that children seem to know that there are plural prefixes such as /ba-/ and /imi-/ which goes with the singular prefix /umu-/, but that they have not yet figured out when the /ba-/ is used and when the /imi-/ is used. Since Zwane had not puzzled that out, he used /bo-/ in both cases, as shown in 4.20(b), to mark plurality in these nouns. The /bo-/ in these cases was added to the singular forms of the nouns instead of replacing the singular prefixes. Probably that was done so as to keep the nouns of classes 1/2 and 3/4 distinct from those of class 1a/2a, because if the plural prefix /bo-/ replaced the singular prefix of these nouns then the nouns of class 1/2 and 3/4 would be identical to those of class 1a/2a. This will be discussed in Chapter 5.

We also noticed that /bo-/ was also used with nouns of classes 14 and 15. This implies that the /bo-/ was used as a general morpheme that marked plural in nouns, especially in cases where the child could not puzzle out what was going on. Again, the choice of /bo-/ will be discussed in Chapter 5.

4.3.2.4.2 Summary

To sum up, in this subsection we were looking at the proposed three strategies that a child might use in the process of pairing singular with plural prefixes, or plural prefixes with singular ones.
A child might use semantics in order to arrive at the adult pairing of noun prefixes (Strategy 3) or she/he might use morphology as a criterion in order to arrive at the adult pairing of noun prefixes (Strategy 4); or that she/he might use both semantics and morphology in the pairing of noun prefixes (Strategy 5). We pointed out that the last strategy was difficult to prove since it would be hard to determine the role played by each factor (semantic and morphology) in the process of pairing singular/plural prefixes.

The SiSwati data we discussed supported the use of morphology (Strategy 4) as the main criterion that a child uses in the process of pairing nouns into a singular-plural class. The morphological overgeneralizations that Zwane made supported the fact that he was using morphology as a criterion in the pairing of nouns in singular-plural class.

Now let us look at the possible explanation(s) as to why should a child use a morphological strategy in order to arrive at the "correct" adult classification of nouns.

4.3.2.5 Discussion

In Chapter 2, we noticed that diachronically noun classification in SiSwati, as in most Bantu languages, might have been based on semantic categorization, viz., that nouns of similar semantic features were grouped together under one class, as in the case of class 1/2 which even today contain nouns denoting humans only. But synchronically the correlation between class membership and some semantic category does not hold for most of the classes.
instance, in class 1a/2a we noticed that this class contained nouns that range from human to inanimates. Nouns that denote humans are scattered throughout the noun classes - except in class 3/4 - as we noticed in 4.10 above. Herbert also pointed out that "the strict correlation between noun class membership and semantic import reconstructed for the proto-language has been lost" (Herbert, 1977, p. 105). One interpretation of this statement is that, today, the noun classes in most Bantu languages are not strictly based on semantics. If that is true, then the classification of nouns into singular-plural pair, synchronically, is morphologically controlled rather than semantically controlled.

According to the foregoing discussion, synchronically, the correlation between semantics and noun classes is no longer transparent in SiSwati. The child might be aware that there are nouns in the language that denote humans, nonhumans, and inanimates, but it is not the case that each of these semantic categories falls neatly into one class, that is, each semantic category being assigned a pair of singular/plural prefixes. We noticed earlier that the nouns of each semantic category might be found basically in one class and the rest of them scattered in various classes in the system. Thus, the child finds the correlation between semantics and noun classes irregular, which explains why Zwane never came up with semantic overgeneralizations in the acquisition of noun classes. The only alternative left to a child learning this system is morphology.
As long as the child knows which prefixes express singularity, and which ones express plurality, then she/he will start pairing them on the basis of their morphology since there is no clear semantic and class correlation. That is why the overgeneralizations that were made by Zwane were morphological in nature. For instance, we noticed that similar plural prefixes such as /ti-/ of class 7/8 and /tin-/ of classes 9/10 and 11/10 were assigned the singular prefix /i-/ of class 9a/8. For singular nouns whose plural prefixes Zwane was not sure of, he assigned them one plural prefix /bo-/ . Unlike in other cases, the /bo-/ was added to the singular form of a noun. To form plurals by adding a morpheme to the singular form of a noun mastering the appropriate marker is not peculiar to SiSwati only. Anisfeld and Tucker (1968) observed it in English and said the following:

It thus appears that, even before the child has fully mastered the specific plural suffixes of English, he possesses a general rule to mark the plural by adding onto the singular code. Cross-cultural comparisons are needed to determine whether this addition rule is due to the influence of English or reflects a tendency for isomorphic coding, that is, to increase the linguistic code when the referent is increased. (Anisfeld and Tucker, 1968, p. 217)

In brief, Zwane used the morphological criterion in order to arrive at the adult pairing of the singular/plural prefixes because synchronically the correlation between semantics and noun classes is no longer transparent in SiSwati.

4.4 Conclusion

In this chapter we were dealing with the acquisition of noun classes, i.e., how children pair nouns into singular – plural classes.
The first two possible strategies we proposed had to do with the beginning of pairing of the singular/plural prefixes and the mastering of all the possible singular and plural prefixes in the language. The first strategy we proposed was that, faced with the SiSwati noun class system, the child will acquire all the singular prefixes and plural prefixes before pairing them (Strategy 1). The second was that the child will learn a few singular and plural prefixes and start matching them before they master all the possible prefixes in the language (Strategy 2).

In this chapter we also looked at the possible criteria the child might use in pairing the singular/plural prefixes. On the basis of the type of overgeneralizations the child made, we were able to tell whether she/he was using morphology (Strategy 4); or semantics (Strategy 3) or both semantic and morphology (Strategy 5) as his or her criterion in pairing the singular/plural prefixes.

In discussion the SiSwati data we noticed that Zwane started pairing the singular/plural prefixes before mastering all the prefixes in the language. For instance, we noticed that he used /bo-/ for the plural nouns of class 3/4 instead of the adult prefix /imi-/ . Zwane never used this prefix in his spontaneous speech, or when asked to produce a plural form of a noun in class 3/4.

Thus, these data supported the strategy that noun prefixes are paired before they are all mastered by the child (Strategy 2). This development was explained by Slobin's (1973) claim that the function of the morphemes is acquired before the acquisition of the detailed modifications of these morphemes in various contexts.
In SiSwati prefixes designate singularity and plurality in nouns; as soon as this distinction is acquired by the child, pairing begins before she/he knows all the prefixes in the language.

From the SiSwati data we also noticed that the overgeneralization Zwane made were morphological in nature. For instance, nouns with similar plural prefixes were given one singular prefix, as in the case of adult /ti-/ of class 7/8 and /tin-/ of classes 9/10 and 11/10, which were all assigned one singular prefix /i-/ of class 9a/8. Thus, the SiSwati data supported the strategy that the child uses morphology in order to arrive at the correct pairing of noun prefixes.

We also noticed that Zwane made some overgeneralizations that have been observed in other languages. For instance, he assigned plural prefixes to nouns that do not have plural forms in adult speech, e.g. bu-so 'face' was rendered as bo-bu-so 'faces.' This causes the noun to have multiple prefixes, e.g., bo-bu-so 'faces' which can be analyzed as follows: /bo-/ plural prefix of class 1a/2a in adults, and /bu-/ class prefix of class 14, and stem /-so/ 'face.'

He also regularized irregular forms. For instance, the noun ema-simu 'fields' uses the class 9/10 singular prefix /in-/ but takes /ema-/, the plural prefix of class 5/6. In Zwane's utterance this noun was rendered as ti-nsimu 'fields', thus using the plural prefix of class 9a/8 /ti-/ instead of adult class 5/6.
From the SiSwati data, we also noticed that the prefix /ti-/ was overgeneralized in Zwane's utterances at the age of 35 months to pluralized nouns of classes 3/4, 5/6 in addition to the classes it occurs in, classes 7/8, 9/10 and 11/10. This plural prefix might have been acquired earlier because it occurs with a large number of nouns, e.g., nouns of classes 7/8, 9/10 and 11/10.

The rendering of class 9/10 prefixes as /i-/ and /ti-/ by Zwane instead of the adult /in-/ and /tin-/, respectively, probably suggests that the adult prefixes /in-/ and /tin-/ need to be reanalyzed. Herbert also pointed this out, namely that "we need to re-examine the synchronic status of the nasal prefixes in these same noun classes where they are superficially identical" (Herbert, 1977, p. 110). The nasal in class 9/10 present a problem to Bantu grammarians too, because at times it is not easy to separate a stem from a prefix. Probably the child posits the prefixes of this class as /i-/ and /ti-/ because she/he fails to segment correctly.

From the SiSwati data, Zwane's noun classification at the age of 42 months can be schematically presented as follows:

<table>
<thead>
<tr>
<th>(4.21) Class</th>
<th>Adult</th>
<th>Zwane</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2</td>
<td>umu-/ba-</td>
<td>umu-/bo-</td>
<td>I/IIA</td>
</tr>
<tr>
<td>1a/2a</td>
<td>Ø-/bo-</td>
<td>Ø-/bo-</td>
<td>IA/IIA</td>
</tr>
<tr>
<td>3/4</td>
<td>umu-/imi-</td>
<td>umu-/bo-</td>
<td>I/IIA</td>
</tr>
<tr>
<td>5/6</td>
<td>li-/ema-</td>
<td>li-/ema-</td>
<td>V/VI</td>
</tr>
<tr>
<td>7/8</td>
<td>si-/ti-</td>
<td>si-/ti-</td>
<td>VII/VIII</td>
</tr>
<tr>
<td>9/10</td>
<td>in-/tin-</td>
<td>i-/ti-</td>
<td>IXA/VIII</td>
</tr>
<tr>
<td>11/10</td>
<td>lu-/tin-</td>
<td>li-/ema-</td>
<td>V/VI</td>
</tr>
</tbody>
</table>

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In 4.21, we notice that Zwane has no adult class 11/10; and that classes 1/2, 3/4, 1a/2a, 14 and 15 use the same plural prefix /bo-/. The singular forms for these nouns were not tested experimentally; in other words Zwane was not asked to produce the singular nouns of all the given plural nouns of these classes. Another thing we noticed in the discussion is that Zwane was capable of giving plural forms for nouns of class 7/8, but when asked to produce singular nouns of this class, he used the prefix /i-/.

The experimental data that will be discussed in Chapter 5 will shed some light on Zwane's classification, which was based on his spontaneous speech rather than on experimental data. Some of his prefixes might have been produced from memory since his data was mainly spontaneous.

In the next chapter we will look at the experimental data on noun classification.
Chapter 4

FOOTNOTES

1 I am not sure whether Zwane was parsing the noun um-lumbi 'whiteman' into a prefix and a stem as in adults; I have separated the morphemes in order to make it easy for the reader to see what the prefix is in this noun.

2 Again, I am not sure whether that was parsed the way I show it. In other words, Zwane might have considered the /-m-/ as part of the stem rather than a prefix, but might also have considered it as a prefix too. I parsed it this way so that the reader can see the morphemes clearly.

3 Again, I am not sure about Zwane's segmentation of this noun. The segmentation of the subject's nouns in this chapter will not imply that that's how the subject segmented the nouns under discussion. Again I did it in order to help the readers identify the morphemes.

4 I put the question mark under class in 4.6(b), because it is not clear to me whether Zwane is using /tin-/ of class 9/10 as a plural prefix or she uses /ti-/ of class 7/8.

5 The way I parsed these nouns does not imply that Zwane considered them that way, but I wanted to isolate the /i-/ which
Zwane seems to be using as a singular prefix.

6 There is no class 9(a), I will simply use that as a label for prefix /i-/ singular, that uses /ti-/ in the plural.

7 The nasal /-n-/ is deleted by a phonological rule that disallows the sequence of /n+1/ in a derivation.
Chapter 5

SINGULAR/PLURAL FORMATION RULES IN 4½-6 YEAR OLD CHILDREN

5.0 Introduction

This chapter reports on experimental data. The experimental data discussed in this chapter might suggest to us what morphological rules children have internalized when acquiring the noun class system in SiSwati. The children used in this experiment ranged from the age of four to six. Nonsense words (in the tradition of Berko, 1958, Anisfeld and Tucker, 1968, etc.) were used in the investigation of morphological rules that might be used by SiSwati children at this age.

The experiment was designed in order to find answers to certain questions in connection with the noun class system. For instance, one wonders whether children find the noun class system regular or irregular, i.e., can children predict the singular or plural form of a given nonsense word? If the child finds the noun class system regular, then she/he will be able to supply the plural form for a given nonsense word. For an example, given a dummy noun li-safa the child should be able to produce ema-safa as the plural form; or when given a dummy plural noun ti-beke the child should be able to give si-beke as a singular form. If the child is capable of doing that, then it implies that the child has not memorized the form of nouns (as might be the case with actual words such as li-kati
'cat,' ema-kati 'cats') but that she/he has internalized a rule(s) of forming plurals from singular nouns, and singular nouns from plural ones. In this chapter therefore, we will infer the rules which are used by children in acquiring the noun class system from the experimental evidence.

Overgeneralization has been observed in many languages as a normal process in children's acquisition of language. One wonders whether the overgeneralizations made by SiSwati children are morphological, semantic, or both. The experimental data will suggest the kind of overgeneralizations SiSwati children make. Now, let us briefly look at the methodology used in the investigation.

5.1 Method

5.1.1 Subjects

Three subjects were used in the experiment. They were: Nomsile Nkhosi (S7); Sifiso Zikalala (S8) and Momphumelelo Lukhele (S9), who were 4½ years, 5½ years; and 5 years 11 months respectively. All subjects were in kindergarten and spoke only SiSwati as their first (native) language.

As might have been noticed, the subjects used in the experiment were older than Cimcim and Zwane who were 26-36 months and 35-42 months old respectively, when the research began and terminated. I used older children in the experiment because I ran into problems with younger children. Before settling for the three subjects who were finally used in the experiment, I interviewed seventeen children whose ages ranged from two years to three and half years.
old. Some of these children did not respond when asked to give a
singular or plural of a given noun. Some simply smiled. It was not
clear to me whether they did not respond because they did not know
the answer or because they were not used to me - i.e. a stranger.
During the interview I used actual words, which occur in their
vocabulary such as bu-so 'face;' s-andla 'hand,' um-lomo 'mouth,'
lu-nyayo 'foot' etc., instead of dummy words.

Another reason why I used older subjects in the experiment was
that I wanted to find out whether the noun class system was mastered
by the age of six, since English speaking children know the plural
forms by that age. The subjects were interviewed individually once
a week and on different days. The questions as well as the subjects'
responses were tape-recorded. Each interview took between 30 to 45
minutes.

5.1.2 Materials and Procedure

Two models were used in the investigation of the nature of
morphological rules used by SiSwati children in forming noun plurals
or noun singulars: (a) Berko's (1958) model, and (b) Anisfeld and
Tucker's (1968) model.

Berko's model tested production. In this model, the subjects
were shown pictures with different figures. The figures were given
nonsense names and the subjects were required to give the plural
forms of the dummy words. Berko never asked her subjects to give
singular forms. In the present study, the subjects were asked to
give both singular and plural forms.

Anisfeld and Tucker's model tested for both production and recognition. The production test was based on Berko's model, but in addition subjects were given nouns in plural nouns, and asked to produce the corresponding singulars. In the recognition test, subjects were required to match nouns with appropriate pictures. Each of these tests consisted of three tasks, as follows:

5.1.2.1 Production Task 1: Words and Pictures

I used 48 pictures in this task. All pictures were used in pairs. One picture consisted of one figure and another of more than one similar figure. The picture with one figure was used to elicit the singular form of a noun, and the picture with more than one similar figures was to elicit the plural form of a noun. In order to elicit a plural response, I showed the subject a picture with one figure in it, and gave it a name. Then, I asked the subject to reproduce the name (noun). Then, I showed the subject another picture with several of the similar figures and asked the subject to give the plural response. For example: I showed the subject a picture as I said:

(5.1) Loku kubitwa ngokutshi

\[\text{ngumutfo.}^1\]

Ngibona \textit{umutfo}.

Ngibonani?

\[\text{The subject responded:}\]

\[\text{(ubona) umutfo.}\]

This is called \textit{umutfo}.

I see \textit{umutfo}.

What do I see?

(You see) \textit{umutfo}.

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(5.1) Sekufika lomunye umutfo, Another umutfo comes along,

—as I said this, I showed the subject another picture with several similar figures—

Sengitotshi ngibonani? Now what do I see?

—The subject was expected to give a plural response—
(ubona) batfo. (You see) batfo

To elicit the singular response, the subject was shown a picture with several similar figures first. This picture was given a name with a plural prefix and the subject was required to give a singular response. For example, as I was showing the subject the picture I said:

(5.2) Loku kubitwa ngokutshi This is called

batjeki batjeki

Ngibona batjeki I see batjeki

Ngibonani? What do I see?

—The subject responded:
(ubona) batjeki. (You see) batjeki.

Sekuhamba\(^2\) lokunye They go away, and

kusala kunye, one remains,

—I said this as I showed the subject a picture with one figure—

Manje sengitotshi ngibonani? Now, what do I see?
This required a singular response:
(ubona) umtjeki. (You see) umtjeki.
The questions eliciting either singular prefixes or plural prefixes were interspersed between other questions on agreement markers, tenses, etc. For instance after 5.1 the next question elicited SVA markers or tense markers as we shall see in Chapter 7.

5.1.2.2 **Production Task 2: Words Alone**

Nine questions were used in this task. No pictures were used, but the subjects were required to give plural or singular responses wherever necessary. The subject was told the following:

(5.3) Ake ngitshi kungena

\begin{align*}
\text{umutfwa} & \text{ lapha emnyango.} \\
\text{mine ngitotshi ngibona } & \text{umutfwa} \\
\text{I will say that I see } & \text{umutfwa} \\
\text{Wena utotshi ubonani?} & \text{What will you say you see?}
\end{align*}

The subject responded:

(Ngibona) \text{umutfwa} \text{7} \\
\text{Then another umutfwa comes along to join this one, now}

\begin{align*}
\text{umutfwa}, \text{ manje utotshi} & \\
\text{ubonani?} & \text{What do you see?}
\end{align*}

The subject was expected to give a plural response:

(Ngibona) batfwa \text{7} \\
\text{I see batfwa}

(Umutfwa is a real word meaning 'pygmy').

When the singular form of the noun was elicited, later the plural form of the noun was elicited. Real words were used to elicit prefixes of class 1/2, since there were no pictures used in this task.
5.1.2.3 Production Task 3: Story Telling

In this task, the subjects were required to tell a story based on the action done by the figures or figure shown to them in the second picture of each pair. For example, I said the following as I was showing the subject the first picture:

(5.4) Loku ngumsafa. This is called umsafa.
Ubonani? What do you see?

∥The subject responded:
(Ngibona) umsafa∥ (I see) umsafa.
Sekufika lomunye umsafa, Then another umsafa comes along
∥I said this as I held up another picture of two or more running similar figures.∥
Ngitekele ngaloku lokwentiwa Give me a description
nguloku of what is going on.
∥The child might respond as
follows: basafa bayagijima... basafa are running...

5.1.2.4 Recognition Task 4: 1 Picture and 2 Nouns

I used six pairs of words in this task. The subject was shown one picture as I was saying two nouns. The subject was expected to choose the noun that went with the picture. For example, I showed the subject a picture with a single figure on it as I said:

(5.5) kulesitfombe, In this picture,
ungatshi ubona do you see
umnafa umnafa

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(5.5) noma or
banafa? banafa?
The expected response was:
umnafa. (singular) umnafa. (singular)

5.1.2.5 Recognition Task 5: 2 Pictures and 1 Noun

In this task, two pictures were simultaneously shown to the subject. One picture had one figure in it; the other one had several similar figures. As these pictures were being shown to the subject, I said:

(5.6) Ngikhombise Show me
sitfombe the picture that
lesihambelana goes together
naleligama: with this word:
umpholisi. (singular) umpholisi. (singular)
The expected response was that the child should point at the picture with a single figure.

5.1.2.6 Recognition Task 6: 2 Pictures and 2 Nouns

Under this task, eight pairs of words were used. Two pictures (one with a single figure and the other one with several similar figures) were shown to the subject, as I said the two nouns--singular and the other plural. For example:

(5.7) Lapha kufuneka In this task, you are required
ukhombe sitfombe to point at the picture
lesihambelana that goes together
(5.7) nalelo nalelogama: with each of the following
kufuneka ukhombe you are supposed to point at
ngesikhathshi ngilisho the picture as I say each
leligama; word; .
basema basema
umsema umsema

The subject was expected to match a correct word with a correct
picture. When I said basema, the subject was supposed to point at
the picture with more than one figure, and when I said umsema, then
the subject was expected to point at a picture with one figure.

Let us now turn to the results of each task.

5.2 Results of Each Task

Since there were only three subjects used in these tasks, I
will not represent the results in terms of percentages etc., because
I would like to compare the types of "errors" these subjects made,
with the "errors" made by Zwane. In this subsection I will present
the results of each task and make brief comments. The type of
generalizations these data might reveal will be dealt with under
discussion.

5.2.1 Results of Production Task 1: Words and Pictures

To repeat, in this task the subjects were required either to
give singulars for given plural nouns, or to give plurals for given
singular nouns. In most cases nonsense words were used, but at times
actual nouns were used if they had certain features that could not have been captured by use of dummy words. For instance, nouns like um-sutfu 'Sotho' and um-lumbi 'whiteman' use the plural prefix /be-/ instead of the commonly used prefix /ba-/ of class 1/2 in adult speech. In Chapter 2 we noticed that nouns of class 1/2 use plural prefix /be-/ if the first syllable of the stem consists of vowel /-u-/, but this is not the case with all nouns. For instance, the noun umu-ntfu 'person' does not use the plural prefix /be-/ and yet the first syllable of the stem consists of the vowel /-u-/. Therefore, there was no way of capturing this fact that nouns like um-sutfu 'Sotho,' um-lumbi 'whiteman' use the plural prefix /be-/ unless the actual words were included in the task. Now let us look at the results of plural nouns given by subjects when they were given the singular nouns:

5.2.1.1 Results: Class 1/2

Consider the following nouns:

<table>
<thead>
<tr>
<th>(5.8) Nouns Given</th>
<th>Number</th>
<th>Gloss</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>umu-ntfu</td>
<td>Singular</td>
<td>'person'</td>
<td>1/2</td>
</tr>
<tr>
<td>umu-tfo</td>
<td>Singular</td>
<td></td>
<td>1/2</td>
</tr>
<tr>
<td>um-tjeki</td>
<td>Singular</td>
<td></td>
<td>1/2</td>
</tr>
<tr>
<td>umu-tfwa</td>
<td>Singular</td>
<td>'pygmy'</td>
<td>1/2</td>
</tr>
<tr>
<td>um-sutfu</td>
<td>Singular</td>
<td>'Sotho'</td>
<td>1/2</td>
</tr>
<tr>
<td>um-lumbi</td>
<td>Singular</td>
<td>'whiteman'</td>
<td>1/2</td>
</tr>
</tbody>
</table>
The nouns that are not glossed are dummy words. The subjects were given the above singular nouns of class 1/2 and they were required to give plural forms. The plural forms given by all the subjects were as follows:

(5.9)

<table>
<thead>
<tr>
<th>Subjects' Response</th>
<th>Number</th>
<th>Class</th>
<th>Gloss</th>
<th>Adult</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>bo-mu-ntfu³</td>
<td>Plural</td>
<td>1a/2a</td>
<td>'people'</td>
<td>ba-ntfu</td>
<td>1/2</td>
</tr>
<tr>
<td>bo-mu-tfo</td>
<td>Plural</td>
<td>1a/2a</td>
<td></td>
<td>ba-tfo</td>
<td>1/2</td>
</tr>
<tr>
<td>bo-m-tjeki</td>
<td>Plural</td>
<td>1a/2a</td>
<td></td>
<td>ba-tjeki</td>
<td>1/2</td>
</tr>
<tr>
<td>bo-m-tfwa</td>
<td>Plural</td>
<td>1a/2a</td>
<td></td>
<td>ba-tfwa</td>
<td>1/2</td>
</tr>
<tr>
<td>bo-m-Sutfu</td>
<td>Plural</td>
<td>1a/2a</td>
<td>'Sothos'</td>
<td>be-Sutfu</td>
<td>1/2</td>
</tr>
<tr>
<td>bo-m-lumbi</td>
<td>Plural</td>
<td>1a/2a</td>
<td>'whitemen'</td>
<td>be-lumbi</td>
<td>1/2</td>
</tr>
</tbody>
</table>

In 5.9, if we compare the responses of the subjects with those of an adult speaker, we notice that all the subjects used /bo-/ as a plural prefix marker instead of the expected /ba-/ of class 1/2. The plural prefix /bo-/ used by the subjects, as we might notice, was added to the singular form of the noun being pluralized. This resulted in multiple prefixes on a single word (which does not occur in adult speech) as follows:

(5.10) bo - mu - ntu 'people'

plural prefix - singular prefix - person

1a/2a - 1/2

In adult speech, the plural prefixes replace the singular one as in umu-ntfu 'person' ba-ntfu 'people.' Since the plural prefix /bo-/ is added to the singular form of a noun, nouns like um-lumbi 'whiteman,' um-sutfu 'Sotho' are treated like the rest of the nouns in this class,
instead of using the plural prefix /be-/.

In 5.9, I classified these nouns as belonging to class 1a/2a for the subjects simply because the plural prefix of class 1a/2a uses /bo-/. Therefore, the plural prefix for adult class 1/2 is /bo-/ for these subjects instead of the expected /ba-/.

Now consider the singular forms given by the subjects when they were given plural nouns of class 1/2:

(5.11) Nouns Given Number Gloss Class

a) be-sutfu Plural 'Sothos' 1/2
    bo-m-sutfu Plural 'Sothos' 1a/2a
    ba-tjeki Plural 1/2
    ba-tfo Plural 1/2

b) bo-Sutfu Plural 'Sothos' 1a/2a
    bo-tjeki Plural 1/2
    bo-tfo Plural 1/2

(5.12) Subjects' Response Number Class Gloss Adult Class

a) um-sutfu Singular 1/2 'Sotho' um-sutfu 1/2
    um-sutfu Singular 1/2 'Sotho' um-sutfu 1/2
    um-tjeki Singular 1/2 um-tjeki 1/2
    umu-tfo Singular 1/2 umu-tfo 1/2

b) ø-sutfu Singular 1a/2a ø-sutfu 1/2
    ø-tjeki Singular 1a/2a ø-tjeki 1/2
    ø-tfo Singular 1a/2a ø-tfo 1/2
5.11 shows plural nouns that were given to subjects in order to give their singular alternatives. In 5.11(a), the plural forms be-sutfu 'Sothos,' ba-tjeki and ba-tfo are correct plural forms in adult speech, while the plural form bo-m-sutfu 'sothos' would be considered "incorrect" in adult speech. At times I used the "incorrect" plural forms, as in the case of bo-m-sutfu 'Sothos,' which was given to me by the subjects as a response in order to find out whether the subjects will give different singular forms for the "correct" plural nouns and for the "incorrect" plural nouns given. In 5.12(a) are the singular nouns which were given by subjects as a response to the plural nouns given in 5.11(a).

In 5.12(a), we notice that the singular forms of the subjects are the same as those of adult speakers. The subjects gave similar (correct) responses whether the plural form of a noun given consisted of an appropriate plural prefix /ba-/ followed by the stem (correct form) as in be-sutfu 'Sothos,' or whether the given noun consisted of the prefix /bo-/ + singular prefix + the stem (incorrect form), as in bo-m-sutfu 'Sothos.' In cases of nouns like be-sutfu 'Sothos,' ba-tjeki and ba-tfo we notice that the subjects gave correct singular forms for these nouns, and yet when they were asked to give the plural forms for these nouns in 5.8 they used /bo-/ as a plural prefix in 5.9. The /bo-/ was always added to the singular form of a noun. One wonders why the subjects gave the correct singular forms when they were given both "correct" and "incorrect" plural forms, and yet when they were asked to give the plural forms of these nouns they did not use the appropriate plural prefix /ba-/ in their responses.
Most investigators have noticed that children understand more than they can produce. And at times they have observed that children do know the correct pronunciation of words and yet they themselves fail to reproduce them correctly. A classical example is that of Brown who was imitating the child who was pronouncing fish as /fis/. The child corrected Brown not to say /fis/ but /fis/. When Brown finally said fish then the child said: "Yes fis." The child knew that the noun fish is pronounced with an /s/ in adult speech and not with an /s/ as the child was doing.

In the case of SiSwati, the subjects might have known that /ba-/ is a plural prefix for nouns that use a singular prefix /umu-/ in adult speech; but probably they did not know when the prefix /umu-/ takes the plural prefix /ba-/ of class 1/2, and when the same singular prefix /umu-/ uses the plural prefix /imi-/ of class 3/4. In order to cope up with this deficiency in their knowledge, the subjects added the plural prefix /bo-/ to the singular form of a noun. It seems that the subjects knew that nouns with plural prefix /ba-/ use /umu-/ in the singular adult speech. In plural forms where they added the plural prefix /bo-/ the singular form was obtained by deleting the plural prefix /bo-/ . That might be one of the reasons why the subjects gave the correct singular forms for both "correct" and "incorrect" plural forms given.

In 5.11(b), the subjects were given plural nouns which used the plural prefix /bo-/ followed by the stem, as in bo-sutfu 'Sothos' etc., and they were asked to give singular forms of these nouns. This was done in order to find out whether the subjects would
use /umu-/ of classes 1/2 or 3/4 as a singular prefix or whether they would use /Ø-/ as a singular prefix. In 5.12(b) are the singular forms the subjects gave as responses. In 5.12(b), we notice that the subjects used /Ø-/ as a singular response. As we shall see below; /Ø-/ is the singular prefix of class 1a/2a, which uses plural prefix /bo-/. The plural prefix /bo-/ is added to the singular form of a noun, which consists of a stem only, since the singular prefix of class 1a/2a is /Ø-/. The fact that the subjects gave a response as a /Ø-/ in 5.12(b) when given the plural forms in 5.11(b) shows that in nouns like be-sutfu 'Sothos' and bo-m-sutfu 'Sothos,' the subjects knew that these nouns use /umu-/ as a singular prefix, while bo-sutfu 'Sothos' will use a /Ø-/ prefix. In be-Sutfu 'Sothos' the cue was given by the prefix /be-/ and in bo-m-sutfu 'Sothos' the cue was given by the singular prefix /-m-/ which remains after the deletion of plural prefix /bo-/.

If the subjects had given the singular form of ba-tjeki (nonsense word) as -tjeki then this could have suggested that the subjects treated the nouns of class 1/2, 3/4 singular forms as having a /Ø-/ prefix, thus falling under class 1a/2a. But we noticed that the subjects gave a singular prefix as /umu-/ for the plural noun ba-tjeki thus suggesting that the subjects were given a cue by the plural prefix /ba-/.

Thus, from the above discussion we can posit the prefixes of this class in subjects and adults as follows:

<table>
<thead>
<tr>
<th>(5.13)</th>
<th>Adult</th>
<th>Class</th>
<th>Number</th>
<th>Subjects</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>umu-</td>
<td>1/2</td>
<td>Singular</td>
<td>umu-</td>
<td>I/IIA</td>
<td></td>
</tr>
<tr>
<td>ba-</td>
<td>1/2</td>
<td>Plural</td>
<td>bo-</td>
<td>I/IIA</td>
<td></td>
</tr>
</tbody>
</table>

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Since the prefixes in the subjects' utterances were not always similar to those of an adult speaker I decided to number them with Roman numerals, as I did in the case of Zwane.

5.2.1.2 Results: Class 1a/2a

Consider the following nouns:

(5.14) Nouns Given  Number  Gloss  Class
a) ø-hlepu  Singular  

b) bo-hlephu  Plural  1a/2a
bo-nyoko  Plural  'our mothers'  1a/2a
bo-fehle  Plural  1a/2a

(5.15) Subjects Response  Number  Class  Gloss  Adult  Class
a) bo-hlephu  Plural  1a/2a  bo-hlephu  1a/2a
b) ø-hlephu  Singular  1a/2a  ø-hlephu  1a/2a
ø-unyoko  Singular  1a/2a  'you mother'  ø-unyoko  1a/2a
ø-fehle  Singular  1a/2a  ø-fehle  1a/2a

In 5.14(a), the subjects were asked to give the plural form of the dummy noun ø-hlephu. All subjects gave bo-hlephu as a response in 5.15(a). The response given was similar to that of an adult speaker. In 5.14(b), the subjects were asked to give singular forms of the noun listed. In 5.15(b) are the responses given by the subjects. Again, the responses given by the subjects were similar to those of an adult speaker. The subjects had no problem in giving the singular
forms of nouns like bo-nyoko 'your mothers' which is vowel-initial in the singular form, e.g. Œ-unjoko 'your mother.'

In dealing with nouns of class 1a/2a, the subjects had no problem in either deriving singular forms from plural ones, or deriving plural forms from singular ones. They always gave correct forms, i.e., forms that were similar to those of adult speakers. Therefore, the prefixes of this class may be posited as follows:

\[(5.16)\]

\[
\begin{array}{cccc}
\text{Adult} & \text{Class} & \text{Number} & \text{Subjects} & \text{Class} \\
\varnothing - & 1a/2a & \text{Singular} & \varnothing - & \text{IA/IIA} \\
bo- & 1a/2a & \text{Plural} & bo- & \text{IA/IIA} \\
\end{array}
\]

Thus, in 5.16, we notice that the prefixes used by the subjects were similar to those of adult speakers. Earlier on, we noticed that the plural prefix of adult class 1/2 /ba-/ was never used by the subjects in forming their plural nouns of class 1/2; instead they used the plural prefix /bo-/ of adult class 1a/2a. Now let us consider the results of the experiment in class 3/4.

5.2.1.3 Results: Class 3/4

Consider the following nouns:

\[(5.17)\]

<table>
<thead>
<tr>
<th>Nouns Given</th>
<th>Number</th>
<th>Gloss</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) um-lafu</td>
<td>Singular</td>
<td></td>
<td>3/4</td>
</tr>
<tr>
<td>umu-gi</td>
<td>Singular</td>
<td></td>
<td>3/4</td>
</tr>
<tr>
<td>um-sati</td>
<td>Singular</td>
<td></td>
<td>3/4</td>
</tr>
<tr>
<td>umu-cudvu</td>
<td>Singular</td>
<td></td>
<td>3/4</td>
</tr>
<tr>
<td>umu-ti</td>
<td>Singular</td>
<td>'village'</td>
<td>3/4</td>
</tr>
<tr>
<td>um-fula</td>
<td>Singular</td>
<td>'river'</td>
<td>3/4</td>
</tr>
</tbody>
</table>

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(5.17) Nouns Given  Number  Gloss  Class  
   b) imi-sati  Plural  
      imi-cudvu  Plural  
      imi-gi  Plural  
      imi-bala  Plural  'legs'  3/4  
      imi-sipha  Plural  'muscles'  3/4  
      imi-no  Plural  'fingers'  3/4  
      imi-fula  Plural  'rivers'  3/4  
      imi-ti  Plural  'villages'  3/4  
      bo-m-fula  "Plural"  'rivers'  3/4  

(5.18)

<table>
<thead>
<tr>
<th>Subjects Response</th>
<th>Number</th>
<th>Class</th>
<th>Gloss</th>
<th>Adult</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) bo-m-lafu</td>
<td>Plural</td>
<td>la/2a</td>
<td>imi-lafu</td>
<td>3/4</td>
<td></td>
</tr>
<tr>
<td>bo-mu-gi</td>
<td>Plural</td>
<td>la/2a</td>
<td>imi-gi</td>
<td>3/4</td>
<td></td>
</tr>
<tr>
<td>bo-m-sati</td>
<td>Plural</td>
<td>la/2a</td>
<td>imi-sati</td>
<td>3/4</td>
<td></td>
</tr>
<tr>
<td>bo-m-cudvu</td>
<td>Plural</td>
<td>la/2a</td>
<td>imi-cudvu</td>
<td>3/4</td>
<td></td>
</tr>
<tr>
<td>bo-mu-ti</td>
<td>Plural</td>
<td>la/2a</td>
<td>'villages'  imi-ti</td>
<td>3/4</td>
<td></td>
</tr>
<tr>
<td>bo-m-fula</td>
<td>Plural</td>
<td>la/2a</td>
<td>'rivers'  imi-fula</td>
<td>3/4</td>
<td></td>
</tr>
<tr>
<td>b) um-sati</td>
<td>Singular</td>
<td>um-sati</td>
<td>3/4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>um-cudvu</td>
<td>Singular</td>
<td>um-cudvu</td>
<td>3/4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>umu-gi</td>
<td>Singular</td>
<td>umu-gi</td>
<td>3/4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>um-bala</td>
<td>Singular</td>
<td>'leg'</td>
<td>um-bala</td>
<td>3/4</td>
<td></td>
</tr>
<tr>
<td>in-sipha⁴</td>
<td>Singular</td>
<td>'muscles' um-sipha</td>
<td>3/4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>i-no⁴</td>
<td>Singular</td>
<td>'fingers' umu-nwe</td>
<td>3/4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>um-fula</td>
<td>Singular</td>
<td>'rivers' umu-fula</td>
<td>3/4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>umu-ti</td>
<td>Singular</td>
<td>'villages' umu-ti</td>
<td>3/4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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In 5.17(a), the subjects were given the list of nouns of class 3/4 and they were asked to give their plural forms. In 5.18(a), the subjects responded by using plural prefix /bo-/ which was added to the singular form, as in the case of nouns in class 1/2 above. In 5.17(b) the subjects were given plural forms and they were asked to derive singular ones. Again I used the "correct" plural forms that use the prefix /imi-/ in adult speech, as well as the "incorrect" plural forms that were given to me by the subjects themselves, such as bo-mu-ti 'villages.' This was done in order to find out whether the subjects would give me different singular forms for the "correct" and "incorrect" plural nouns.

The subjects gave responses in 5.18(b) which were similar to those of an adult speaker. In cases of the adult nouns umu-sipha 'muscle,' and umu-nwe 'finger,' the subjects used insipha for 'muscle' and ino for 'finger.' It is not clear to me as to why the subjects did that. Putting aside these words we can posit the prefixes of this class as follows:

<table>
<thead>
<tr>
<th>(5.19)</th>
<th>Adult</th>
<th>Class</th>
<th>Number</th>
<th>Subjects</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>umu-</td>
<td>3/4</td>
<td>Singular</td>
<td>umu-</td>
<td>I/IIIA</td>
<td></td>
</tr>
<tr>
<td>imi-</td>
<td>3/4</td>
<td>Plural</td>
<td>bo-</td>
<td>I/IIIA</td>
<td></td>
</tr>
</tbody>
</table>

Since for the subjects, this class uses the same prefixes as Class I/IIA in 5.13, then the nouns of this class must be considered by subjects as falling under the same class I/IIA (adult 1/2 and adult 3/4). That these two classes, I/IIA, i.e. adult classes 1/2, and 3/4, are treated as if they were one class in the subjects' utterances will be further supported by agreement markers in Chapter 7,
where these two classes show similar agreement markers for children; in adult speech they use different agreement markers.

Let us look at the prefixes we have discussed so far:

\[(5.20) \begin{array}{cccc}
\text{Adult} & \text{Class} & \text{Number} & \text{Subjects} & \text{Class} \\
\text{a) umu-}/& 1/2 & \text{sg./pl.} & \text{umu-}/& \text{I/IIA} \\
\text{ba-}& & & \text{bo-} & \\
\text{b) }& & & & \\
\text{I/IIA} \\
\text{0-}/& 1a/2a & \text{sg./pl.} & \text{0-}/& \text{IA/IIA} \\
\text{bo-}& & & & \\
\text{c) umu-}/& 3/4 & \text{sg./pl.} & \text{umu-}/& \text{I/IIA} \\
\text{imi-}& & & \text{bo-} &
\end{array} \]

In 5.20(a) and (c), we notice that the adult noun classes 1/2 and 3/4 were treated as if they were one class by the subjects. The subjects gave the same plural prefix whether the picture had a figure of a human being or not. This would have given an adult speaker as cue as to which plural prefix the nonsense word should take. If the figure was human, then the plural prefix to be used should have been /ba-/ of class 1/2; but if the figure was nonhuman then the /imi-/ of class 3/4 should have been the prefix used. The subjects seem to have formulated a rule that says: if the singular prefix of a noun is /umu-/ then the plural prefix to be used, is /bo-/.

The reason for choosing the /bo-/ will be discussed under section 5.3. A question may be asked as to how do we know that the singular prefix in the subjects' utterances was /umu-/ instead of singular prefix /0-/.

In 5.11(b), we noticed that when the subjects were asked to give singular forms for nouns like bo-sutfu 'Sothos,' bo-tjeki and bo-tfo, the subjects gave the singular forms as -sutfu 'Sotho,' -tjeki and -tfo respectively. These singular forms have a /0-/ prefix as in adult class 1a/2a. In fact there is no way the
subjects could have predicted that the singular prefix for these nouns is /umu-/.
But given the adult plural forms of these nouns with /ba-/ such as in be-sutfu 'Sothos,' ba-tjeki and ba-tfo the subjects gave the singular prefix of these nouns with the prefix /umu-/. This was also true in cases where the plural prefix was given as bo-mu-sutfu 'Sothos' etc.

When subjects were given adult nouns of class 3/4 such as bo-cudvu bo-sati, and asked to give their singular forms, the subjects came up with Ø-cudvu, and Ø-sati as singular forms. If the same nouns were given to adult speakers, adults would have produced the Ø-cudvu and Ø-sati as the subjects did. We noticed the same thing in 5.11(b) and 5.12(b), where bo-Sutfu 'Sothos' was given as -sutfu in the singular form. When the subjects were asked to give singular forms for nouns bo-m-cudvu, imi-cudvu etc., they gave um-cudvu as a singular form. (Recall that we have no explanation for the fact that the singular forms ino for 'finger' and insipha for 'muscle' present a problem as to why they were derived from the given plural form iminwe 'fingers' and imisipha 'muscles' respectively). These data suggest that the subjects know that there are plural prefixes such as /ba-/ and /imi-/ which use the singular prefix /umu-/, but it seems that the subjects are not sure as to when the plural prefix /ba-/ is used with the singular prefix /umu-/, and when the same prefix uses /imi-/ in the plural. As we mentioned earlier, an adult speaker will know when to use /ba-/ and /imi-/ on the basis of the meaning of the noun. /Ba-/ occurs with nouns

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denoting humans class 1/2, and /imi-/ with non-human nouns class 3/4. The subjects probably do not know this criterion. Now let us at nouns of class 5/6.

5.2.1.4 Results: Class 5/6

Consider the following nouns:

<table>
<thead>
<tr>
<th>Nouns Given</th>
<th>Number</th>
<th>Gloss</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) li-dzaneba</td>
<td>Singular</td>
<td></td>
<td>5/6</td>
</tr>
<tr>
<td>li-sego</td>
<td>Singular</td>
<td></td>
<td>5/6</td>
</tr>
<tr>
<td>b) ema-saca</td>
<td>Plural</td>
<td></td>
<td>5/6</td>
</tr>
<tr>
<td>ema-lola</td>
<td>Plural</td>
<td></td>
<td>5/6</td>
</tr>
</tbody>
</table>

(5.22)

<table>
<thead>
<tr>
<th>Subjects' Response</th>
<th>Number</th>
<th>Class</th>
<th>Gloss</th>
<th>Adults</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) ema-dzaneba</td>
<td>Plural</td>
<td>5/6</td>
<td>ema-dzaneba</td>
<td>5/6</td>
<td></td>
</tr>
<tr>
<td>ema-sego</td>
<td>Plural</td>
<td>5/6</td>
<td>ema-sego</td>
<td>5/6</td>
<td></td>
</tr>
<tr>
<td>b) li-saca</td>
<td>Singular</td>
<td>5/6</td>
<td>li-saca</td>
<td>5/6</td>
<td></td>
</tr>
<tr>
<td>li-lola</td>
<td>Singular</td>
<td>5/6</td>
<td>li-lola</td>
<td>5/6</td>
<td></td>
</tr>
</tbody>
</table>

In 5.21(a), the subjects were asked to give the plural forms of the nouns listed. They gave the responses in 5.22(a). If we compare their response to that of an adult speaker we notice that they used the plural prefix /ema-/. In 5.21(b), they were given the plural forms of nouns listed and they were asked to give their singular forms. 5.22(b) shows the responses they gave. In 5.22(b) we notice that their singular prefix was similar to that of an adult speaker. Subjects had no problem in deriving either singular or plural forms in this class. At one time I gave them the mass noun ema-finyila
'mucus' to give me the singular form. The subjects gave li-finyila 'a drop of mucus' but after giving the singular form some subjects made faces and some laughed. I asked one whether she uses the noun li-finyila 'a drop of mucus' she said "no." This shows that the subjects at least knew which singular prefix goes with nouns that use /ema-/ as a plural prefix. The noun 'mucus' uses a singular prefix /umu-/ in adult speech as in um-finyila. The prefixes of this class can be posited as follows:

<table>
<thead>
<tr>
<th>(5.23)</th>
<th>Adult</th>
<th>Class</th>
<th>Number</th>
<th>Subjects</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>li-</td>
<td>5/6</td>
<td>Singular</td>
<td>li-</td>
<td></td>
<td>V/VI</td>
</tr>
<tr>
<td>ema-</td>
<td>5/6</td>
<td>Plural</td>
<td>ema-</td>
<td></td>
<td>V/VI</td>
</tr>
</tbody>
</table>

Let us now look at the prefixes of class 7/8.

5.2.1.5 Results: Class 7/8

Consider the following nouns:

<table>
<thead>
<tr>
<th>(5.24)</th>
<th>Nouns Given</th>
<th>Number</th>
<th>Gloss</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) si-bafu</td>
<td>Singular</td>
<td></td>
<td></td>
<td>7/8</td>
</tr>
<tr>
<td>si-sa</td>
<td>Singular</td>
<td>'kindness'</td>
<td></td>
<td>7/8</td>
</tr>
<tr>
<td>si-baso</td>
<td>Singular</td>
<td></td>
<td></td>
<td>7/8</td>
</tr>
<tr>
<td>si-hleke</td>
<td>Singular</td>
<td></td>
<td></td>
<td>7/8</td>
</tr>
<tr>
<td>b) ti-baso</td>
<td>Plural</td>
<td></td>
<td></td>
<td>7/8</td>
</tr>
<tr>
<td>ti-hleke</td>
<td>Plural</td>
<td></td>
<td></td>
<td>7/8</td>
</tr>
<tr>
<td>ti-pheve</td>
<td>Plural</td>
<td></td>
<td></td>
<td>7/8</td>
</tr>
<tr>
<td>ti-dla</td>
<td>Plural</td>
<td></td>
<td></td>
<td>7/8</td>
</tr>
<tr>
<td>ti-gadla</td>
<td>Plural</td>
<td>'lumps/clods'</td>
<td></td>
<td>7/8</td>
</tr>
<tr>
<td>ti-dvudvu</td>
<td>Plural</td>
<td>'mashed pumpkins'</td>
<td></td>
<td>7/8</td>
</tr>
</tbody>
</table>

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In 5.24(a) is the list of nouns that was given to the subjects in order to elicit their plural forms. In 5.25(a), if we compare the response given by the subjects with that of adults, we notice that the subjects used /ti-/ to pluralize the nouns in 5.24(a). The subjects also pluralized the noun 'kindness' ti-sa, except for one subject (S9) who used the singular form, as in adult speech.

In 5.24(b) is the list of plural nouns that was given to the subjects. In 5.25(b), if we compare the response of the subjects with those of an adult speaker, we notice that the subjects used /i-/ as a singular prefix instead of the expected singular prefix /si-/ as in adults. We will recall that Zwane too, as seen in Chapter 4, did use /i-/ as a
singular prefix for nouns like ti-bunu 'buttocks,' ti-cathulo 'shoes,'
to which he gave i-bunu for 'buttock' and i-cathulo for 'shoe,'
instead of using prefix /si-/ . As mentioned earlier, there is no
singular prefix /i-/ in SISwati adult grammar. But when the subjects
were given the plural forms of the nouns in 5.26 they gave the correct
singular prefixes as in 5.27 below:

(5.26) Nouns Given Number Gloss Class
  t-alukati   Plural    'grandmothers'   7/8
  ti-lima     Plural    'fools'         7/8

(5.27) Subjects' Response Number Class Gloss Adult Class
  s-alukati   Singular  7/8    'grandmother' s-alukati 7/8
  si-lima     Singular  7/8    'fool'     si-lima    7/8

The explanation one can give for the correct usage of the singular
prefix /si-/ in the above nouns 5.27 by the subjects is that the
subjects might have been familiar with the singular forms of these
nouns. They might have used the singular prefix /si-/ in the nouns
s-alukati 'grandmother' and si-lima 'fool' before using the plural
prefix. In other words, they were not necessarily deriving them
from their plural forms, since all the singular nouns which they
clearly derived from the plural forms of class 7/8 nouns used /i-/ as a singular prefix. The prefix /i-/ is partially similar to the
singular prefix /in-/ of class 9/10. Class 9/10 singular prefix
/in-/ has a nasal which lacks in prefix /i-/.

The prefixes of this class may be posited as follows:

(5.28) \[
\begin{array}{cccc}
\text{Adult} & \text{Class} & \text{Number} & \text{Subjects} \\
\hline
\text{a)} & \text{si-} & 7/8 & \text{Singular} & \text{si-} \\
& & & & \text{VII/VIII} \\
& & & & \text{i-} \\
& & & & \text{IXA/VIII} \\
\text{b)} & \text{ti-} & 7/8 & \text{Plural} & \text{ti-} \\
& & & & \text{VII/VIII} \\
\end{array}
\]

In 5.28(a), we see that the subjects used the plural prefix /ti-/ to derive the plural forms of the nouns with singular prefix /si-/.

This is also true in adult speech. But in 5.28(b), we notice that the subjects used the prefix /i-/ in order to derive singular form of nouns with plural prefix /ti-/.

In adult speakers the singular prefix for this class is /si-/.

In Chapter 4, we mentioned that the prefix /i-/ is similar to class 9/10 singular prefix /in-/.

In this case, the subjects might have used prefix /i-/ in deriving singular forms of the nouns with plural prefix /ti-/ because they were not aware of a partial similarity between the plural prefix /ti-/ of class 7/8 and /tin-/ of class 9/10.

If the subjects were aware of the distinction then they might not have been sure when to use singular prefixes /si-/ or /in-/ or /lu-/ when given plural nouns that use /ti-/ or /tin-/, as we shall see after discussing classes 9/10 and 11/10.

Let us now turn to the results of class 9/10.
5.2.1.6 **Results: Class 9/10**

Consider the following nouns:

<table>
<thead>
<tr>
<th>(5.29) Given Nouns</th>
<th>Number</th>
<th>Gloss</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) in-sikho</td>
<td>Singular</td>
<td></td>
<td>9/10</td>
</tr>
<tr>
<td>in-simu</td>
<td>Singular</td>
<td>'field'</td>
<td>9/10</td>
</tr>
<tr>
<td>in-khosí</td>
<td>Singular</td>
<td>'king'</td>
<td>9/10</td>
</tr>
<tr>
<td>in-gati</td>
<td>Singular</td>
<td>'blood'</td>
<td>9/10</td>
</tr>
<tr>
<td>b) tin-yewu</td>
<td>Plural</td>
<td></td>
<td>9/10</td>
</tr>
<tr>
<td>tim-phaso</td>
<td>Plural</td>
<td></td>
<td>9/10</td>
</tr>
<tr>
<td>tin-shoba</td>
<td>Plural</td>
<td></td>
<td>9/10</td>
</tr>
<tr>
<td>tin-yeke</td>
<td>Plural</td>
<td></td>
<td>9/10</td>
</tr>
</tbody>
</table>

(5.30)

<table>
<thead>
<tr>
<th>Subjects' Response</th>
<th>Number</th>
<th>Class</th>
<th>Gloss</th>
<th>Adult</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) ti-nsikho</td>
<td>Plural</td>
<td>9/8</td>
<td></td>
<td>tin-sikho</td>
<td>9/10</td>
</tr>
<tr>
<td>ti-nsimu</td>
<td>Plural</td>
<td>9/8</td>
<td>'fields'</td>
<td>ema-simu</td>
<td>9/6</td>
</tr>
<tr>
<td>ti-nkhosí</td>
<td>Plural</td>
<td>9/8</td>
<td>'kings'</td>
<td>ema-khosí</td>
<td>9/6</td>
</tr>
<tr>
<td>ti-ngati</td>
<td>Plural</td>
<td>9/8</td>
<td>'blood'</td>
<td>no plural</td>
<td>9/10</td>
</tr>
<tr>
<td>b) i-nyewu</td>
<td>Singular</td>
<td>9a/8</td>
<td></td>
<td>in-yewu</td>
<td>9/10</td>
</tr>
<tr>
<td>i-mphaso</td>
<td>Singular</td>
<td>9a/8</td>
<td></td>
<td>im-phaso</td>
<td>9/10</td>
</tr>
<tr>
<td>i-nshoba</td>
<td>Singular</td>
<td>9a/8</td>
<td></td>
<td>in-shoba</td>
<td>9/10</td>
</tr>
<tr>
<td>i-nyeke</td>
<td>Singular</td>
<td>9a/8</td>
<td></td>
<td>in-yeke</td>
<td>9/10</td>
</tr>
</tbody>
</table>

In 5.29(a) is the list of nouns that was given to subjects to elicit their plural forms. In 5.30(a) are the responses that the subjects gave. In 5.30(a), if we compare the subjects' responses with those of an adult speaker, we notice that the subjects used /ti-/ of class 7/8 as a plural prefix for the nouns in 5.29(a). After looking at the
results of class 11/10, I will argue that the plural prefix that was used by the subjects for classes 7/8, 9/10 and 11/10 was /ti-/ rather than /tin-/. and that the singular prefix they used for these classes was /i-/ and not /in-/. 

The plural prefix /ti-/ was also used with nouns that take plural prefix /ema-/ of class 5/6, such as ti-nkhosi 'kings,' and ti-nsimu 'fields.' The noun i-ngati 'blood' was also pluralized as ti-ngati 'bloods' by subjects and yet this mass noun does not take any plural prefix in adult speech. Thus, from these data we notice two types of overgeneralizations, viz., the use of the plural prefix /ti-/ with nouns that use plural prefix /ema-/ of this class; and the use of the same prefix to pluralize nouns that do not have plural forms in adult speech. 

In 5.29(b), is the list of nouns that was given to subjects in order to derive their singular forms. In 5.30(b) are the responses given by the subjects. In 5.30(b) the subjects used the singular prefix /i-/ to change the plural nouns in 5.29(b) to singular. Traditionally the singular prefix of this class is analyzed as /in-/ and its plural counterpart as /tin-. I will argue later that the children are using prefixes /i-/ and /ti-/ instead of the /in-/ and /tin-/ respectively. Therefore, the prefixes of this class may be presented as follows:

<table>
<thead>
<tr>
<th>(5.31)</th>
<th>Adult</th>
<th>Class</th>
<th>Number</th>
<th>Subject</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>in-</td>
<td>9/10</td>
<td>Singular</td>
<td>i-</td>
<td>IXA/VIII</td>
<td></td>
</tr>
<tr>
<td>tin-</td>
<td>9/10</td>
<td>Plural</td>
<td>ti-</td>
<td>IXA/VIII</td>
<td></td>
</tr>
</tbody>
</table>
In 5.31 the prefixes of class 9/10 in adult speech are analyzed as /in-/ in the singular and /tin-/ in the plural, while the subjects used /i-/ and /ti-/ as singular and plural prefixes respectively. In the adults the nasal is analyzed as part of the prefix, while in the subjects the nasal seems to be part of the stem as we shall notice when discussing class 11/10 nouns. Let us look at the results of class 11/10.

5.2.1.7 Results: Class 11/10

Consider the following nouns:

(5.32) Nouns Given     Number     Gloss       Class

a) lu-sego     Singular     -     11/10
   lu-gebhuta Singular     'shell'    11/10
   lu-hlanya     Singular     'lunatic' 11/10
   lu-gwabha     Singular     'wing'     11/10
   lu-bisi       Singular     'milk'      11/10
   lu-ju         Singular     'honey'     11/10

b) tin-yawo     Plural       'feet'      11/10
   tim-phondvo   Plural       'horns'     11/10
   tin-siba      Plural       'features'  11/10
   tin-khophe    Plural       'eyelashes' 11/10
   tin-sego      Plural       -           11/10
   tin-hlanya    Plural       'lunatics' 11/10
   tin-dziwo     Plural       'claypots' 11/10
(5.33)

<table>
<thead>
<tr>
<th>Subjects Response</th>
<th>Number</th>
<th>Class</th>
<th>Gloss</th>
<th>Adult</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) ema-sego</td>
<td>Plural</td>
<td>5/6</td>
<td></td>
<td>tin-sego</td>
<td>11/10</td>
</tr>
<tr>
<td>ema-gebhuta</td>
<td>Plural</td>
<td>5/6</td>
<td>'shells'</td>
<td>tin-gebhuta</td>
<td>11/10</td>
</tr>
<tr>
<td>ema-hlanya</td>
<td>Plural</td>
<td>5/6</td>
<td>'lunatics'</td>
<td>tin-hlanya</td>
<td>11/10</td>
</tr>
<tr>
<td>ema-bisi</td>
<td>Plural</td>
<td>5/6</td>
<td>'milk'</td>
<td>(no plural)</td>
<td>11/10</td>
</tr>
<tr>
<td>ema-ju(S7&amp;S9)</td>
<td>Plural</td>
<td>5/6</td>
<td>'honey'</td>
<td>(no plural)</td>
<td>11/10</td>
</tr>
<tr>
<td>bo-1u-ju(Sg)</td>
<td>Plural</td>
<td>5/6</td>
<td>'honey'</td>
<td>(no plural)</td>
<td>11/10</td>
</tr>
<tr>
<td>b) li-nyawo</td>
<td>Singular</td>
<td>5/6</td>
<td>'foot'</td>
<td>lu-nyawo</td>
<td>11/10</td>
</tr>
<tr>
<td>i-mphondvo</td>
<td>Singular</td>
<td>IX/VIII</td>
<td>'horn'</td>
<td>lu-phondvo</td>
<td>11/10</td>
</tr>
<tr>
<td>li-mphondvo</td>
<td>Singular</td>
<td>IXA/VIII</td>
<td>'horn'</td>
<td>lu-phondvo</td>
<td>11/10</td>
</tr>
<tr>
<td>i-nsiba</td>
<td>Singular</td>
<td>IXA/VIII</td>
<td>'feather'</td>
<td>lu-siba</td>
<td>11/10</td>
</tr>
<tr>
<td>i-nkhophe</td>
<td>Singular</td>
<td>IXA/VIII</td>
<td>'eyelash'</td>
<td>lu-khophe</td>
<td>11/10</td>
</tr>
<tr>
<td>i-nhlanya</td>
<td>Singular</td>
<td>IXA/VIII</td>
<td>'lunatic'</td>
<td>lu-hlanya</td>
<td>11/10</td>
</tr>
<tr>
<td>i-nsego</td>
<td>Singular</td>
<td>IXA/VIII</td>
<td></td>
<td>lu-sego</td>
<td>11/10</td>
</tr>
<tr>
<td>i-ndziwo</td>
<td>Singular</td>
<td>IXA/VIII</td>
<td>'claypot'</td>
<td>lu-dziwo</td>
<td>11/10</td>
</tr>
</tbody>
</table>

In 5.32(a) is a list of singular nouns that was given to the subjects.

In 5.33(a) are the responses that the subjects gave. In 5.33(a), if we compare the responses given by the subjects with the adult forms, we notice that the subjects used the plural prefix /ema-/ of class 5/6 instead of the expected adult prefix /tin-/ of class 9/10.

Before giving the plural forms of these nouns, the subjects were made to pronounce these nouns with the prefix /lu-/ when the nouns were introduced. This was done so that I could see whether the subjects were aware that the prefix /li-/ was different from the prefix /lu-/. If they did notice that /li-/ and /lu-/ were different prefixes then
one would expect a different plural form for nouns with a prefix /lu-/ and those with a prefix /li-/ . It seems that the subjects were not aware of the distinction between prefixes /li-/ of class 5/6 and /lu-/ of class 11/10, because after producing the singular form of a noun with the prefix /lu-/ the subjects went ahead and gave the plural form of the same noun with plural prefix /ema-/ of class 5/6, instead of using /tin-/ of class 11/10. The subjects might not have been aware of the difference between the two prefixes /li-/ and /lu-/ because it is slight, i.e., the difference consist of one vowel and it is in a non-prominent place.

The singular prefix /li-/ was substituted for the singular prefix /lu-/ of class 11/10, not only in the experimental responses of these subjects, but also in the other children's spontaneous utterances. We noticed that Zwane also substituted the prefix /li-/ for /lu-/ in his spontaneous utterances, and he used the plural prefix /ema-/ of class 5/6 to form the plurals of nouns in class 11/10 instead of the expected /tin-/.

In 5.33(a), we also notice that subject 8 (S8) used /bo-/ as a plural prefix, and again the prefix /bo-/ was added to the singular form of the noun lu-ju 'honey.' S7 and S9 used the plural prefix /ema-/ of class 5/6, which replaced the singular prefix /lu-/ of class 11/10. Probably, S8 did not know the plural prefix of lu-ju 'honey,' so he used what looks like a general rule, viz., when in doubt about the plural prefix of a noun, then add /bo-/ to its singular form. We have also seen this in classes 1/2 and 3/4 above.
Again, in these data, we notice that the mass nouns lu-bisi 'milk' and lu-ju 'honey' are pluralized like the rest of the count nouns in this class, which is not the case in adult speech.

In 5.33(b) is the list of plural nouns of class 11/10 which was given to the subjects. In 5.34(b) are the responses given by the subjects. In 5.34(b), the subjects used /li-/ in their response as a singular prefix for the noun lu-nyawo 'foot' instead of the adult /lu-/ . The noun lu-nyawo 'foot' was probably assigned the prefix /li-/ because the subjects were somehow familiar with the plural form of this noun tin-nyawo 'feet' which might be the form the subjects have internalized. Therefore, they knew that its singular form did take a /lu-/ prefix, but since they had a rule that substitutes /li-/ for the prefix /lu-/ , then the singular form came out as li-nyawo 'foot' after the application of this rule.

The rest of the nouns, such as i-mphondvo 'horn,' i-nsiba 'feather,' i-ndziwo 'claypot,' i-nkhophe 'eyelash,' used the singular prefix /i-/ of IXA/VIII as I will label it. These nouns used the singular prefix /i-/ of class IXA/VIII simply because nouns of class 11/10 in adult speech use the plural prefix /tin-/ of class 9/10. In subjects the nasal of the prefix /tin-/ is analyzed as part of the stem rather than that of the prefix.

To repeat, since the singular prefix /lu-/ of adult class 11/10 is always substituted by /li-/ in the subjects, and since this class uses the plural prefix /tin-/ of class 9/10 in adults, which is re-analyzed as /ti-/ in the case of the subjects, therefore we can
say that this class does not exist in the subjects' noun classification. From the above data we can posit the prefixes of this class as follows:

\[(5.34)\]

<table>
<thead>
<tr>
<th>Adult</th>
<th>Class</th>
<th>Number</th>
<th>Subjects</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>lu-</td>
<td>11/10</td>
<td>Singular</td>
<td>li-</td>
<td>V/VI</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>i-</td>
<td>IXA/VIII</td>
</tr>
<tr>
<td>tin-</td>
<td>11/10</td>
<td>Plural</td>
<td>ema-</td>
<td>V/VI</td>
</tr>
</tbody>
</table>

In 5.34 we see that the subjects substituted the singular prefix /li-/ of class 5/6 for singular prefix /lu-/ of class 11/10. Then they used plural prefix /ema-/ of class 5/6 when asked to derive plural nouns from singular nouns of class 11/10. When they were asked to derive singular nouns from the given plural nouns with prefix /tin-/, the subjects used the prefix /i-/ with the singular forms of these nouns. Since the derivations of nouns in class 11/10 are handled by prefixes of other classes, this class, viz., 11/10, does not exist in the subjects' classification of nouns.

Let us now look at the prefixes of classes 7/8, 9/10 and 11/10. The prefixes of these classes can be presented as follows:

\[(5.35)\]

<table>
<thead>
<tr>
<th>Adult</th>
<th>Class</th>
<th>Number</th>
<th>Subjects</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) si-/ti-</td>
<td>7/8</td>
<td>Sg./pl.</td>
<td>si-/ti-</td>
<td>VII/VIII</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>i-/ti</td>
<td>IXA/VIII</td>
</tr>
<tr>
<td>b) in-/tin-</td>
<td>9/10</td>
<td>Sg./pl.</td>
<td>i-/ti</td>
<td>IXA/VIII</td>
</tr>
<tr>
<td>c) lu-/tin-</td>
<td>11/10</td>
<td>Sg./pl.</td>
<td>li-/ema- or i-/ti</td>
<td>V/VI or IXA/VIII</td>
</tr>
</tbody>
</table>
In 5.35(a) and (b) we notice that the subjects used the plural prefix /ti-/ and the singular prefix /i-/ in adult speech these prefixes comprise prefixes of two different classes; si-/ti- of class 7/8 and in-/tin- of class 11/10. In the case of adult class 7/8, it was clear that the subjects used /ti- as a plural prefix and /i-/ in the singular because there was no nasal involved. For instance, the subjects gave ti-bafu as a plural form for the singular nonsense noun si-bafu of class 7/8 in adult speech, and gave i-gadla 'lump'/'clod' as a singular form for the plural noun ti-gadla 'lumps'/'clods.' It is difficult to say with certainty that the subjects considered the nasal as if it were the part of the stem in class 9/10. At any rate, when the subjects were given plural nouns of classes 7/8, 9/10, and 11/10 and were asked to give their singular forms, the subjects used prefix /i-/ for all of them. For instance, the dummy noun ti-nshoba was rendered as i-nshoba of class 9/10, and ti-mphondvo 'horns' of class 11/10 was rendered as i-mphondvo 'horn' in the singular instead of lu-phondvo 'horn' as in adult speech, or li-mphondvo 'horn' after the application of the substitution rule /li-/ /li-/ which was used by the subjects. The /-m-/ in li-mphondvo 'horn' was used as part of the stem since the prefix /li-/ of class 5/6 lacks a nasal.

It seems to me, then, that the fact that plural nouns of class 7/8 were given /i-/ as a singular prefix shows that the subjects were using the same singular prefix /i-/ in deriving the singular forms for nouns of classes 9/10 and 11/10. If the subjects were using
/in-/ as a singular prefix then nouns like i-gadla 'lump'/clod' should have been rendered as in-gadla for 'lump'/clod'. But the subjects never did that. In addition to this observation, the noun li-mphondvo 'horn' should have occurred without the nasal /-m-/ if the nasal was treated as part of the prefix by the subjects. Let us now look at class 14.

5.2.1.8 Results: Class 14

Consider the following nouns.

<table>
<thead>
<tr>
<th>(5.36)</th>
<th>Nouns Given</th>
<th>Number</th>
<th>Gloss</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) bu-fo</td>
<td>Singular</td>
<td></td>
<td></td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>bu-luhla</td>
<td>Singular</td>
<td></td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>bu-so</td>
<td>Singular</td>
<td>'face'</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>bu-hlalu</td>
<td>Singular</td>
<td>'beads'</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>tj-ani</td>
<td>Singular</td>
<td>'grass'</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>tjw-ala</td>
<td>Singular</td>
<td>'beer'</td>
<td>14</td>
</tr>
<tr>
<td>b) bu-luhla</td>
<td>Plural</td>
<td></td>
<td></td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>b-oYa</td>
<td>Plural</td>
<td>'hair'</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>b-ouv</td>
<td>Plural</td>
<td>'puss'</td>
<td>14</td>
</tr>
</tbody>
</table>

(5.37)

<table>
<thead>
<tr>
<th>Subjects' Response</th>
<th>Class</th>
<th>Number</th>
<th>Gloss</th>
<th>Adult</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) bo-bu-fo</td>
<td>1a/2a</td>
<td>Plural</td>
<td></td>
<td>bu-fo</td>
<td>14</td>
</tr>
<tr>
<td>bo-bu-luhla</td>
<td>1a/2a</td>
<td>Plural</td>
<td></td>
<td>bu-luhla</td>
<td>14</td>
</tr>
<tr>
<td>bo-bu-so</td>
<td>11a/2a</td>
<td>Plural</td>
<td>'faces'</td>
<td>bu-so</td>
<td>14</td>
</tr>
</tbody>
</table>
(5.37)

<table>
<thead>
<tr>
<th>Subjects' Response</th>
<th>Class</th>
<th>Number</th>
<th>Gloss</th>
<th>Adult</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>bo-bu-hlalu</td>
<td>1a/2a</td>
<td>Plural</td>
<td>'beads'</td>
<td>bu-hlalu</td>
<td>14</td>
</tr>
<tr>
<td>bo-tj-ani</td>
<td>1a/2a</td>
<td>Plural</td>
<td>'grass'</td>
<td>tj-ani</td>
<td>14</td>
</tr>
<tr>
<td>bo-tjw-ala</td>
<td>1a/2a</td>
<td>Plural</td>
<td>'beers'</td>
<td>tjw-ala</td>
<td>14</td>
</tr>
<tr>
<td>b) bu-luhla</td>
<td>14</td>
<td>Singular</td>
<td></td>
<td>bu-luhla</td>
<td>14</td>
</tr>
<tr>
<td>b-oya</td>
<td>14</td>
<td>Singular</td>
<td>'hair'</td>
<td>b-oya</td>
<td>14</td>
</tr>
<tr>
<td>bu-sika</td>
<td>14</td>
<td>Singular</td>
<td>'winter'</td>
<td>bu-sika</td>
<td>14</td>
</tr>
<tr>
<td>b-ovu</td>
<td>14</td>
<td>Singular</td>
<td>'puss'</td>
<td>b-ovu</td>
<td>114</td>
</tr>
</tbody>
</table>

In Chapter 2, we will recall that class 14 has no plural alternative in adult speech. Most of the nouns in this class are abstract nouns. But there are a few nouns that occur in children's vocabulary that fall into this class, such as bu-so 'face,' bu-hlalu 'beads,' tj-ani 'grass,' tjw-ala 'beer' etc., which are not abstract nouns.

In 5.36(a) is the list of nouns that was given to the subjects. Since these nouns have no plural forms in adult speech, I was interested in finding out whether children will give me the plural forms for these nouns. If so, what plural prefix will they use? In 5.37(a) are the responses that were given by the subjects. The subjects gave the responses with no hesitation at all, and we notice that they used the plural prefix /bo-/ , which was added to the singular noun. In other words, for all the nouns of this class that did not use plural forms in adult speech, the subjects pluralized them by using the prefix /bo-/.

In 5.36(b) is the list of nouns that were used in the plural contexts, and the subjects were asked to give their singular
alternatives. The subjects gave the response as in 5.37(b). Again, the subjects seem to have no problem in giving the singular forms of these nouns. On the basis of these data the prefixes of this class can be posited as follows:

(5.38) | Adult | Class | Number | Subjects | Class  
|------|------|--------|----------|--------
| bu-  | 14   | Singular | bu-      | XIV    
| bu-  | 14   | Plural  | bo-      | XIV/IIA

In 5.38, again we notice that the subjects used /bo-/ of adult class 1a/2a as a plural prefix; but in the singular the subjects used the /bu-/ of class 14, as in adults.

Let us now consider the nouns of class 15.

5.2.1.9 Results: Class 15

Consider the following nouns:

(5.39) | Nouns Given | Number | Gloss | Class  
|--------|---------|-------|-------
| a) ku-nsa | Singular |       | 15    
| ku-ga   | Singular |       | 15    
| ku-khe  | Singular |       | 15    
| ku-hlwe | Singular |       | 15    
| kw-ala  | Singular |       | 15    
| kw-endza| Singular |       | 15    
| ku-dla  | Singular | 'food' | 15    
| b) ku-dla | Plural | 'food' | 15    

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(5.40)

<table>
<thead>
<tr>
<th>Subjects' Response</th>
<th>Number</th>
<th>Class</th>
<th>Gloss</th>
<th>Adult</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) bo-ku-nsa</td>
<td>Plural</td>
<td>1a/2a</td>
<td>ku-nsa</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>bo-ku-ga</td>
<td>Plural</td>
<td>1a/2a</td>
<td>ku-ga</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>bo-ku-khe</td>
<td>Plural</td>
<td>1a/2a</td>
<td>ku-khe</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>bo-ku-hlwe</td>
<td>Plural</td>
<td>1a/2a</td>
<td>ku-hlwe</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>bo-kw-ala</td>
<td>Plural</td>
<td>1a/2a</td>
<td>kw-ala</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>bo-kw-endza</td>
<td>Plural</td>
<td>1a/2a</td>
<td>kw-endza</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>bo-ku-dla(S₇)</td>
<td>Plural</td>
<td>1a/2a</td>
<td>ku-dla</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>ku-dla(S₇&amp;S₈)</td>
<td>Plural</td>
<td>15</td>
<td>'food'</td>
<td>ku-dla</td>
<td>15</td>
</tr>
</tbody>
</table>

b) ku-dla          | Singular| 15    | 'food'| ku-dla| 15   |

In adult speech, nouns of this class have no plural form. In 5.39(a) is the list of nouns that was given to the subjects. The subjects were asked to give the plural forms of these nouns - with the aid of pictures. In 5.40(a) are the responses that were given by the subjects. As in adult class 14 above, we notice that the subjects used /bo-/ as a plural prefix, except in the case of the noun *ku-dla 'food.' Probably subjects $S_7$ and $S_8$ might have recalled from memory that this noun does not have a plural form.

One subject, $S_9$, used *bo-ku-dla* for *'food'* hesitantly. The subjects again pluralized nouns that lack plural alternatives in adult speech. The prefix that was used again was /bo-/, which was added on the singular form of a noun. In 5.40(b), the noun *ku-dla* was used in a plural context and the subjects were required to give the singular alternative. The subjects had no problem in giving the
correct form. Thus, on the basis of these data we can posit the prefixes of this class as follows:

\[(5.41) \quad \text{Adult} \quad \text{Class} \quad \text{Number} \quad \text{Subjects} \quad \text{Class} \]

\[
\begin{array}{ccccc}
\text{ku-} & 15 & \text{Singular} & \text{ku-} & \text{XV/IIA} \\
\text{ku-} & 15 & \text{Plural} & \text{bo-} & \text{XV/IIA} \\
\end{array}
\]

5.41 shows that the subjects used /bo-/ as a plural prefix for nouns in this class. Before looking at the results of other tasks let us summarize the results of the Production Task 1: Words and Pictures.

5.2.1.10 Summary

From the data discussed thus far we noticed that the subjects used the following prefixes in their derivation of singular nouns from plural nouns or plural nouns from singular ones:

\[(5.42) \quad \text{Adults} \quad \text{Class} \quad \text{Number} \quad \text{Subjects} \quad \text{Class} \]

\[
\begin{array}{cccccc}
\text{a)} \text{umu-}/\text{ba-} & 1/2 & \text{Sg./pl.} & \text{umu-}/\text{bo-} & \text{I/IIA} \\
\text{b)} \text{Ø-}/\text{bo-} & 1a/2a & \text{Sg./pl.} & \text{Ø-}/\text{bo-} & \text{IA/IIA} \\
\text{c)} \text{umu-}/\text{imi-} & 3/4 & \text{Sg./pl.} & \text{umu-}/\text{bo-} & \text{I/IIA} \\
\text{d)} \text{li-}/\text{ema-} & 5/6 & \text{Sg./pl.} & \text{li-}/\text{ema-} & \text{V/VI} \\
\text{e)} \text{si-}/\text{ti-} & 7/8 & \text{Sg./pl.} & \text{si-}/\text{ti-} & \text{VII/ VIII} \\
\text{f)} \text{in-}/\text{tin-} & 9/10 & \text{Sg./pl.} & \text{in-}/\text{ti-} & \text{I/IIA} \\
\text{g)} \text{lu-}/\text{tin-} & 11/10 & \text{Sg./pl.} & \text{li-}/\text{ema-} & \text{V/VI} \\
\text{h)} \text{bu-} & 14 & \text{Sg./pl.} & \text{bu-}/\text{bo-} & \text{XIV/IIA} \\
\text{i)} \text{ku-} & 15 & \text{Sg./pl.} & \text{ku-}/\text{bo-} & \text{XV/IIA} \\
\end{array}
\]
The prefixes tabulated above are posited on the basis of what the subjects gave as a response when given singular or plural nouns. In 5.42 (a), (b), (c), (h), and (i), we notice that the subjects used the same plural prefix /bo-/ in order to form the plurals of the nouns that fall in different classes in adult speech. The plural prefix /bo-/ in all these cases was added to the singular prefix of the noun. This group of nouns that use /bo-/ as a plural prefix can be presented as follows:

(5.43) \[
\begin{array}{cccc}
\text{Adult} & \text{Class} & \text{Subjects} & \text{Class} \\
a) \text{umu-}/ba- & 1/2 & \text{umu-}/bo- & \text{I/IIA} \\
b) \emptyset-/bo- & 1a/2a & \emptyset-/bo- & \text{IA/IIA} \\
c) \text{umu-}/imi- & 3/4 & \text{umu-}/bo- & \text{I/IIA} \\
d) \text{bu-}/bo- & 14 & \text{bu-}/bo- & \text{XIV/IIA} \\
e) \text{ku-}/bo- & 15 & \text{ku-}/bo- & \text{XV/IIA} \\
\end{array}
\]

In 5.43(a) and (c), we notice that the subjects used /umu-/ in the singular and /bo-/ in the plural for both classes 1/2 and 3/4 in adults. In adult speech these classes differ in plural prefixes, and they take different agreement markers as well, as we shall see later. For the subjects these classes are collapsed into one class, probably because the subjects have not yet figured out when to use the plural prefix /ba-/ and when to use /imi-/. In order to pluralize the nouns of adult classes 1/2, 3/4 the subjects therefore used /bo-/ , which was added to the singular prefix of the noun. In 5.43(d) and (e), we notice that in adult speech these nouns have no plural prefix, but the subjects used /bo-/ again when asked to pluralize them. Thus,
the /bo-/ seems to be a general plural prefix marker that the subjects can use if they are not sure of the plural prefixes of the nouns in question.

The addition of the plural prefix /bo-/ to the singular noun is not a peculiar phenomenon to SiSwati only. Anisfeld and Tucker (1968), in their study, ran a couple of experiments in order to find out the pluralization rules that might be used by the six-year-old English speaking children. They observed that, given a nonsense word and three choices of forming plurals, viz., by changing of a vowel in the singular word, by adding a morpheme to the singular word, or by using a different word; children always chose the form of the noun which had a morpheme added to it as a plural form of the given nonsense word. They concluded by saying that "Even before the child has fully mastered the specific plural suffixes of English, he possesses a general rule to mark the plural by adding onto the singular code" (Anisfeld and Tucker, 1968, p. 217). One possible interpretation of this statement is that the English-speaking children had a general rule which they used in cases where they were not sure of the suffix to use in forming plurals. This rule consists of adding a morpheme on the singular form of the noun to be pluralized.

This might be true in the case of SiSwati, that the subjects used prefix /bo-/ in cases where they were not sure of the plural prefixes that can be used with the nouns of certain classes. As soon as the plural prefix of the noun concerned was mastered then the prefix /bo-/ was not used. For instance, we noticed that \( S_7 \) and \( S_8 \) used the noun ku-dla 'food' both in the singular and plural context,
and yet they pluralized the rest of the nouns that fall in this class by using prefix /bo-/ as in bo-kw-ala. The plural prefix /bo-/ might be used as a temporary plural marker in classes 1/2, 3/4, 14 and 15 till the subjects acquire the appropriate plural prefixes of these classes. Thus, these data support Anisfeld and Tucker's observation.

One wonders why the subjects picked up /bo-/ as a plural marker. One can only give a speculative answer based on a number of certain facts about SiSwati. The plural prefix /bo-/ occurs with nouns of class la/2a which contains a variety of nouns ranging from human to inanimates, e.g. Ø-make 'mother;' Ø-Cimcim 'Cimcim;' Ø-logwaja 'hare'/ 'rabbit;' Ø-shukela 'sugar,' etc., as we noticed in Chapter 2. Some of these nouns occur early in the child's vocabulary, such as proper names and some of the kinship terms etc., and they are pluralized quite early in child's utterances. Besides, the singular prefix of class la/2a is /Ø-/ which means that any noun which takes any kind of prefix can be accommodated in this class since this class does not require a specific morphological prefix. The plural prefix /bo-/ is added to the singular prefix to derive plurals, and simply deleted when singular nouns are derived from plural ones. All these facts might be possible factors that were responsible for the choice of /bo-/ not only by these subjects but also by Zwane. This made /bo-/ a general plural prefix marker. I argued earlier as to why I did not consider the singular prefixes of classes 1/2, 3/4, 14 and 15, as being /Ø-/ like the prefix of class la/2a.
In 5.42, we also notice that the adult plural prefixes of classes 7/8 and 9/10 were rendered as /ti-/, while the singular prefixes of these classes were considered as /i-/, including nouns of class 11/10 if the singular forms were derived from the plural forms.

The class prefixes of class 5/6 /li-/ and /ema-/ seem to present no problem to the subjects. To repeat what was said above, adult class 11/10 is non-existent in subjects' utterances. This was also true in the case of Zwane. Plural prefixes of adult classes 1/2 (/ba-/ and 3/4 (/imi-/) were never used by the subjects in the experiments. One should point out that, in spontaneous speech, the subjects, as well as Zwane, did use the plural prefix of class 1/2 in some nouns like ba-ntfwana 'children;' but class 3/4 prefix /imi-/ was never used. The generalizations made by the subjects will be discussed later in this chapter. Let us now look at the results of other tasks.

5.2.2 Results on Production Task 2: Words Alone

The results of this experiment brought the same pattern of noun classification as in 5.2.1 i.e., production task 1: Words and Pictures. Subjects had no problem in giving singular or plural forms of nouns without the use of pictures.
5.2.3 Results on Production Task 3: Story Telling

Again, this experiment presented no problem on the part of the subjects. The pattern of noun classification was similar to that of 5.2.1 i.e., production task 1: Words and Pictures.

5.2.4 Results on Recognition Task 4: (1 Picture and 2 Nouns)

In this task, subjects were required to match a picture with a correct noun. In the majority of cases, the subjects had no problem in matching a correct nouns with the picture. But S8 and S9 used the nonsense noun umu-hlo (singular) in order to name a picture that had several figures on it. The correct dummy noun that should have been used was imi-hlo (plural) since there were several figures on the picture. Does it mean that these subjects did not know that /imi-/ was a plural prefix marker? One needs more data in order to be able to answer this question.

5.2.5 Results on Recognition Task 5: (2 Pictures and 1 Noun)

In this task the subjects were required to choose the picture that went together with the noun given. There were more mistakes in this task than in the previous one. For instance, S7 matched the dummy noun ema-laba with a picture that had one figure. An adult speaker would have matched the dummy noun ema-laba with a picture that has several figures in it. When I asked S7 whether ema-laba implied one figure or two, she responded that it meant two. I have no idea why S7 did not match ema-laba with the correct picture.
S7 and S9 chose a picture with more figures than one in response to the dummy noun li-fafa. They also chose a picture with more figures to match the dummy noun lu-bobe. Again, an adult speaker could have chosen a picture with one figure in order to match the dummy nouns: li-fafa and lu-bobe. It is not clear to me why they did that, because when they were later asked whether these nouns represent one figure or two, the subject responded unhesitatingly that these nouns refer to one object. S8 matched the dummy noun si-hleke with a picture that had more than one figure, instead of a picture with one figure. It is not clear to me as to why subjects made these "errors" especially because when asked they were capable of saying whether the dummy noun in question was representing a single or two figures.

5.2.6 Results on Recognition Task 6: (2 Pictures and 2 Nouns)

The tape with this experiment got lost.

5.2.7 Summary

To sum up briefly on the five tasks: all three production tasks brought results similar to those reported in 5.42. The "errors" (according to adult speech) that were made in the production tasks fall into a pattern. For instance, certain nouns were assigned plural prefix /bo-/ if the subjects were not sure of their plural prefixes. The fact that there were more mistakes in the recognition tasks is puzzling. For instance, why should some subjects match

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ema-laba with one figure when they knew it meant more than one thing? Let us now discuss the errors based on these data that were made by the subjects.

5.3 Discussion

To repeat, the production experiments showed similar patterns of errors in different classes. The number or types of errors shown on the basis of singular-plural or plural-singular formation were different in different classes. Let us look at the errors made in each class.

Adult classes 1/2, 3/4, 14 and 15 as well as class 1a/2a can be grouped together, on the basis of the plural prefix (/bo-) they used, e.g.:

(5.44)  

<table>
<thead>
<tr>
<th>Class</th>
<th>Adult Prefixes</th>
<th>Subjects' Prefixes</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2:</td>
<td>umu-/ba-</td>
<td>umu-/bo-</td>
<td>I/IIA</td>
</tr>
<tr>
<td>1a/2a:</td>
<td>Ø-/bo-</td>
<td>Ø-/bo-</td>
<td>IA/IIA</td>
</tr>
<tr>
<td>3/4:</td>
<td>umu-/bo-</td>
<td>umu-/bo-</td>
<td>I/IIA</td>
</tr>
<tr>
<td>14:</td>
<td>bu-</td>
<td>bu-/bo-</td>
<td>XIV/IIA</td>
</tr>
<tr>
<td>15:</td>
<td>ku-</td>
<td>ku-/bo-</td>
<td>XV/IIA</td>
</tr>
</tbody>
</table>

There was a pattern of errors made. For instance, when subjects were asked to give the plural form of dummy nouns that fall under these classes, subjects used /bo-/ as a plural prefix instead of the expected, appropriate prefix of that class. The plural prefix /bo-/ was prefixed to the singular form. When subjects were asked to give singular forms of the nouns in the catch-all class, they simply deleted the prefix /bo-/ and came up with the correct singular forms.
But as soon as the plural prefix /bo-/ replaced the singular one, then, when the subjects were asked to form singular nouns from such nouns, they gave nouns of class la/2a. For instance, when the subjects were given the plural forms ba-ntfu 'people' or the plural form they used for 'people' bo-mu-ntfu and asked to derive singular nouns, they gave umu-ntfu 'person,' for both nouns as a response. But if they were given plural forms like bo-ntfu and bo-hlephu, subjects gave -ntfu and -hlephu as a response. Therefore, with respect to the /ba-/ of the plural noun ba-ntfu 'people' even if the subjects did not use it as a plural marker, they knew that it is used with /umu-/ prefix in the singular; on the other hand, as soon as the /bo-/ used, e.g., with the stem -ntfu 'people' then they responded with nouns with the /Ø-/ prefix (adult class la/2a).

In adult class 5/6, li-/ema-, there were no errors made by subjects, whether they were required to produce singular or plural forms.

In adult class 7/8, si-/ti-, there were no problems when subjects were asked to give plural forms, but they consistently used the singular prefix /i-/ when asked to produce singular forms. This /i-/ has no equivalent prefix (except in some borrowed words) in adult language, as pointed out earlier. For adult class 9/10 the subjects used the plural prefix /ti-/ to pluralize nouns like ti-nkhosi 'kings' instead of using the prefix /ema-/ for this noun. This shows that the plural prefix /ti-/ was generalized to nouns taking /ema-/ as a plural prefix.
In comparing the results of the production and recognition tasks, we noticed that the "errors" that were made by the subjects on the production tasks fall into a pattern, with the result that one can formulate a rule on the basis of the errors committed by the subjects in these tasks. In the recognition tasks the "errors" were more or less at random. For instance, S_7 and S_9, in task 5, where the subjects were suppose to choose a picture that goes together with the noun given, the subjects chose a picture with more than one figure to match the singular dummy nouns lu-bobe and li-fafa. These words should have been matched with the picture that had one figure. When the subjects were asked whether these nouns represented one or two figures, the subjects responded correctly by saying that the noun refers to a single object. The question is why did the subjects match a noun with a wrong picture and yet when asked in terms of numbers they gave the correct response? More experiments should be carried out with a large number of children, and use a large number of nonsense nouns in order to answer this question.

Let us now look at some generalizations these data reveal:

5.3.1 Regularity In Noun Classes

The subjects seems to have found SiSwati noun class system regular, because they were capable of dealing with the dummy words they were given on the basis of the words existing in the language. For instance, the subjects were capable of giving plural forms when given a nonsense word in the singular form, e.g., the plural form of the dummy word li-safa was given as ema-safa. The subjects were also
capable of giving singular forms when given the plural form. For instance, the singular form for a dummy noun tin-sikho was rendered as i-nsikho.

In cases where the subjects were not sure of the plural prefix of a particular class, they used one plural prefix. The plural prefix that the subjects chose according to these data was /bo-/. /bo-/ was used as plural prefix for classes: 1/2, 1a/2a, 3/4, 14 and 15, e.g.: (5.45) Class 1/2: umu-ntfu bo-mu-ntfu 'people' Class 1a/2a: make bo-make 'mothers' Class 3/4: um-fula bo-m-fula 'rivers' Class 14: bu-so bo-bu-so 'faces' Class 15: ku-nsa bo-ku-nsa (dummy noun)

The subjects were not sure when to use plural prefix /ba-/ of class 1/2 when given a singular noun of that class, and when to use /imi-/ of class 3/4 when given the singular noun. The distinction between these classes is semantic: nouns of class 1/2 denote humans while those in class 3/4 denote nonhumans. The subjects might not have been aware of this distinction. Nouns of classes 14 and 15 use the same singular prefixes in plural contexts. But the subjects pluralized them when they were asked to use them in the plural context. The use of the plural prefix /bo-/ with these nouns made the class system shorter and simpler in that their noun system consisted of three noun classes. The noun prefixes that the children seem to have known were the following: (5.46) Class V/VI: li-/ema- (adult class 5/6 and 11/10)
(5.46) Class IXA/VIII: i-/ti- (adult prefixes of class 7/8, 9/10 and at times 11/10)

Class IA/IIA: Ø-/bo- (adult class 1a/2a)

Now let us look at overgeneralizations that were made by the subjects.

5.3.2 Overgeneralizations

5.3.2.1 Morphological vs. Semantics

The overgeneralizations that the subjects made were morphological in nature rather than semantic. The subjects looked at the form of the prefix of a given noun in order to give the required form of that noun. For instance, when the subjects were asked to give plural forms for nouns like umu-ntfu 'person' and um-fula 'river,' the subjects gave bo-mu-ntfu for 'people' and bo-m-fula for 'rivers' as plurals instead of the expected ba-ntfu 'people' and imi-fula 'rivers' respectively. The singular prefixes of both nouns are phonologically identical, but these nouns take two different plural prefixes in adult speech on the basis of their meaning. If the singular noun with an /umu-/ prefix denotes humans, then the plural prefix to be used with that noun is /ba-/ but if, on the other hand, the noun with a prefix /umu-/ denotes nonhumans, then the prefix to be used is /imi-/.

From the responses given by the subjects we notice that one plural prefix, /bo-/ was used for both nouns umu-ntfu 'person' and um-fula 'river,' simply because these nouns have an identical singular prefix /umu-/.

This type of
generalization is morphological rather than being semantic. There were no semantic generalizations in these data.

5.3.2.2 Regularization of Irregular Forms

This type of overgeneralization implies that nouns which form their plurals differently are subjected to a general rule. For instance, in general, adult nouns of class 9/10 use the plural prefix /tin-/ and yet there is a small group of nouns which use the prefix /ema-/ instead of the expected /tin-/.

Consider the following nouns:

(5.47)

<table>
<thead>
<tr>
<th>Adult Nouns Given</th>
<th>Gloss</th>
<th>Adult</th>
<th>Subjects</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) in-khosi</td>
<td>'king'</td>
<td>ema-khosi</td>
<td>ti-nkhosi</td>
<td></td>
</tr>
<tr>
<td>in-simu</td>
<td>'field'</td>
<td>ema-simu</td>
<td>ti-nsimu</td>
<td></td>
</tr>
<tr>
<td>in-tfombatana</td>
<td>'girl'</td>
<td>ema-ntfombatana</td>
<td>ti-ntfombatana</td>
<td></td>
</tr>
<tr>
<td>b) in-dvuna</td>
<td>'headman'</td>
<td>tin-dvuna</td>
<td>ti-ndvuna</td>
<td></td>
</tr>
<tr>
<td>in-khomo</td>
<td>'cow'</td>
<td>tin-khomo</td>
<td>ti-nkhomo</td>
<td></td>
</tr>
</tbody>
</table>

In 5.47(a), if we look at the adult plural forms of the nouns given, we notice that they are pluralized by the use of the prefix /ema-/ of class 5/6. The subjects pluralized the same nouns by using the plural prefix /ti-/ of class 7/8. Thus, the nouns that use the plural prefix /ema-/ of class 5/6 in adults were rendered with the prefix /ti-/; that is, all the nouns of this class were assigned one and the same plural /ti-/, thus making this class regular.
5.3.2.3 Use of Multiple Prefixes on Single Forms

In the process of generalizing certain classes, the subjects ended up by using two prefixes on a single form. For example, in classes where the subjects used the plural prefix /bo-/ (except in the case of class 1a/2a), the plural nouns that were derived by using the prefix /bo-/ ended up having two prefixes: the prefix /bo-/ and the singular prefix of that noun, e.g.:

(5.48)

<table>
<thead>
<tr>
<th>Adult</th>
<th>Plural</th>
<th>Gloss</th>
<th>Subjects (pl.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class 1/2: umu-ntfu</td>
<td>ba-ntfu</td>
<td>'person'/'people'</td>
<td>bo-mu-ntfu</td>
</tr>
<tr>
<td>Class 3/4: umu-ti</td>
<td>imi-ti</td>
<td>'village'/'villages'</td>
<td>bo-mu-ti</td>
</tr>
</tbody>
</table>

In 5.48, the plural form of the nouns bo-mu-ntfu 'people' and bo-mu-ti 'villages' have two prefixes in the subjects' utterances, viz., the plural prefix /bo-/ and the singular prefix /-mu-/

The use of multiple prefixes on single forms also showed up in Zwane's data. Zwane gave the following plural forms:

(5.49)

<table>
<thead>
<tr>
<th>Zwane</th>
<th>Age</th>
<th>Class</th>
<th>Gloss</th>
<th>Adult</th>
</tr>
</thead>
<tbody>
<tr>
<td>ti - me - hlo 39 7/8 + 5/6 'eyes' eme-hlo</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>pl. pref. - pl. pref. - eye</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ema - me. - hlo 42 5/6 + 5/6 'eyes' eme-hlo</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>pl. pref. - pl. pref. - eye</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ti - s - andla 39 7/8 + 7/8 'hands' t-andla</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>pl. pref. - sg. pref. - hand</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
In 5.49, we notice that sometimes Zwane used two plural prefixes, and sometimes he used a plural prefix followed by a singular one, as in *ti-s-andla* for 'hands.' The use of two prefixes by Zwane may be attributed to his failure to segment correctly the noun into a prefix and a stem. The fact that Zwane added a plural prefix to these forms implied that he considered *-mehlo* 'eyes' and *sandla* 'hand' *tandla* 'hands' as units (stems) rather than as words consisting of two morphemes. But in the case of *bo-m-lumbi* 'whitemen' he was using the two prefixes, as the subjects did, to form plurals of nouns whose prefixes he had not mastered.

The use of multiple prefixes on single forms has been observed in the study of other languages. For instance, Brown (1973) observed that some English-speaking subjects used forms like *footses* and *wented*.

### 5.3.2.4 Prefixes Used on Forms That Normally Do Not Take Them

When children acquire a rule, they apply it in its appropriate domain as well as beyond its context. The three subjects who were used in the experiments, in addition to the overgeneralizing as we have discussed above, also applied the pluralization rule to nouns that usually do not take plural markers on adult speech. For
instance, nouns of class 14 and 15, which do not take plural prefixes, were used with the plural prefix /bo-/, e.g., the noun bu-so 'face' of (class 14) was rendered as bo-bu-so for 'faces', and yet in adult speech it remains as in the singular form bu-so 'face.'

Some mass nouns as well as abstract ones were also pluralized by using the plural prefix which is taken by the singular prefix of that class. For instance, the noun in-gati 'blood' of class 7/10 was pluralized to tin-gati 'blood,' while the noun si-sa 'kindness' of class 7/8 was pluralized to ti-sa 'kindness.'

Pluralization of nouns that do not take plural forms has been observed in other languages such as English, where it is reported that subjects used utterances like milks. Slobin (1966) also noted these types of overgeneralizations in Russian.

5.3.2.5 Summary

To sum up on overgeneralizations: from the above experimental data we noticed that, in the process of acquiring noun classes in SiSwati, children do make certain generalizations. Most of them are morphological and not semantic. They are morphological in the sense that the plural prefix to be used with a certain singular noun is predicted from the type of the prefix of the singular noun given. For instance, if the singular noun uses a prefix /li-/ then the plural prefix to be used is /ema-/, etc.

The overgeneralizations that were made by the subjects were of various types: a) generalizations that overlooked exceptions in the noun class, thus making irregular nouns (exceptions in that class)
regular. For instance, the noun in-khosi 'king' of class 9/10 was used with the plural prefix tin-khosi 'kings' instead of the expected plural prefix /ema-/. (b) The subjects not being aware of other prefixes that express plurality in the noun, used an additional plural prefix, with the result that the new form would end up with two plural prefixes, e.g. ti-me-hlo for 'eyes,' which is a plural noun consisting of the plural prefix /ti-/ of class 7/8 and the plural prefix /me-/ of class 5/6, as in the case of Zwane. The correct plural form of this noun should have been eme-hlo 'eyes.' At times subjects added a prefix to the singular form to form plural nouns, as in the case of /bo-/, which was added to singular nouns. (c) At times subjects pluralized nouns that do not take a plural prefix, such as in-gati 'blood,' which was assigned a plural prefix by the subjects, rendering it as tin-gati 'bloods.' All these "errors" show that children seem to acquire a general rule which is productive in the sense that, given a nonsense word, the child will come up with the appropriate output.

Before concluding this chapter, let me point out certain things in connection with the relationship between spontaneous and experimental data.

5.4 Discrepancies Between Spontaneous and Experimental Data

In dealing with singular/plural formation in nouns, the subjects who were used in the experiment, as well as Zwane, made certain "errors" in their utterances. In their spontaneous utterances, the subjects rarely used the incorrect forms of singular
or plural of certain nouns, but as soon as they were asked to give a plural or singular form of these nouns, then they used "incorrect" forms. For instance, in all their spontaneous speech, the subjects, including Zwane, used the following nouns correctly in their utterances:

(5.50) Singular       Plural     Gloss
umu-ntfu       ba-ntfu   'person'/'people'
um-tfwana     ba-ntfwana 'child'/'children'

But when the subjects were asked to give the plural forms of the nouns umu-ntfu 'person' and um-ntfwana 'child,' they gave bo-mu-ntfu 'people' and bo-m-ntfwana 'children' as a response.

The subjects never used singular nouns like i-cathulo for 'shoe' or i-buni for 'buttock' in their spontaneous utterances either. They always used si-cathulo for 'shoe' and si-bunu for 'buttock;' and yet when they were given the plural form of ti-cathulo 'shoes' and ti-bunu for 'buttocks' and asked to give their singular forms, they used the forms with /i-/: i-bunu 'buttocks' and i-cathulo 'shoe.'

Another example of usage of "correct" forms in spontaneous utterances and use of "incorrect" forms on elicited data is from the use of nouns bu-so 'face' and ku-dla 'food.' These were the forms the subjects used in their spontaneous utterances, but as soon as the subjects were asked to give plural forms for these nouns, they used bo-bu-so for 'faces,' and bo-ku-dla for 'foods.' One may argue that, in case of bu-so 'face' and ku-dla 'food' the child never hears the plural forms of these words used by adults, therefore, she/he
will always use the singular form. But then, why should she/he use the plural forms of these nouns, instead of using the singular forms (which she/he always hears) when asked?

The question "why?" cannot be answered in this study, but one can only speculate as to what this observation implies. In order to understand the emergence of language as well as the implications of "errors" in experimental data, a distinction should be made between performance and competence as defined by Chomsky (1965). By competence, Chomsky was referring to the inherent, unconscious knowledge of the language, and by performance he was referring to the usage (production) of language. He also pointed out that, performance, may mirror certain aspects of competence but not in its perfect form or entirety. In performance there are a number of factors, such as physical factors that may distort the picture of competence. For instance, in competence, sentences have no finite length, but in performance they do. Further, such random misproductions as slips of the tongue are not part of competence.

In child language acquisition, the child will use utterances that are conditioned by his/her milieu. For instance, the child will not have an occasion to use the noun bu-so 'face' in its plural form, because each person or playmate has one face. In other words there will be very little opportunity to talk about a conglomeration of 'faces' without identifying each face with a certain individual. This implies that the spontaneous utterances the child uses represent a limited type of information - biased information, so to speak. In other words, this information does not give us the full picture.
as to what the child knows. In order to gain as much information as possible about what the child knows inherently, we need experimental data that will somehow force the children to address themselves to certain issues out of their usual milieu. This will force the child, as it were, to reveal very clearly some of the rules she/he has internalized.

The "errors" that the child makes when asked certain questions reveal the general rule the child has formulated in dealing with singular/plural nouns. These rules are not clearly revealed in spontaneous utterances, since the child will be conditioned by his/her environment in using certain nouns and avoiding some. Therefore, the spontaneous data and the experimental data should be looked upon as complementing each other in revealing what the child knows.

5.5. **Conclusion**

The aim of this experiment was to answer certain questions in connection with the noun classes in SiSwati. Some of the questions that were asked were dealing with the regularity of the noun class system in SiSwati: Do SiSwati children find the noun class system regular or irregular? It has been also observed that children in acquiring languages are prone to overgeneralization. Do data from SiSwati children reveal overgeneralization in the acquisition of noun classes? What type of overgeneralizations does the child make? etc. We also wanted to find out whether the noun class system is mastered by the age of 6 years.
In looking at the experimental data we noticed that children did find the noun system regular to a certain extent, because they were capable of forming rules of deriving singular nouns from plural ones or vice versa. The subjects made certain overgeneralizations, which were morphological rather than semantic. For instance, some classes were made regular in that in cases where there were two plural prefixes in a class only one type of prefix was used, e.g., in class 9/10 the prefix /ti-/ was used even in nouns that should take /ema-/> as a plural prefix. At times, nouns that do not use singular prefixes were assigned a singular prefix as in the case of *li-finylila* 'a drop of mucus' where *ema-finylila* 'mucus' is a mass noun that does not use singular prefixes. On the other hand some mass nouns that do not use a plural prefix were assigned one, as in the case of *in-gati* 'blood' which was pluralized as *tin-gati* 'bloods.'

Where the subjects were not sure of the plural prefix then they used a general rule of plural formation, viz., that of adding the /bo-/> to the singular form of the noun, which sometimes resulted in nouns with multiple prefixes as in *bo-m-khono* 'arms' instead of *imi-khono* 'arms.' Most of these overgeneralizations have been observed in other languages such as English (Brown, 1973), Russian (Slobin, 1966), etc.

From the data discussed in this chapter, we also noticed that the noun class system is not yet mastered at the age of six. For instance, like Zwane, these subjects did not have class 11/10 in their classification. Nouns that come under this class were either handled as class 5/6 or class IXA/VIII, which used the prefixes
li-/ema- and i-/ti- respectively. The subjects, like Zwane again, did not use the plural prefix /imi-/ of class 3/4 and /ba-/ of class 1/2. Nouns in these classes used the prefix /bo-/ of class 1a/2a to form the plurals. This implies that the prefixes that are fully developed in these subjects are:

(5.51) Class | Prefixes
---------|---------
IA/IIA: | 0-/bo- | (Adult: Class 1a/2a)
V/VI: | li-/ema- | (Adult: Class 5/6)
IXA/VIII: | i-/ti- | (Adult: Class 9/8)

The rest of the classes seem to be in the catch-all class.

(5.52) Adult | Class | Subjects | Class
----------|-------|---------|-------
umu-/ba- | 1/2 | umu-/bo- | I/IIA
umu-/imi- | 3/4 | umu-/bo- | I/IIA
bu-/bu- | 14 | bu-/bo- | XIV/IIA
ku-/ku- | 15 | ku-/bo- | XV/IIA

Zwane had the same prefixes in the catch-all class.

Thus, while the results of these experiments confirmed the findings from the spontaneous speech situations to a large extent, the number of subjects was small. This experiment should be carried out with a large number of children and see whether they will use the same generalizations as these three subjects did.

In the next chapter we will deal with agreement markers.
Chapter 5

FOOTNOTES

1 Umutfō is a nonsense word. As I have said earlier, most of the nouns that were used in the experiments were nonsense words. In adult speech, the singular prefixes of classes 1/2, 3/4 are phonologically similar. The singular prefix /umu-/ in class 1/2 takes the plural prefix /ba-/, while the singular prefix /umu-/ of class 3/4 takes the plural prefix /imi-/. In adult speech, the distinction between these two prefixes /umu-/ of class 1/2 and /umu-/ of class 3/4 is done by the meaning. If the noun uses a singular prefix /umu-/ and denotes human, then its plural form will use the prefix /ba-/, but if the noun has a singular prefix /umu-/ and does not denote humans then it will use prefix /imi-/ in its plural form. In other words, the distinction between the /umu-/ of class 1/2 and that of class 3/4 is based on meaning. It is the meaning of the noun that determines which plural prefix to use.

In dummy nouns, the distinction between the /umu-/ of class 1/2 and the /umu-/ of class 3/4 was made by figures in the pictures. Dummy nouns that were intended to represent nouns of class 1/2, which used the prefix /umu-/ in the singular and /ba-/ in the plural, were represented by human figures in the pictures. Dummy nouns that were intended to represent nouns of class 3/4 which used /imi-/ in the plural were represented by nonhuman figures in the pictures.

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That was the only clue the child could use in order to give the appropriate plural forms of dummy nouns which used prefix /umu-/ in the singular. Umutfo and umtjeki were meant for class 1/2; therefore, they were represented by human figures.

2 The subject-verb-agreement /-ku-/ , which is traditionally called "Impersonal" was used in order to avoid using the agreement of that class which might give a clue to the subject as to which prefix to use. This will be dealt with in Chapter 6.

3 I do not imply that the subjects segmented the nouns the way I presented them in this chapter. This is only done to help the reader to identify easily the morephemes that were used by subjects in each nominal response they gave.

4 I have no idea as to how the subjects segmented this word.
Chapter 6

AGREEMENT

6.0  Introduction

Slobin (1966), on the basis of the utterances of one Russian-speaking child, Gvozdev’s Zhenya, observed that: "morphological markers enter when sentences increase from two to three or four words in length" (p. 136). Most investigators have observed the same thing in their studies of different languages. For instance, Brown (1973) and others noted it in English; Blount (1969) in his study of Luo children; Kunene (1974) in her study of Southern Sotho; and one wonders whether this is true for SiSwati. Consider the following utterance which was used by Cimcim (26 months) when the research began:

(6.1) a) Cimcim:     pheka  hlabatshi
                   cook     soil/sand

                   'I am cooking sand.'

b) Adult:     ngi-pheka  um-hlabatshi
               SVA-cook     prefix - soil/sand

               'I am cooking the sand.'
c) (i) **Cimcim**: katulo s-a-mi khumul-el-a-ni?

shoe PA-PM-my take-off-bene.-a-why

'Why are you taking off my shoe?'

(ii) **Adult**: u-si-khumul-el-a-ni si-cathulo s-a-mi?

SVA-OVA-take-off-bene.-a-why pref.-shoe PA-PM-why?

'Why are you taking off my shoe?'

In 6.1(a), if we compare Cimcim's utterance to that of an adult speaker in 6.1(b), we notice that she omitted the SVA marker /ngi-/ and the nominal prefix /umu-. In utterance 6.1(a), Cimcim has used two words, and she did not use any inflection. Most of her two-word utterances did lack inflections. But most of her three-word utterances did make use of inflections. For instance, in 6.1(c,i), Cimcim made use of /-el-/ a benefactive extension, and /-ni/, a question marker. Thus, at the stage of three-word utterances, Cimcim was capable of using morphological markers. This example seems to be in line with what other linguists have observed in other languages, viz., that inflections enter when the sentences increase from two words onwards.

In chapter three we noticed that the nominal locative suffix /-ini/ emerged before its prefixal counterpart /e-. In verbs, too, we noticed that the recent past tense marker /-ile/ was used by Cimcim long before she started using agreement markers on verb radicals. The locative suffixal morpheme and the recent past tense marker emerged before the noun prefixes and the agreement markers. Both locative marker /-ini/ and the recent past tense marker /-ile/
are suffixal morphemes, while the nominal prefixes and the agreement markers are prefixal morphemes. In English it has been observed that the progressive marker /-ing/ emerges before the auxiliary, and that the past tense marker emerged before the future tense marker. Both the English progressive and the past tense markers are suffixes, while the auxiliary and the future tense markers are pre-positional. The data from SiSwati and English and other languages show that suffixal morphemes emerge before the prefixal ones.

Let us focus our attention on the prefixal morphemes, viz., the nominal prefixes and the agreement markers. Both morphemes occur as prefixes; nominal prefixes occur before nominal stems to mark number, while agreement markers occur before verb radicals in order to express some relationship between words - to put it vaguely. One wonders as to which morpheme emerges first; one possibility is that the nominal prefixes might emerge before the agreement markers; and the other one is that agreement markers may emerge before nominal prefixes. Before discussing the order of acquisition of these morphemes, a word on agreement markers is in order here.

6.0.1 Agreement Markers

Agreement markers are considered by some linguists¹ as pronouns. Synchronically, agreement markers are morphemes that represent a certain noun that has been mentioned earlier in a discourse or earlier in a sentence. In this study, I will use the term "agreement markers" in a traditional sense - as defined below.

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Agreement markers occur as bound morphemes, i.e., they cannot occur in isolation (as we shall see below) but are always attached to other morphemes. Traditionally, agreement markers have been defined as morphemes that express grammatical relationship between certain syntactic categories and a noun in the sentence. For instance, an agreement between a verb and its subject noun is expressed by a morpheme called a subject-verb-agreement marker (SVA); an agreement between a verb and its object is expressed by a morpheme called an object-verb-agreement marker (OVA); an agreement between the possessor and the noun possessed is expressed by a morpheme called possessive agreement marker (PA), etc. In most cases agreement markers are either identical to or reflect some features of the prefix of the noun they are in grammatical relationship with. The resemblances between the agreement markers and the prefixes of the nouns that govern them have led some linguists including Gregersen (1967), Givón (1969), to derive agreement markers from the prefixes of the governing noun by a "Feature Copying Rule" (Givón, 1969, p. 101). Bearing all these facts in mind, let us consider the following examples:

(6.2) a) \( \text{li} \) - \text{kati} \quad \text{li} - \text{ya} - \text{dla} \\
\text{pref.} - \text{cat} \quad \text{SVA} - \text{ya} - \text{eat} \\
'The cat is eating.'

b) \( \text{li} \) - \text{kati} \quad \text{li} - \text{ya} - \text{si} - \text{dla} \quad \text{si-nkhwa} \\
\text{pref.} - \text{cat} \quad \text{SVA} - \text{ya} - \text{OVA} - \text{eat} \quad \text{prefix-bread} \\
'The cat eats (it) bread.'
c) \text{li} - \text{kati} \quad \text{1 - a - mi} \quad \text{li} - \text{ya} - \text{dla}.
\begin{align*}
\text{pref. - cat} & \quad \text{PA - PM - my} & \quad \text{SVA - ya - eat} \\
'\text{My cat is eating.}' 
\end{align*}

d) \text{li} - \text{kati} \quad \text{1 - e} - \quad \text{si - lima} \quad \text{li} - \text{ya} - \text{dla}
\begin{align*}
\text{pref. - cat} & \quad \text{PA - PM - prefix - fool} & \quad \text{SVA - ya - eat} \\
'\text{The fool's cat is eating.}' 
\end{align*}

In 6.2(a)-(d), the SVA /li-/ is phonologically similar to the prefix of the noun \text{li-kati} 'cat', which governs the agreement of the verb in all the sentences. In 6.2(b), the object-verb-agreement marker /-si-/ is also phonologically similar to the prefix of the object noun \text{si-nkhwa} 'bread' that it represents. In 6.1(c) and (d), the possessive agreement marker /1-/ is also phonologically similar to the prefix of the noun possessed, i.e., \text{li-kati} 'cat'. In 6.2(c) and (d) the possessive morpheme used with pronouns is /-a-/ and /-e-/ is a possessive morpheme used with nouns.

The noun \text{li-kati} 'cat' can be deleted in sentences 6.2(a) through (d), and the sentences left will still be grammatical as follows:

(6.3) a) \text{li} - \text{ya} - \text{dla}.
\begin{align*}
\text{SVA - ya - eat} \\
'\text{It is eating.}' 
\end{align*}

b) \text{li} - \text{ya} - \text{si} - \text{dla}
\begin{align*}
\text{SVA - ya - OVA - eat} \\
'\text{It is eating it.}' 
\end{align*}
c) l-a-mi li-ya-dla  
   PA - PM - my SVA - ya - eat  
   'Mine is eating.'  

   d) l-e-si-lima li-ya-dla  
   PA - PM - pref. - fool SVA - ya - eat  
   'The fool's (one) is eating.'

In all these sentences, the subject is understood since it was mentioned earlier. It can be recovered (Chomsky, 1966) through the agreement marker /-li-/ which is in the remaining portions of the utterances. In the above sentences, we notice that both the SVA marker and the OVA marker are attached to the verb radical as shown in sentences 6.2(b) and 6.3(b).

Most languages that have been studied lack the characteristic of having an SVA marker and an OVA marker attached to the same base. Given the fact that the SVA markers and the OVA markers in SiSwati can occur in a sequence (both before the verb radical), one wonders whether one of these morphemes emerges before the other. The possible orders of emergence of these morphemes: the SVA markers might emerge before the OVA markers, or the OVA markers might emerge before the SVA markers.

Sentences 6.1(c) and (d) are possessive constructions. In 6.1(c) the l-a-mi 'my'/'mine' is a possessive pronoun while in 6.2(d) l-e-si-lima 'of the fool' is a possessive noun. In the same sentence we also notice that there are three morphemes before the noun stem -lima 'fool'. The morphemes are: the possessive agreement marker (PA) /l-/; the possessive marker /-e-/; and the nominal prefix /si-/.

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Given this fact, one would like to know the order of acquisition of these morphemes in relation to each other, i.e., whether the possessive agreement markers emerge before the noun prefixes. Before stating the possible orders that a child might use in acquiring these morphemes, let me just mention that in this chapter I will deal with the subject-verb-agreement markers (SVA); the verb-object-agreement markers (OVA) and the possessive agreement markers of the construction type noun + noun.

6.0.2. The Possible Orders of Acquisition of Agreement Markers

Given the fact that SiSwati has a number of different types of agreement markers, and that some of them can occur in a sequence as affixes of one and the same base, one wonders how a child acquires them. In other words, one would like to know the order of acquisition of these morphemes. There are a number of possible orders in which a child might acquire the agreement markers:

I. Noun Prefixes and SVA Markers

A child might use one of the following orders in acquiring noun prefixes and SVA markers:

a) - a child might use SVA markers before the noun prefixes (Order 1)

b) - or she/he might use noun prefixes before the SVA markers (Order 2)

c) - or she/he might use both noun prefixes and SVA markers simultaneously (Order 3).
II. The SVA Markers and the OVA Markers

We noticed earlier that the SVA markers and the OVA markers are both attached to the verb radical. In acquiring these morphemes, a child might:

d) - acquire the SVA markers before the OVA markers (Order 4).
e) - or she/he might acquire the OVA markers before the SVA markers (Order 5).
f) - or she/he might acquire both the SVA markers and the OVA markers simultaneously (Order 6).

III. The SVA Markers and the Possessive Agreement Markers

Again, we noticed earlier that the SVA markers are attached to the verb radicals while the possessive agreement markers are attached to nouns or pronouns, as in 6.2 and 6.3 above. In learning these morphemes, a child might use one of the following orders:

g) - she/he might acquire the SVA markers before the PA markers (Order 7).

h) - or she/he might acquire the PA markers before the SVA markers (Order 8).

i) - or she/he might acquire both the SVA markers and the PA markers simultaneously (Order 9).

IV. The PA Markers and the Noun Prefixes

As mentioned earlier, the possessive agreement markers that will be dealt with here are PA markers that occur in the N+N constructions. As the reader will recall, the possessive agreement marker in this type of construction is separated from the prefix of the second noun

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by a possessive marker. For instance, in li-kati l-e-si-lima 'the fool's cat' the /l-/ is a possessive morpheme (PM), and /-si-/ is a noun prefix of class 7/8 preceding the noun stem /-lima/ 'fool'. Faced with this construction, a child might use only the following orders in the process of learning the above possessive construction:

j) - the child might use PA markers before noun prefixes (Order 10).

k) - or she/he might use the noun prefixes before using the possessive agreement markers (Order 11).

l) - or she/he might use both noun prefixes and possessive markers simultaneously (Order 12).

V. Possessive Agreement Markers and OVA Markers

The PA markers are attached to the noun and the OVA markers to the verb radical. In acquiring these morphemes, a child might use one of the following orders:

m) - she/he might use the PA markers before the OVA markers (Order 13).

n) - or she/he might use the OVA markers before the PA markers (Order 14).

o) - or she/he might use both the OVA markers and the PA markers simultaneously (Order 15).

Now, let us look at the SiSwati data and see which order of acquisition will they support and why.
6.1 Discussion

6.1.1 The Subject-Verb-Agreement Markers (SVA) Emerge Before Noun Prefixes

6.1.1.1 Data

Consider the following utterances that were used by Cimcim at the age of 26 months:

(6.4) a) Cimcim: tfwana khala
        baby/child cry
        'The baby is crying.'

        b) Adult: um-tfwana u-ya-khala
            pref.-child/baby SVA-ya-cry
            'The baby is crying.'

(6.5) a) Lwandle: w - enta - ni Zanele?
         SVA - do - what Zanele
         'What is Zanele doing?'

        b) i) Cimcim: Zanele lala
            Zanele sleep/lie down
            'Zanele is lying (down).' 

           ii) Adult: Zanele u-ya-lala
                Zanele SVA-ya-sleep
                'Zanele is lying (down).' 

(6.6) a) Cimcim: landzela mine
        follow me
        'I will follow you.'

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b) **Adult:**

\[
\text{ngi- ta-ku -landzela mine SVA-future-OVA-follow me} 'I will follow you.'
\]

Cimcim said utterance 6.4(a) as she heard the baby crying. If we compare Cimcim's utterance to that of an adult speaker, we notice that Cimcim omitted the noun prefix /umu-/ and the SVA marker /u-/ as well as the morpheme /-ya-/ (which is used in sentences when there is no adjunct following the verb) which could have been used by adults. At the age of 26 months, there was no utterance in Cimcim's data that occurred with a noun prefix (in case of nouns) or verb radicals that occurred with SVA markers. That this was the case can be further supported by utterances 6.5(b,i) and 6.5(b). In sentence 6.5(a), if we compare Cimcim's utterance with that of an adult speaker, we notice that Cimcim omitted not only the SVA marker /ngi-/ but also omitted the future tense marker /-ta-/ as well as an OVA marker /-ku-/.

To repeat, at the age of 26 months, Cimcim did not use noun prefixes with her nouns, nor any morpheme that can be attached to the verb radicals - such as SVA markers.

Now consider some of her utterances which she used at the age of 27 months:

(6.7) a) **Lwandle:**

\[
\text{u-buk-a-ni ye-Cimcim? SVA-look-a-what ye-Cimcim? 'What are you looking at, Cimcim?'}
\]

b) **Cimcim:**

\[
\text{a-buka tfombe t - a - mi. SVA-look picture PA-PM - my. 'I am looking at my pictures.'}
\]
ii) **Adult:** Ngī-buka ti-tfombe t-a-mi.  
  SVA-look pref.-picture PA-PM - my.  
  'I am looking at my pictures.'

In 6.7(b,i), Cimcim was responding to my questions in 6.7(a). If we compare her response to that of an adult speaker, we notice that she used an /a-/ with her verb /-buka/ 'look'. Since this /a-/ can be considered as the SVA marker /ngī-/ in adults, we will label it a "rudimentary" SVA marker. But Cimcim omitted the noun prefix /ti-/ which should have been used with the nominal stem -tfombe 'picture.'  
From utterance 6.7(b,i), then, we can say that Cimcim did make use of a rudimentary SVA marker /a-/ and yet she did not use the prefix /ti-/ that should have been used with the noun stem -tfombe 'picture.' The plural form of the noun -tfombe 'picture' is signaled by /t-/ of the possessive pronoun t-a-mi 'my,' which is used with plural nouns of classes 7/8, 9/10 and 11/10.

Again, consider the following utterances that Cimcim produced at the age of 27 months:

(6.8) a) **Lwandle:** yini loku?  
  what this  
  'What is this?'

b) i) **Cimcim:** a - tfombe.  
  cop. - picture  
  'It's a picture.'

ii) **Adult:** si - tfombe.  
  pref. - picture.  
  'It's a picture.'
(6.9) a) Lwandle:  
  loku-ke?
  this then
  'Then, (what is) this?'

b) i) Cimcim:  

  a  - lumbi
  cop. - whiteman
  'It's a whiteman.'

ii) Adult:  

  ngu  - m  - lumbi
  cop. marker- prefix - whiteman
  'It's a whiteman.'

In 6.8(b,i), Cimcim was giving a response to my question in 6.8(a).
In adult speech, a copulative construction is required as a response
to this question. A word on copulative constructions in SiSwati is
in order here.

In SiSwati, copulatives (or non-verbal sentences) are formed
from nouns, pronouns, adjectives. In general, copulatives are formed
from nouns by lowering the tone of the prefix of the noun that is used
as a copulative, e.g.:

(6.10) a) Noun:  

  si  - tfombe
  prefix - picture
  'picture'

b) Copulative:  

  si  - tfombe
  prefix - picture
  'It's a picture.'

In 6.10(a) the prefix /si-/ has a high tone, and the word /si-tfombe
'picture', is used as a noun, while in 6.10(b), the prefix /si-/ has a
low tone. In 6.10(b) the noun /si-tfombe 'picture' is used as a
copulative.

In most cases, nouns that use /umu-/ as a prefix, as well as nouns that use /Ø-/ as a prefix, form their copulatives by using the copulative formative /ngu-/ which is prefixed to the noun that is being used as a copulative. The copulative morpheme /ngu-/ has a low tone, e.g.:

\[
\begin{align*}
(6.11) \text{a) Noun:} & \quad \text{um - fana} \\
& \quad \text{prefix - boy} \\
& \quad '\text{boy'}
\end{align*}
\]

\[
\begin{align*}
(6.11) \text{b) Copulative:} & \quad \text{ngu - m - fana} \\
& \quad \text{cop. formative - prefix - boy} \\
& \quad '\text{It's a boy.}'
\end{align*}
\]

\[
\begin{align*}
(6.12) \text{a) Noun:} & \quad \text{Ø - make} \\
& \quad \text{prefix - mother} \\
& \quad '\text{mother'}
\end{align*}
\]

\[
\begin{align*}
(6.12) \text{b) Copulative:} & \quad \text{ngu - make} \\
& \quad \text{cop. formative - mother} \\
& \quad '\text{It's mother.'}
\end{align*}
\]

In 6.11(a) and 6.12(a) the nouns um-fana 'boy' and Ø-make 'mother' are used as nouns. In the former, the prefix /umu-/ has a high tone. In 6.11(b) and 6.12(b), the nouns are used as copulatives. In both cases the nouns have used the copulative formative /ngu-/ as well as the copulative tone, which is low.

In nouns that have a noun prefix that commences with a vowel /i-/ , the copulative formative used is /yi-/ , which also has a copulative tone, e.g.:
(6.13) a) Noun: \( \text{imi- ti} \)
prefix - village
'vellages'

b) Copulative: \( \text{yi- mi-ti} \)
cop. formative-prefix-village
'They are villages.'

In 6.13(a), the noun \( \text{imi-ti} \) 'villages' is used as a noun, and it has a HHL tone; while in 6.13(b), the noun 'villages' \( \text{yi-mi-ti} \) is used as a copulative, and it has a copulative formative /\text{yi-}/ and has a LHL tone.

Now, to go back to Cimcim's utterances in 6.8(a) and 6.9(b,i). In 6.8(b,i), Cimcim responded to my question by using the noun \( \text{a-tfombe} \) 'picture', which should have been \( \text{si-tfombe} \) in adult speech.

In her response, Cimcim used the vowel /\text{a-}/, and she lowered the tone on /\text{a-}/ when giving the response. In fact, if we compare her tones of the noun \( \text{a-tfombe} \) 'picture' with that of an adult speaker, we realize that they are identical; LLL. Cimcim seems to have known that in copulative constructions the high tone of the nominal prefix is to be lowered; and that is what she did in the above constructions. The lowered tone had to be carried by some morpheme, in this case an /\text{a-}/.

In sentence 6.9(b,i), the tone was lowered on /\text{a-}/ in the utterance \( \text{a-lumbi} \) 'it's a white man.' Cimcim did not use the morpheme /\text{ngu-}/ as in adult speech, but she was capable of lowering the tone just the same. Thus, the vowel /\text{a-}/ seems to be used copulatively.

We will recall that in a predicate construction there are a number of morphemes that can be attached to the verb radical. For
instance, in a predicate construction like: ngi-sa-to-m-funa 'I will still look for him,' we get four morphemes before the verb radical /-funa/ 'want.' The morphemes before it are: /ngi-/ which is an SVA marker; /-sa-/ 'still', tense aspect; /-to-/ future tense marker, and /-m-/ OVA marker. In the above sentences we noticed that the /a-/ represented the SVA marker. One wonders whether this /a-/ represents solely the SVA markers or any number of morphemes that can be used before the verb radical. More investigation needs to be done in order to determine what exactly this /a-/ represents. At any rate, we will notice that as soon as the SVA markers are acquired, the /a-/ is never used to represent the morphemes that have not yet developed.

At the age of 27 months, there were four instances where the /a-/ was used with the noun stems that were not used in copulative constructions, e.g.:

(6.14) a) Cimcim: Khrosh -ela  a-jëzi  Tutu
crotch-bene. a-sweater  Tutu
'Tutu is crotchetng a sweater for me.'

b) Adult:  Tutu  u-angi-khrosh -ela  li-jëzi
Tutu  SVA-OVA-crotch-bene. pref.-sweater
'Tutu is crotchetng a sweater for me.'

Tutu-Cimcim's mother - was sitting at a distance from us crotchetng. Cimcim looked at her mother and said utterance 6.14(a). If we compare her utterance to that of an adult speaker, we notice that the noun li-jëzi 'sweater' in adult speech has a prefix /li-/ with a high tone. Cimcim's version for noun 'sweater' is a-jëzi with a vowel /a-/ and a high tone. So, in neither case is the noun li-jëzi 'sweater' used as
a copulative. If we look at the word order in adult speech, we notice that the noun li-jezi 'sweater' comes after the verb, i.e., object. In Cimcim's utterance, the noun a-jezi 'sweater' has been topicalized. One wonders whether the /a-/ is used as a topic marker in this sentence or not. It is too early to say with certainty as to the function of the /a-/ in such constructions. At any rate, these data show that, at the age of 27 months Cimcim began to use a "rudimentary" subject-verb-agreement marker /a-/ which occurred with verb radicals as well as nouns that were used as predicates (copulatives).

At the age of 28-29 months, Cimcim began to use appropriate SVA markers sparingly. The SVA markers that were used at this time were those of the first person singular /ngi-/ and the second person singular /u-/ , e.g.:

(6.15) a) Cimcim: u-funa-ni wena? a-funa-ni?
   SVA-want-what you? SVA-want-you
   'What do you want?' 'What do you want?'

   b) Adult: u-funa-ni wena?
   SVA-want-what you
   'What do you want?'

Cimcim said sentence 6.15(a) at the age of 29 months to Fana, who was crawling towards us. She started by using the "correct" SVA marker /u-/ , and then repeated the same question immediately by using the /a-/ maintaining the same tone as in SVA marker /u-/ . Thus, the /a-/ does seem to replace the adult SVA marker in Cimcim's utterance.

Now consider some of the utterances she produced at the age of 28 months:
(6.16) a) Lwandle: u-dla nini Cimcim?
SVA-eat when Cimcim
'When do you eat, Cimcim?'

b) i) Cimcim: ngi-dla tshambama
SVA-eat evening
'I eat in the evening.'

ii) Adult: ngi-dla in-tshambama
SVA-eat prefix-evening
'I eat in the evening.'

In 6.16(b,i), Cimcim was responding to my question in 6.16(a). If we compare her utterance with that of an adult speaker, we notice that she used the SVA marker /ngi-/ and omitted the noun prefix /in-/ of the noun in-tshambama 'evening'. Again, we notice that the SVA markers seem to emerge before the noun prefixes.

Consider some of the utterances that were said at the same age (28 months) as the above utterances:

(6.17) a) Lwandle: u-hlaia-phi um-lumbi?
SVA-sit -where prefix -whiteman
'Where does the whiteman sit?'

b) i) Cimcim: i1-hlaia la mlumbi
SVA -sit here whiteman
'The whiteman sits here.'

ii) Adult: u-hlaia la um-lumbi
SVA-sit here prefix-whiteman
'The whiteman sits here.'
In 6.17(b,i), Cimcim was responding to my question in 6.17(a). If we compare her utterance with that of an adult speaker, we notice that Cimcim used vowels /i-/ and /a-/ alternatively as rudimentary SVA markers instead of the expected marker /u-/. We notice that the noun mlumbi 'whiteman' is used without a full singular prefix /umu-/. In Chapter 3, we noticed that the nouns that use prefixes with a nasal, the nasal was produced together with the stem when Cimcim was acquiring stems. For instance, the following nominal stems occurred with or without a nasal in Cimcim's utterances at the age of 26-27 months:

<table>
<thead>
<tr>
<th>(6.18)</th>
<th>Cimcim</th>
<th>Gloss</th>
<th>Adult</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>-tfwana</td>
<td>'child'/ 'baby(s)'</td>
<td>um-ntfwana/ba-ntfwana</td>
<td>1/2</td>
<td></td>
</tr>
<tr>
<td>-mtfwana</td>
<td>'child'/ 'baby(s)'</td>
<td>um-ntfwana/ba-ntfwana</td>
<td>1/2</td>
<td></td>
</tr>
<tr>
<td>-lomo</td>
<td>'mouth'/ 'mouths'</td>
<td>um-lomo/imi-lomo</td>
<td>3/4</td>
<td></td>
</tr>
<tr>
<td>-mlomo</td>
<td>'mouth'/ 'mouths'</td>
<td>um-lomo/imi-lomo</td>
<td>3/4</td>
<td></td>
</tr>
<tr>
<td>-nhloko</td>
<td>'head'/ 'heads'</td>
<td>in-hloko/tin-hloko</td>
<td>9/10</td>
<td></td>
</tr>
<tr>
<td>-hloko</td>
<td>'head'/ 'heads'</td>
<td>in-hloko/tin-hloko</td>
<td>9/10</td>
<td></td>
</tr>
</tbody>
</table>

6.18 shows that some nouns occurred with the nasals or without in Cimcim's utterances. It is not clear to me whether Cimcim considered the nasal as part of the stem or as part of the prefix. There is no evidence in Cimcim's data that can prove convincingly that the nasal was considered by Cimcim as part of the stem, or as part of the prefix, unless we compare it with Zwane's data, who used the nasal as part of the stem and not of the prefix. At any rate, most of the nouns
lacking the prefixes with nasals were used without a prefix in Cimcim's utterances at this age. The predicate constructions, on the other hand, were frequently used with vowels that can be considered as rudimentary, and at times the appropriate SVA markers were used. It was only at the age of 30 months that a few nouns in Cimcim's utterances began to be used with prefixes as in the following cases:

(6.19) a) Cimcim: u-funa faka li-nyawo
SVA-want put-in pref.-foot
'She wants (to) put in the foot.'

b) Adult: u-funa ku-faka lu-nyawo
SVA-want inf.-put-in prefix-foot
'She wants to put in the foot.'

In 6.19(a), we notice that Cimcim omitted the infinitival prefix /ku-/ which occurs in adult speech, and she also used an inappropriate prefix /li-/ with her singular noun li-nyawo 'foot' instead of the expected form lu-nyawo 'foot'. She used the appropriate SVA marker /u-/ as in adult speech. Thus, by the age of 30 months, Cimcim was using more appropriate SVA markers and most of her nouns were used without prefixes. These data, therefore, support Order 1, viz., that the SVA markers are acquired before the noun prefixes.

6.1.1.2 Discussion

Let us now look at the possible explanation(s) as to why the SVA markers emerged before the noun prefixes in Cimcim's utterances.

Brown (1973), in his study of fourteen morphemes in English, observed that the order of acquisition of these morphemes was

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invariant. He then proposed three factors that might be responsible for the invariance of the order of acquisition of these morphemes. The first possible factor that he proposed as being responsible for this order was the frequency of a morpheme in parental speech. He then noticed that there was no correlation between the frequency of the morpheme in parental speech and in the order of acquisition of those morphemes.

That the frequency of occurrence of a morpheme in parental speech does not imply early acquisition of that morpheme by children was also observed by Guillaume (1927) in his study of French verbs. He noticed that children did not make their generalizations on the basis of the frequency of occurrence of a verb in discourse, but that they generalized on the morpheme that occurred with a large number of verbs.

In SiSwati, we noticed that nominal prefixes are never omitted in adult speech, while the SVA markers, in imperative constructions, are never used in adult speech, such as in shaya! 'hit!', hamba! 'go!' etc. The second person SVA marker is deleted in SiSwati imperative constructions, as in English where the subject 'you' is deleted by the imperative transformational rule. But from the SiSwati data we have discussed above, we noticed that the SVA markers emerged before nominal prefixes. If the frequency of a morpheme in parental speech determined the order of acquisition of the nominal prefixes and the SVA markers, then the nominal prefixes should have been used by Cimcim before the SVA markers. Thus, the SiSwati data also suggest that
that there is no correlation between the frequent occurrence of the morphemes in the parental speech and the order of their acquisition by children.

Brown also proposed that the invariant order of acquisition of the English morphemes was determined by "the law of cumulative complexity" (Brown, 1973, p. 186), which takes into consideration both the grammatical and the semantic complexity of the morphemes. Brown defines the "law of cumulative complexity" as follows: "In general, a relation of cumulative complexity exists in the following circumstances: $x + y$ is more complex than either $x$ or $y$ alone. The plus sign should not be understood to mean simple concatenation or serial ordering. In some cases it might seem to, but generally, it simply means any means of combining the knowledge symbolized by $x$ and $y$. It need not mean concatenation" (Brown, 1973, p. 186). One possible interpretation of this definition is that a more complex morpheme involves more (meaning or transformations), in addition to what the other morpheme has.

In order to illustrate grammatical complexity in a morpheme, Brown gave as one of the examples the present progressive marker and the contractible auxiliary. He pointed out that, according to the law of cumulative complexity, the contractible auxiliary is more complex than the present progressive because the former is derived by making use of four transformational rules while the latter uses only one in its derivation. The progressive-affix transformation is used to derive the present progressive marker as well as the contractible auxiliary construction. Since both morphemes make use of this
transformation in their derivations, the contractible auxiliary is
considered more complex than the present progressive because it uses
three more transformations than the present progressive. This, there-
fore, implies that the present progressive marker will be acquired
earlier than the contractible auxiliary; and that is the order of
acquisition the English children followed.

Semantic complexity refers to the number of meaning elements
a morpheme may have. For instance, Brown points out that the present
progressive morpheme has one meaning, viz., that of "temporary
duration", while the contractible auxiliary has three meaning
elements, viz., "that of temporary duration," "number" and "earlier-
ness." Since the present progressive marker has one meaning, it is
simpler than the contractible auxiliary, which has three meaning
elements. Therefore, the prediction is that the present progressive
will be acquired earlier than the contractible auxiliary, and that is
what happened. Brown pointed out that both factors in English are
important and are correlated, thus making similar predictions. Now,
let us look at SiSwati noun prefixes and SVA markers in terms of
Brown's "law of cumulative complexity."

In the foregoing SiSwati data, we were dealing with the emer-
gence of noun prefixes and SVA markers. We noticed that the data
suggested that the SVA markers were acquired before the noun prefixes.
We also noticed that these morphemes show partial or full phonological
similarities to each other. For instance, we realized that if the
noun that governs agreement in an utterance is li-kati 'cat', then the
SVA marker that will be used with this noun is /li-/., which is
phonologically similar to the singular prefix /li-/ of the noun li-kati 'cat'. If a noun like umu-ntfu 'person' governs the agreement in an utterance, then the SVA marker that will be used with this noun is /u-/, which is partially similar to the singular prefix /umu-/ of the noun umu-ntfu 'person'.

The similarities between the noun prefix and its agreement markers has led some Bantu grammarians, including Givón (1969) and Gregersen (1967), to derive agreement markers from noun prefixes by means of a feature copying rule. This implies that the agreement markers are derived from the prefix of the noun that governs agreement in a sentence by copying the features of the noun prefix. Thus, the agreement markers are derived from the noun prefixes by means of one T-rule namely, the feature copying rule. But since noun prefixes, in this study, are not considered to be derived by any T-rule, therefore, the order of acquisition of these morphemes, i.e., the noun prefixes and the SVA markers, cannot be determined on the basis of their grammatical complexity. In other words, one cannot predict on the basis of grammatical complexity which morpheme will be acquired before the other. Let us now look at the semantic complexity to see whether it will predict the acquisition of SVA markers before noun prefixes.

Brown pointed out that, if a morpheme has more elements of meaning in addition to those elements of meaning that are contained in the other morpheme, then that morpheme will be acquired later than the morpheme that has fewer elements of meaning.

Semantically, nominal prefixes have three meaning elements, namely, they signal number in the noun; gender (class); and, as I
mentioned earlier, some prefixes can modify the meaning of a noun. The examples we saw was that of a noun umu-ntfu 'person', which was modified by the prefixes /si-/ and /bu-/ in nouns si-ntfu and bu-ntfu to mean 'humanity' and 'manhood', respectively. But we also noticed that most of the prefixes simply mark number and gender (class) in nouns because the meaning they might have had historically is no longer transparent synchronically. The agreement markers in addition to number and gender contain "information concerning deep grammatical functions and relations" (Givón, 1969, p. 103). One interpretation of this statement is that the function of agreement markers is to mark or express relations between nouns and other words in an utterance. Thus, both noun prefixes and agreement markers seem to contain the same number of elements of meaning. Thus, according to the law of cumulative complexity, these morphemes seem to have equal semantic complexity. If that is the case, it seems to me that both morphemes will either emerge simultaneously or that another factor will come into play. In fact, one could probably say that, since the meaning of noun prefixes is no longer transparent and unpredictable (as in the case of agreement markers), noun prefixes are more complex semantically; with the result that agreement markers should be acquired before noun prefixes. On the other hand, the clear meaning elements that noun prefixes have are number and gender. If these are the only meaning elements that the noun prefixes have, then we could predict that they should have been acquired before the SVA markers, which have three meaning elements. Thus, semantic complexity, like grammatical complexity, does not predict the acquisition of SVA markers before the
noun prefixes. At any rate, let us look at the last strategy that Brown proposed that might also be responsible for the invariant order of acquisition of the fourteen morphemes he was dealing with.

The other factor that Brown proposed as being responsible for the order of acquisition of morphemes was the perceptual salience of the morphemes and the amount of new information they convey. Brown gave examples from English of contractible and uncontractible auxiliaries and copulas. He pointed out that contractible forms are less perceptible than the uncontractible ones. And in their acquisition, the child will acquire uncontractible auxiliaries and copulas before the contractible ones. An analogous case of contraction occurs in noun prefixes with the deletion of the prefixal vowel, as in /umu-/ becoming /um-/; otherwise contraction in prefixes and agreement markers cannot be paralleled to the English contraction of auxiliaries and copulas.

In SiSwati, as in most Bantu languages, the agreement markers are somehow redundant in a sense that they express gender and number of the noun that governs the agreement as well as the grammatical relationship between the noun and the categories it is in agreement with. In a discourse, the noun that governs the agreement might have been mentioned earlier and is, thus, not present in the sentence, in which case the agreement markers are the only means of retrieving the information concerning number, gender and grammatical functions and relations of the deleted noun. The SVA markers in SiSwati are, therefore, the morphemes that the hearer uses in order to retrieve the information about the deleted noun. It seems, therefore, that the
function of the SVA markers (and OVA markers) might make them more perceptually salient to the child. Thus, since these morphemes are perceptually salient in the surface structure of utterances, they might be acquired earlier than the noun prefixes.

6.1.1.3 Summary

In the foregoing discussion we proposed three orders that a child might use in acquiring noun prefixes and SVA markers. The possible orders we proposed were as follows: (a) that a child might acquire SVA markers earlier than the noun prefixes; or (b) that she/he might acquire noun prefixes before the SVA markers, or (c) that she/he might acquire both morphemes simultaneously.

Looking at SiSwati data, we noticed that Cimcim started using the vowel /a-/ as a rudimentary SVA marker, and that at the age of 28-29 months, she started using appropriate SVA markers with some utterances, especially SVA markers of the first person and second person singular. The nouns were used without prefixes, and only at the age of 30 months did a few nouns show up with noun prefixes. Thus, Cimcim's data supported the emergence of SVA markers before the noun prefixes (Order 1).

In trying to explain as to why Cimcim acquired SVA markers before the noun prefixes, we looked at possible factors, which were proposed by Brown (1973), that might have been responsible for this order of acquisition. We noticed that the frequency of occurrence of a morpheme in parental speech did not play a role in determining the acquisition of SVA markers before noun prefixes, because the noun
prefixes which occur with the prefixes in adult speech were acquired later than the SVA markers, which are never used in imperatives in adult speech. If the frequency of occurrence of a morpheme in adult speech did play a role, then noun prefixes should have been acquired before the SVA markers.

We then looked at grammatical complexity to see whether it would give an explanation as to why the SVA markers were acquired before the noun prefixes. But grammatical complexity could not be a factor since noun prefixes are not derived by means of any T-rules, which determine the complexity of the morpheme, while the SVA markers used one T-rule, namely, the feature copying rule. Therefore, there was no way of comparing the grammatical complexity of noun prefixes with those of SVA markers.

The role played by semantic complexity was not assessable either since both noun prefixes and SVA markers have three elements of meaning in them; except that in the noun prefixes, the meaning is no longer transparent. If that is the case, therefore, they would be regarded as more complex than the SVA markers since their (noun prefixes) meaning is unpredictable. Thus, they should be acquired later than the SVA markers. But, if the noun prefixes contain two meaning elements, namely, number and gender, then they should have been acquired earlier than the SVA markers, which have three meaning elements. Thus, neither semantic complexity nor grammatical complexity gives an adequate explanation as to why the SVA markers were acquired before noun prefixes.
Another possible factor that we looked at as a possible candidate for explaining Cimcim's acquisition of SVA markers before noun prefixes was the "perceptual salience" factor. We noticed that the SVA markers are the morphemes which enable hearers to retrieve some information, such as number, gender, as well as grammatical functions and relations, of the deleted noun, or noun that was mentioned earlier in a discourse. In other words, they help the hearer to parse the sentences correctly. Since they can be considered to be perceptually salient in this way in the surface structures, then they might be acquired earlier by the child.

These factors might not apply in isolation. Cimcim might have acquired the SVA markers because they were perceptually salient, thus, signaling the noun that functioned as a subject in her V(S)O ordered utterances.

Now, let us look at the next set of grammatical morphemes.

6.1.2. The Subject-Verb-Agreement Markers Will Emerge Before the Object-Verb-Agreement Markers

To repeat, the SVA markers and the OVA markers are both attached to the verb radical. The OVA markers never change their slot, in that they always occur before the verb radical, while the SVA markers can be found close to the verb radical or far away from it, e.g.:

(6.20) a) ngi - tjela um - fana

SVA - tell prefix - boy

'I am telling the boy.'
In 6.20(a), we notice that the SVA marker /ngi-/ 'I' is next to the verb radical /-tjela/'tell', and in 6.20(b), the SVA marker /ngi-/ 'I' is separated from the verb radical by the future tense marker /-to-/. In 6.20(c), the SVA marker is further separated from the verb radical by the future tense marker /-to-/ and the OVA marker /-m-/, which refers to the deleted noun um-fana 'boy'. The noun um-fana 'boy' may be deleted without rendering the sentence ungrammatical as long as there is an OVA marker /-m-/.

We will recall that at the beginning of this chapter, we proposed three possible orders that a child might follow in acquiring the SVA markers and the OVA markers. We said in acquiring these morphemes, a child might acquire SVA markers before the OVA markers (Order 4); or that she/he might acquire OVA markers before the SVA markers (Order 5); or that she/he might acquire them simultaneously (Order 6). Now, let us look at the data and see which strategy they support and why.

6.1.2.1 Data

No OVA markers were used between the age of 26-34 months, even in obligatory environments. From the above discussion, we noticed
that Cimcim began to use the rudimentary SVA markers at the age of 27 months. At times, Cimcim used the object noun-as in the following sentence that she uttered at the age of 26 months:

(6.21) a) Cimcim: khuthuza Banele khwama s-a -kho
rummage Banele bag/purse PA-PM-your
'Banele is rummaging through your bag.'
b) Adult: Banele u-khuthuza si-khwama s-a-kho
Banele SVA-rummage pref.-bag/purse PA-PM-your
'Banele is rummaging through your bag.'

We will recall that Cimcim was not using SVA markers at the age of 26 months, nor was she using noun prefixes with her nominal stems. In 6.21(a), we notice that the noun khwama 'bag'/'purse' is used as an object, and it follows the subject noun Banele 'Banele'. The noun khwama 'bag'/'purse' has no prefix /si-/ and yet the possessive pronoun s-a-kho 'your' is appropriately used, in that it denotes 'one bag'/'purse', which is signaled by the possessive agreement /s-/s/, which reflects the singular prefix of a noun si-khwama 'bag'/'purse'. And the sentence suited the context because Banele wasrummaging 'one' bag. Most of Cimcim's utterances began with the verb which was followed by the subject noun - if expressed and not mentioned earlier in the discourse - then followed by an object - V(S)O. From the above utterance we noticed that Cimcim used no prefixes, no SVA markers and no OVA markers in her utterances at the age of 26 months. Now consider the following utterances in which the OVA marker is obligatory:

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(6.22) a) **Cimcin**: a - tsheng - el - e Tutu (29 months)
    SVA - buy - ben. - RPTM Tutu
    'Tutu bought (me)....'

    b) **Adult**: Tutu u-ngi-tsheng- el - e
    Tutu SVA-OVA-buy -ben.-RPTM
    'Tutu bought me....'

(6.23) a) **Cimcin**: u - tfol - e - phi? (umukhwa-knife) (29 mos.)
    SVA - get - RPTM - where
    'Where did you get (it),'

    b) **Adult**: u - wu - tfol - e - phi?
    SVA - OVA - get - RPTM - where
    'Where did you get it?'

(6.24) a) **Cimcin**: u - tsheng - el - e babe Sibisi
    (30 months)
    SVA - buy - ben. -RPTM father Sibisi
    'Mr. Sibisi bought (it for me).'

    b) **Adult**: u - ngi - tsheng - el - e babe Sibisi
    SVA - OVA - buy -ben.- RPTM father Sibisi
    'Mr. Sibisi bought (it for) me.'

(6.25) a) **Cimcin**: ngi - shay - ile (Zanele) (31 months)
    SVA - hit - RPTM
    'I hit (her).'

    b) **Adult**: ngi - m - shay - ile
    SVA - OVA - hit - RPTM
    'I hit her.'
In 6.22(a), we notice that Cimcim used the rudimentary SVA marker /a-/.
In that case, we could argue that the /a-/ might have been represen-
ting both the adults SVA marker /u-/ and the OVA marker /ngi-/, which
was also omitted in Cimcim's utterance. Again, we notice that the
subject noun Tutu 'Tutu' was postposed instead of being used in the
subject noun position, i.e., before the verb. In 6.23(a), however,
we notice that Cimcim did use the SVA marker /u-/; second person
singular as in adult speech, but omitted the OVA marker /-wu-/, which
should have been used obligatorily since the object noun umu-khwa
'knife' was omitted/deleted.

In 6.24(a), again we notice that Cimcim used the third person
SVA marker singular /u-/ as required, but she omitted the OVA marker
/-ngi-/'I', which should have been used obligatorily as in adult
speech since the object pronoun mi-ne 'I' was deleted. In 6.25(a), if
we compare Cimcim's utterance to that of an adult speaker, again we
notice that she used an appropriate SVA marker /ngi-/ as in adult
speech, but then omitted the OVA marker /-m-/; which should have been
used obligatorily since she deleted the object noun Zanele 'Zanele'
that is represented by the OVA marker /-m/ in adult speech. From
these utterances we noticed that Cimcim was capable of using appro-
priately the SVA markers /u-/ 'you' (sg.); /u-/ 'she/he', and /ngi-/
'I', and yet she omitted all the OVA markers that should have been
used in her utterances. These data, therefore, suggest that Cimcim
acquired the SVA markers before the OVA markers.

Between the age of 34-36 months, Cimcim began to use the OVA
markers as in the following utterances:
(6.26) a) Cimcim: ngi - ya - ti - tshandza na-tim - bali

   SVA - ya - OVA - like these-pref.-flower

   'I like these flowers.'

   b) Adult: (same as in 6.29(a)).

(6.27) a) Cimcim: u - yi - lahl - ile (inyama) (36 months)

   SVA - OVA - throw-away - RPTM

   'She threw it away.'

   b) Adult: (Same as in 6. (a)).

In 6.26(a) and 6.27(a), we notice that Cimcim used the OVA markers
/-ti-/ and /-yi-/, respectively, as in adult speech, whether she had
deleted a noun object or not.

From the above data, we noticed that Cimcim used SVA markers
in their rudimentary form as early as 27 months. By the age of 29
months upwards, she was using SVA markers, and in most cases they
were appropriate, and by the age of 34 months she was handling them
very well. The OVA markers began to emerge at the age of 34/35
months. Thus, these data suggest that SVA markers emerge before OVA
markers. These data, therefore, support Order 4. Let us look at the
possible explanations as to why Cimcim used this order.

6.1.2.2 Discussion

If frequency of a morpheme in adult speech did play a role in
the order of acquisition of inflections, then in the case of acquiring
SVA markers and OVA markers, frequency would endorse the acquisition
of SVA markers before OVA markers, because OVA markers are optional
in adult speech, unlike SVA markers. But we noticed that this factor
did not play a role in the order of acquisition of noun prefixes and the SVA markers. Let us look at the law of cumulative complexity to see whether it will predict that given the SVA markers and OVA markers in SiSwati, the SVA markers will be acquired earlier than the OVA markers.

In connection with the SVA markers, we noticed that they are derived by use of one T-rule, the feature copying rule. In the case of OVA markers, we noticed that when the OVA marker is used, the object noun can be optionally deleted, and that certain morphemes such as /-ya-/ or /-ile/ have to be used. This implies, therefore, that in addition to the feature copying T-rule, the OVA markers need more T-rules; such as a noun deletion T-rule, or T-rules for the insertion of /-ya-/ or /-ile/. Since the OVA markers use more T-rules in their derivation than the SVA markers, they are considered more complex according to the law of cumulative complexity, thus predicting that they would be acquired later than the SVA markers which use only one T-rule, the feature copying T-rule, in their derivation. We noticed that Cimcim did exactly that, viz., acquiring SVA markers before OVA markers.

Coming to semantic complexity, both SVA markers and OVA markers have equal numbers of meaning elements. They both designate number, gender, and the grammatical function and relations of the nouns they represent. Therefore, there is no way of explaining why the SVA markers emerge before the OVA markers on the basis of semantic complexity.

The "perceptual salience" factor might provide an explanation for the acquisition of SVA markers before the OVA markers. Both
morphemes are cues which are used in the surface structure in order to facilitate the comprehension of an utterance by the hearer. But SVA markers occur at the leftmost of the verbal predicate (in affirmative sentences), while the OVA markers occur next to the verb radical. Slobin (1973), pointed out that the endings of words are perceptually salient, and thus they are acquired earlier. This was true in case of the SiSwati locative /e-ini/ markers, where we noticed that the locative suffix marker /-ini/ was acquired before its counterpart /e-. Some investigators, e.g., Dennys (1977) noticed that when children imitate, they imitate the beginning and the end of the word, and ignore the middle part of the word. This implies that the middle portion of the word is the least perceptible position in a word. If that is true, then the OVA markers in SiSwati occur in a least perceptible position in the predicate construction, compared to the SVA markers which occur at the beginning of the predicate construction. Therefore, the OVA markers would be predicted to be acquired later than the SVA markers because they are on the least perceptible position.

6.1.2.3 Summary

In the foregoing discussion we were looking at the emergence of SVA markers in relation to OVA markers. We proposed three orders that a child can use in the acquisition of these morphemes. She/he can acquire the SVA markers before OVA markers (Order 4); or she/he can acquire OVA markers before SVA markers (Order 5), or that she/he can acquire both morphemes simultaneously (Order 6).
Looking at SiSwati data we noticed that Cimcim acquired the SVA markers before the OVA markers. These data, therefore, supported Order 4. Cimcim might have acquired SVA markers before OVA markers simply because the OVA markers might be more grammatically complex than the SVA markers in that the former uses more than one T-rule, while the latter uses only one T-rule. Another reason as to why the SVA markers might have been acquired before the OVA markers might have to do with the fact that the OVA markers are positioned in a least perceptible location in the word than SVA markers are, and thus get acquired later.

Let us turn to the next set of morphemes.

6.1.3 The SVA Markers Emerge Before the Possessive Agreement Markers (PA)

In this section, we will look at the acquisition of possessive agreement markers in N+N possessive constructions, e.g.:

(6.28)  si-nkhwa s-e-li kati
preference bread PA-PM prefix - cat
'The bread of the cat.'

In 6.28, we notice that the noun si-nkhwa 'bread' is the noun possessed followed by li-kati 'cat' which is the noun that possesses. In the above construction we notice that the prefix of the noun si-nkhwa 'bread' is /si-/. In the possessor noun, we notice that the /s-/, which is the possessive agreement marker, is found at the leftmost of the construction, followed by /-e-/, which is a possessive morpheme, then /li-/, which is a singular prefix of the noun li-kati 'cat'.

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notice, therefore, that the PA markers and the noun prefix can be attached to the nominal stem. In acquiring these morphemes, a child can either acquire SVA markers before the PA markers (Order 7), or she/he may acquire PA markers before the SVA markers (Order 8), or that she/he might acquire them both simultaneously (Order 9). Let us now look at SiSwati data and see which order they support.

6.1.3.1 Data

At the age of 26 months, there were no possessive constructions of the N+N type in the data that I collected. This does not imply that Cimcim was not using this type of possessive construction. At the age of 27 months she did use some constructions that could be interpreted as the N+N possessive constructions, if we compare her constructions with those of adult speakers. Consider the sentence Cimcim uttered at the age of 27 months:

(6.29) a) Cimcim: naku hlahla bhanana!
    here-is tree banana
    'Here is a banana tree!'

b) Adult: nasi si-hlahla s-a-bhanana!
    here-is prefix-tree PA-PM banana
    'Here is a banana tree!'

In 6.29(a), Cimcim was looking in her picture book when she said utterance 6.29(a), as she saw a picture of a banana tree. If we compare her utterance with that of an adult speaker, we notice the following: (a) that Cimcim used the "wrong" agreement marker for the demonstrative copulative, by using /-ku/ instead of the expected /-si/,
but the number signaled by these morphemes is the same, viz., singular; (b) that Cimcim omitted the noun prefix /si/-, which should have been used with the noun stem -hlaha 'tree'; (c) she also omitted the possessive agreement marker /s/- as well as the possessive morpheme /-a-/. At this stage, then, neither noun prefixes nor the possessive morpheme had yet emerged. We will recall that the SVA markers began to emerge in the form of rudimentary vowels as early as the age of 27 months. At this stage it seems that the idea of possession in the N+N construction was expressed by word order.

Consider the following utterance which Cimcim produced at the age of 28 months:

(6.30) a) **Cimcim:** a - fak - e gcoko nyoni
    SVA - put-on - RPTM hat bird
    'She is wearing a feather hat.'

b) **Adult:** u - fak - e si - gcoko s-e -n -nyoni
    SVA - put-on - RPTM pref.- hat PA-PM-pref.-bird
    'She is wearing a feather hat.'

In 6.30(a), Cimcim was looking at the picture book and she was showing me a lady who was wearing a feather hat. If we compare Cimcim's utterance with that of an adult speaker, we notice that she used the rudimentary SVA marker /a-/ instead of the expected /u-/; that she omitted the noun prefix /si-/- that could have been used with -gcoko 'hat', and that she also omitted the possessive agreement marker /s/-, the possessive morpheme /-e-/- and the noun prefix /-n-/ of the noun stem -nyoni 'bird.' The above utterance suggests that Cimcim used rudimentary SVA markers before using possessive agreement markers.
Consider another utterance that was said by Cimcim at the age of 29 months:

(6.31) a) Cimcim:  u - tshatsha  khwama  e-Senteni
                SVA - take  bag/purse  PM-Senteni
                'He is taking Senteni's bag/purse.'

b) Adult:  u - tshatsha  si - khwama  s - a - Senteni
                SVA - take  pref.- bag/purse  PA-PM - Senteni
                'He is taking Senteni's bag/purse.'

Cimcim said utterance 6.31(a) as Fana was taking Senteni's bag/purse away. If we compare Cimcim's utterance to that of an adult speaker, we notice that she used the SVA marker /u-/ as in adults, but omitted the noun prefix /si-/. She used the possessive morpheme /-e-/, but nouns in class 1a/2a use not the morpheme /-e-/, but the /-a-/.

At any rate, this utterance suggests the acquisition of SVA markers before the possessive agreement markers.

At the age of 30-36 months, Cimcim did use possessive constructions with possessive agreement markers, as in the following utterances, e.g.:

(6.32) a) Cimcim:  khwama  s - a - gogo
                bag/purse  PA - PM- grandmother
                'Grandmother's bag.'

b) Adult:  si - khwama  s - a - gogo
                pref.- bag/purse  PA - PM- grandmother
                'Grandmother's bag.'

In 6.32(a), if we compare Cimcim's utterance to that of an adult speaker, we notice that she omitted the noun prefix /si-/, which
could have been used with the noun stem -khwama 'bag'. But like
adults, Cimcim used the possessive agreement marker /s-/ and the pos-
sessive morpheme /-a-/. We noticed that Cimcim was already using
appropriate SVA markers in most of her utterances at the age of 30
months. These data, therefore, suggest that SVA markers emerge before
PA markers. Let us try and explain why the SVA markers emerge before
the PA markers.

6.1.3.2 Discussion

Both the SVA markers and the PA markers occur at the beginning
of words; the SVA markers at the beginning of the predicate construc-
tion; and the PA markers occur at the beginning of the second noun in
N+N construction. Both morphemes are equal in grammatical and semanti-
cal complexity, since both are derived by use of one T-rule, viz., the
feature copying rule, and that they both have three elements of mean-
ing, viz., number, gender, as well as the grammatical relations they
express. Both morphemes occur in the position of equal perceptual
salience, that is, at the beginning of the word. Since this is the
case, one would expect that both morphemes would emerge at the same
time, but according to the data we saw, the SVA markers seem to have
emerged before the PA markers in Cimcim's utterances. The question is
why?

Brown (1973), in dealing with N+N possessive constructions in
English, noticed that the elliptical possessive constructions (i.e.,
where the possessed noun is deleted) were acquired before the non-
effictive constructions N+N. In trying to explain as to why the
effictive possessive constructions emerged earlier than the non-
elliptical ones, Brown said the following: "It is easier to hear the inflection in the elliptical case where it is commonly the last sound in the sentence than in the full case where the inflection is likely to be very lightly touched in moving from one word to another (mummy's girl)" (Brown, 1973, p. 375). One possible interpretation of this statement is that the elliptical possessive construction will be acquired earlier because the possessive marker falls at the end as in "I shared Daddy's" (Cazden, 1968, p. 439). In the non-elliptical marker, the possessive marker falls in the less perceptible location.

It has been observed that the use of possessive inflections in constructions like N+N is rather redundant, since the relationship between the possessor and the possessed can be inferred from the order of the nouns involved. To repeat, in SiSwati N+N construction, the first noun is the possessed noun and the second one the possessor as we notice in constructions like li-kati l-e-si-lima 'the cat of the fool'; while in English, the order is reversed, viz., the first noun is a possessor (noun) and the second one the possessed noun as in 'the fool's cat.' Brown pointed out that in such constructions, the possessive marker is redundant in a sense that the concept of possession can be inferred from the order of the nouns used, and that the possessive marker may be deleted in speech in such construction without losing the meaning of possession. Brown stated this as follows:

The grammatical morphemes are especially likely to be redundant in face-to-face conversation between persons having a large fund of common experience, which is the situation for the child and parent and for nonliterary adult dialects. It does seem likely to me, therefore, that grammatical morphemes are especially vulnerable to deletion because they are often redundant, and their omission will not result in serious misunderstanding. (Brown, 1973, p. 389).
One possible interpretation of Brown's statement is that the possessive inflections may be deleted in actual speech since they are redundant in that the sequence of nouns in the N+N possessive construction already allows the inference of the idea of possession.

From the SiSwati data, we noticed that the possessive agreement marker in the N+N construction was acquired later than the SVA markers. This might be explained by Brown's observation that, since the PA marker occurs between the two nouns, the PA marker might be lightly touched in speech, thus making the PA marker less perceptible and, therefore, acquired later than the SVA markers.

6.1.3.3 Summary

In this subsection, we examined the acquisition of the SVA markers and the PA markers. We said that a child acquiring these morphemes may use one of the following orders, viz., that she/he may acquire the SVA markers before the PA markers (Order 7); or that she/he may acquire the PA markers before the SVA markers (Order 8); or that she/he may acquire them simultaneously (Order 9).

The SiSwati data we looked at suggested that Cimcim used SVA markers before using the PA markers in N+N possessive constructions. These data, therefore, suggest that Cimcim used Order 7 since she used SVA markers before PA markers. The possible explanation for this order of acquisition was sought in Brown's (1973) observation that in possession constructions of the N+N type, the possessive marker is somewhat redundant since the idea of possession is already inferable from the noun order. Brown also pointed out that in adult
speech there is a tendency of barely producing the possessive inflec-tions, thus, making the inflections less perceptible. If that is the case, then the PA markers could be hypothesized to be acquired later than the SVA markers because they occur in the least perceptible position, between the two nouns of the N+N construction.

Let us now turn to the next set of possible orders of acquisi-tion of morphemes under study.

6.1.4 The Possessive Agreement Markers (PA) Emerge Before the Noun Prefixes

We will recall that the PA markers are affixed to the noun. In adult speech the sequence of morphemes in the second noun of the N+N construction is: the PA marker, the possessive morpheme, and the noun prefix, and finally the noun stem, e.g.:

(6.33) si - khwama s - e - lu — phuya

pref. - bag/purse PA - PM- prefix - pauper

'The pauper's bag.'

In 6.33, the possessed noun consists of a prefix /si-/ and a stem -khwama 'bag/purse'. In the second noun, /s-/ is a PA marker, /e-/ a possessive morpheme, /lu-/ a noun prefix, and -phuya 'pauper' the stem. From the above utterance we notice that the PA marker is at the leftmost of the second noun while the noun prefix /-lu-/ is flanked on both sides by the possessive morpheme /-e-/ and the nominal stem phuya 'pauper'. A child in acquiring these morphemes may use one of the following orders: the child may use PA markers before the noun prefixes (Order 10); or she/he may use the noun prefixes before the
PA markers (Order 11); or still she/he may acquire them simultaneously (Order 12). Let us look at SiSwati data and see which order they support.

6.1.4.1 Data

From the above discussion, we noticed that there were no examples of possessive constructions of N+N type in Cimcin's data at the age of 26 months. This does not imply that Cimcin never used N+N possessive constructions, but that there were no examples of this type of construction in the data I collected. We also noticed that at the age of 27-29 months the possessive construction of N+N type that occurred did not use the PA markers as in utterances 6.30 and 6.31 above. Consider some of the sentences that she uttered at the age of 29 months:

(6.34) a) Cimcin: `i - ntfo y - a - hlahla
   cop. - thing PA - PM - tree
   'It's a thing of a tree.'

b) Adult: yi - n tfo y e si hlahla
   cop. - pref. - thing PA - PM - prefix - tree
   'It's a thing of a tree.'

In 6.34(a), the noun i-ntfo 'thing' was used as a copulative construction, therefore, the /i-/ was used as a tone carrier rather than a prefix. The copulative form that should have been used was /yi-/ as in adult speech. If we look at Cimcin's utterance again, we notice that in the second noun Cimcin did make use of the possessive agreement marker /y-/; and the possessive morpheme /-a-/,
been /-e-/ instead of /-a-/.

We noticed that the possessive marker /-a-/ is used with nouns of class 1a/2a and the pronouns, and /-e-/ with all the nouns except those of class 1a/2a, and it is also used with the pronouns of the first and second person plural. Looking at the second noun again, we notice that Cimcim used the stem /hlahla/ 'tree' and omitted the noun prefix /-si-/ , as can be seen in adult speech. This utterance, therefore, suggests that the PA markers are acquired earlier than the noun prefixes.

Consider some of the utterances Cimcim produced at the age of 30 months:

(6.35) a) Cimcim: khwama /s - a - Ø/ - gogo
   bag/purse   PA - PM- pref. - grandmother
   'Grandmother's bag.'

   b) Adult:  si /s - a - Ø/ - gogo
   pref. - bag/purse PA - PM- pref. - grandmother
   'Grandmother's bag.'

(6.36) a) Cimcim: ncwadzi /y - a - Ø/ - misi
   book    PA -PM - pref. - mistress
   'Mistress' book.'

   b) Adult: in - cwwadzi /y - a - Ø/ - misi
   pref.- book   PA -PM - pref. - mistress
   'Mistress' book.'

In sentence 6.35(a) and 6.36(a), we notice that Cimcim omitted the prefixes of the nouns possessed. For instance, we notice that she used khwama 'bag' instead of the expected noun si-khwama 'bag' in adult speech. She also used ncwadzi 'book' instead of the expected
noun *in-cwadzi* 'book' in adult speech. The nasal at this point, as I pointed out in the previous chapters, was treated as part of the stem rather than that of a prefix. In both sentences, Cimcim did use appropriate possessive agreement markers */s-/ and */y-/ in sentences 6.35(a) and 6.36(a), respectively. She also used the possessive marker */a-/ and the noun stem *-gogo* 'grandmother' and *-misi* 'mistress'. Both of these nouns fall under class 1a/2a, and they have a */Ø-/ prefix. It is not clear to me whether Cimcim could have used the noun prefix with these nouns if they did have one. At any rate, these data suggest that Cimcim used PA markers before using noun prefixes. These data, therefore, support Order 10 - which suggested the acquisition of PA markers before the noun prefixes.

Now consider some of the sentences used by Cimcim at the age of 34 months:

(6.37) a) Cimcim:  
\[
\text{li - cansi} \quad \text{l - a - Ø} \quad \text{lume} \\
\text{pref. - mat} \quad \text{PA - PM- pref. - uncle} \\
\text{'Uncle's mat.'}
\]

b) Adult: (Same as in 6.39(a))

(6.38) a) Cimcim:  
\[
\text{ba - ntfu} \quad \text{b - e - m} \quad \text{shado} \\
\text{pref. - people} \quad \text{PA - PM- pref. - wedding} \\
\text{'Wedding band.'}
\]

b) Adult: (Same as in 6.40(a))

In sentences 6.37(a) and 6.38(a), we notice that Cimcim used noun prefixes in both nouns, the possessed nouns, *li-cansi* 'mat' and *ba-ntfu* 'people' are used with prefixes. In 6.38(a), she used the PA marker */l-/*, which agrees with the noun *li-cansi* 'mat'; the
possessive morpheme /-a/-, and the nominal stem malume 'uncle'. This noun falls under class 1a/2a, which uses a /Ø-/ as a prefix. In 6.40(a), Cimcim used the PA marker /b-/ , which agrees with the noun ba-ntfu 'people', she also used the possessive morpheme /-e-/; the noun prefix /-m-/ , and the nominal stem -shado 'wedding.' We notice also that Cimcim used the correct possessive morphemes in her utterances /-a-/ in 6.37(a), which is used with nouns of class 1a/2a, and /-e-/ , which is used with the rest of the nouns. Thus, at the age of 34 months, Cimcim was capable of using both noun prefixes and PA markers.

Let us now turn to the discussion as to why the PA markers emerged earlier than the noun prefixes.

6.1.4.2 Discussion

We mentioned earlier that noun prefixes are not derived by use of any T-rules, while the possessive agreement markers, like the SVA agreement markers, are derived by use of one T-rule, viz., the feature copying rule. This implies that the noun prefixes cannot be grammatically compared to the possessive agreement markers. Thus, on the basis of grammatical complexity factor, there is no way of predicting which morpheme will be acquired before the other.

We noticed that the semantic elements in noun prefixes and agreement markers are somewhat equal. Since the noun prefixes, according to Cimcim's data, did not emerge simultaneously with any of the discussed agreement markers, which would have been the case if the semantic complexity criterion was used in isolation; then there must
be other factors that were responsible for this order of acquisition.

The perceptual salience factor might play a role in the acquisition of PA markers before the noun prefixes, in the case of a second noun in the N+N possessive construction. For instance, in b-e-m-shado 'of the wedding,' one would expect the PA marker /b-/ to emerge before the noun prefix /-m-/ which is situated in a least perceptible slot than the PA marker. On the basis of perceptual salience, we can also argue that the prefix of the first noun in the N+N construction should have been produced or acquired earlier, or at the same time as the PA markers simply because it (the prefix of the first noun) is also situated in a perceptually salient slot, i.e., the beginning of the word. But we noticed that Cimcim used nouns like -khwama 'bag' instead of si-khwama 'bag,' which was prefixless and yet, she used the PA marker /s-/ with the second noun. The perceptual salience factor does not seem to explain the data.

From the above discussion, we noticed that there was no factor which could predict the acquisition of the PA markers before the noun prefixes. We must leave the solution of this problem for future research.

6.1.4.3. **Summary**

In the foregoing discussion we were looking at the acquisition of noun prefixes in relation to PA markers in the N+N possessive construction. We proposed that a child might use one of the following orders in dealing with these morphemes. The child might use PA markers before the noun prefixes (Order 10), or she/he might use the noun
prefixes before the PA markers (Order 11); or she/he might use them both at the same time (Order 12).

Looking at isiSwati data, we noticed that Cimcim used PA markers before the noun prefixes. Thus, the data supported Order 10 - which proposed the use of PA markers before the noun prefixes. The possible explanation as to why this order was adopted by Cimcim was sought in the law of cumulative complexity. But both grammatical and semantic complexity factors did not predict the acquisition of the PA markers before the noun prefixes. The role played by the perceptual salience factor in the order of acquisition of PA markers before noun prefixes was not clear.

Now let us turn to the last set of morphemes.

6.1.5 The Possessive Agreement Markers (PA) Will Emerge Before the Object-Verb-Agreement Markers (OVA)

To repeat, the PA markers are attached to the nouns, while the OVA markers are attached to verb radicals, e.g.:

(6.39) a)  
\[ \text{li - tinyo} \quad \text{l - e - si} \quad \text{- lwane} \]

pref. - tooth PA -PM - prefix - animal

'An animal's tooth.'

b) \[ \text{ngi - ya - si} \quad \text{- tshandza} \]

SVA - ya - OVA - like

'I like it.'

In 6.39(a), we notice that in the N+N construction, the possessive agreement marker /l-/ is attached to the second noun and is the leftmost morpheme in that noun. In 6.39(b), the OVA marker /-si-/ is not
the leftmost morpheme in this construction, but it is adjacent to the radical stem. In acquiring these morphemes, a child can use the PA markers before the OVA markers (Order 13); or she/he may use the noun prefixes before the PA markers (Order 14); or that..she/he may use both morphemes simultaneously (Order 15).

Let us look at the SiSwati data to see which order they support.

6.1.5.1 Data

The data on possessive agreement markers of N+N was scanty, as was true of that on the OVA markers. At any rate, the data we have will give a suggestion as to which morpheme emerged earlier than the other.

As we noticed earlier, Cimcim began to use the PA markers in the N+N constructions at the age of 29 months. Before then she did not use the PA markers in these constructions, but she simply used the order of these nouns to convey the message of possession. No OVA markers were used. Now consider the following sentences that were produced by Cimcim at the age of 28 months:

(6.40) a) Cimcim: a - fak — e gcoko nyoni

SVA - put-on - RPTM hat bird
'She is wearing a feather hat.'

b) Adult: u-fak — e si -gcoko s- e- n -nyoni

SVA-put-on-RPTM pref.-hat PA-PM-pref.-bird
'She is wearing a feather hat.'
(6.41) a) Cimcim: u - shay - ile  
SVA - hit - RPTM  
'She hit (her).'

b) Adult: u - m - shay - ile  
SVA - OVA - hit - RPTM  
'She hit her.'

In 6.40(a), if we compare Cimcim's utterance to that of an adult speaker, we notice that she used the N+N possessive construction, but she did not make use of the possessive agreement marker /s-/ or the possessive morpheme /-e-/: As mentioned before, the nasal in the noun stem nyoni 'bird' was treated by the child as part of the stem rather than as part of the prefix. In 6.41(a), Cimcim was replying to my question when I was asking her whether Banele's grandmother did not hit her (Banele) when she threw away the food. Cimcim used 6.41(a) as a response. If we compare her utterance to that of an adult speaker we notice that Cimcim omitted the OVA marker /-m-/ , which should have been used obligatorily. These data suggest that neither possessive agreement markers nor OVA markers were used at the age of 28 months.

Now consider some of Cimcim's utterances that were produced at the age of 29 months:

(6.42) a) Cimcim: i-ntjwele 1- a- Zanele  (29 months)  
cop.-pullet PA-PM- Zanele  
'It's Zanele's pullet.'

b) Adult: li-ntjwele 1- a- Zanele  
pref.-pullet PA-PM- Zanele  
'It's Zanele's pullet.'
(6.43) a) Cimicim: u-tfol-e -phi? (umukhwa - knife)
    SVA-get -RPTM-where
    'Where did you get (it),'

b) Adult: u-wu -tfol-e -phi?
    SVA-OVA-get -RPTM-where
    'Where did you get it?'

In 6.42(a), Cimicim was responding to my question yini loku? 'what is this?' She responded by using a copulative construction, in that she lowered her tone over the vowel, thus using the vowel as a tone-carrier. In the same sentence, we notice that Cimicim used the possessive agreement marker /l-/, as well as the possessive morpheme /-a-/.

In 6.43(a), Cimicim was asking her sister Benele where she found the knife. If we compare Cimicim's utterance with that of an adult speaker we notice that she omitted the OVA marker /-wu-/, which should have been used obligatorily in that construction. From these data we notice that Cimicim used the possessive agreement marker at the age of 29 months, while in the same month the OVA marker was still missing in her utterances in obligatory contexts. Thus, the PA markers were used before the OVA markers. Now consider some of the utterances Cimicim produced between the ages of 30-31 months:

(6.44) a) Cimicim: khwama s - a - gogo (30 months)
    bag PA -PM - granny
    'granny's bag.'

b) Adult: si - khwama s - a - gogo
    prefix - bag PA -PM - granny
    'granny's bag.'
(6.45) a) Cimcim:  u - tsheng - el - e  babe (30 months)
    SVA - buy   -ben. - RPTM  father
    'Father bought (it for me).'

    b) Adult:  u - ngi - tsheng - el - e  babe
    SVA - OVA - buy   -ben. - RPTM  father
    'Father bought (it for me).'

(6.46) a) Cimcim:  ngi - shay - ile  (31 months)
    SVA - hit - RPTM
    'I hit (her).'

    b) Adult:  ngi - m  - shay - ile
    SVA - OVA - hit - RPTM
    'I hit her.'

In 6.44(a), we notice that Cimcim did make use of the possessive agreement marker /s-/ in her utterance. In sentences 6.45(a) and 6.46(a), Cimcim omitted the OVA markers /-ngi/- and /-m-/, respectively, which should have been used obligatorily. From these data again we notice that Cimcim did make use of the PA markers in her constructions but that she did not make use of the OVA marker in contexts where they should have occurred obligatorily.

Consider the following utterance that was produced by Cimcim at the age of 34 months:

(6.47) a) Cimcim:  u-yi   -lahl  -ile  (inyama)
    SVA-OVA -throw-away-RPTM  (meat)
    'She threw it away.'

    b) Adult:  (Same as above)

In 6.47(a), we notice that Cimcim did use the OVA marker /-yi-/, which
should have been used since the object noun *in-nyama* 'meat' was deleted or rather mentioned earlier in the discourse.

From the above data, we noticed that Cimcim started using PA markers at the age of 29 months, but that the OVA markers, according to these data, did not show up until the age of 34 months. These data, therefore, suggest that the PA markers are acquired before the OVA markers. Let us look at the reasons why Cimcim adopted this order.

6.1.5.2 Discussion

We noticed that the PA markers need one T-rule (i.e., the feature copying rule) in their derivation, while the OVA markers, in addition to the feature copying T-rule, need a number of other T-rules; the deletion rule T-rule (optional); the *-ya-* insertion T-rule, or the *-/ile/* insertion T-rule. Both of these T-rules are obligatory. Since the OVA marker requires more T-rules in its derivation than the PA markers, then according to the law of cumulative complexity it is regarded as more complex than the PA markers which require one T-rule. Thus, this factor predicts that the PA markers will be acquired earlier than the OVA markers.

Both morphemes have an equal number of elements of meaning and yet these morphemes did not emerge simultaneously. Thus, this factor seems to play no role in the order of acquisition of these morphemes.

The factor of perceptual salience may predict the acquisition of PA markers before OVA markers, simply because the PA markers are in a more perceptible position than the OVA markers.
6.1.5.3 Summary

In this subsection we were concerned about the emergence of the PA markers in relation to OVA markers. We proposed that in acquiring these morphemes a child may use one of the following orders: the child may use PA markers before the OVA markers (Order 13); or that she/he may use the OVA markers before the PA markers (Order 14); or that she/he might use them simultaneously (Order 15).

In looking at SiSwati data we noticed that Cimcim used PA markers long before using the OVA markers. This fact supported Order 13 - where we proposed that a child might use the PA markers before using the OVA markers.

One of the possible reasons as to why the PA markers emerged before the OVA markers might have to do with the fact that the OVA markers are more complex grammatically than PA markers are. In addition to that, the OVA markers are located in what seems to be the least perceptible position than the PA markers.

Let us make some conclusions based on the data we have discussed in this chapter.

6.2 Conclusion

In this chapter we were dealing with the acquisition of inflections that are prefixed either to the nominal stems or verb radicals whenever they are used. The morphemes that are prefixed to the nominal stems that we dealt with were: the noun prefixes, and the possessive agreement markers. The morphemes that are prefixed to the verb radical that we dealt with in this chapter were: the SVA
markers, and the OVA markers. We proposed a number of orders that the child might use in acquiring these morphemes. I will only state the orders that were supported by the SiSwati data.

According to the SiSwati data discussed, the child seems to use:

a) - the SVA markers before the noun prefixes.
b) - the SVA markers before the OVA markers.
c) - the SVA markers before the PA markers.
d) - the PA markers before the noun prefixes.
e) - the PA markers before the OVA markers.

Since we noticed that Cimcim started using noun prefixes only at the age of 30 months, and at the age of 34 months she started using OVA markers, we can also conclude by saying that:

f) - the noun prefixes were used before the OVA markers.

The order of acquisition of these morphemes, therefore, seems to be as follows:

1). The SVA markers.
2). The PA markers.
3). The Noun prefixes.
4). and, finally, the OVA markers.

It was pointed out that the frequency of a morpheme in parental speech does not imply early acquisition of that morpheme by the child. In other words, the frequency of occurrence of a morpheme in parental speech does not play a role in determining the order of acquisition of the above stems.

In dealing with grammatical complexity, we noticed that the SVA markers and the PA markers are derived by a single T-rule, namely, the
feature copying rule. Since these two morphemes have equal grammatical complexity, one would expect them to emerge simultaneously, but they did not in SiSwati. The noun prefixes, on the other hand, use no T-rules that could be claimed to be required by agreement markers. Thus, the grammatical complexity of the noun prefixes cannot be compared with that of the agreement markers. Thus, the order of acquisition of these morphemes cannot be explained by the grammatical complexity factor.

In looking at the semantic complexity, we noticed that all agreement markers had equal number of meaning elements. Therefore, this could imply simultaneous emergence. We noticed that noun prefixes had either two elements of meaning (if they were considered as empty morphemes) or as having three elements of meaning if their influence on the interpretation of nouns like -ntfu 'person' was included. This would imply that the noun prefixes should be acquired before any agreement markers (if they are considered as empty morphemes) or that they should be acquired at the same time as the agreement markers if considered as having meaning. We noticed from the data that the agreement markers were not acquired simultaneously, nor were the noun prefixes acquired before or together with the agreement markers. They (noun prefixes) were only acquired before the OVA markers. Thus, the semantic complexity factor does not explain the order of acquisition of these morphemes.

Now let us look at the perceptual salience factor. In SiSwati data, we noticed that the SVA markers and the PA markers occur in the initial position of a verb and nominal constructions, respectively;
while the noun prefix (in the possessive construction) and the OVA markers occur in the middle of a word. Putting aside the perceptual salience of word endings, the beginning of word seems to be more perceptible than its middle. If that is the case, then we can predict the early acquisition of the SVA markers and the PA markers, as well as noun prefixes (if the nouns occur in isolation), and later, the acquisition of the noun prefixes in N+N possessive constructions and the OVA markers. Therefore, we can get the following order of emergence:

1) - SVA and PA markers earlier.
2) - noun prefixes and OVA markers later.

In connection with the SVA markers and the possessive agreement markers, we noticed that the SVA markers always occur in the initial position, while the PA markers occur within the N+N possessive constructions. Brown (1973) pointed out for English that the morphemes that fall within the N+N construction may be merely touched in pronunciation as the speaker moves from one noun to another. This, of course, will make these morphemes less perceptible than the ones that always occur initially, such as the SVA markers. Brown's observation on N+N possessive constructions might be true for SiSwati, namely, that the PA markers may be slightly pronounced in that environment, thus making them less perceptible. If that is the case, then the SVA markers will emerge earlier than the PA markers.

In cases of noun prefixes, and OVA markers, we can predict the acquisition of noun prefixes before OVA markers, because nouns can also be used in isolation, and in that case the noun prefix will fall in the
initial position, thus, becoming more perceptible. OVA markers always occur in the same slot, namely, in the middle of the word, thus falling in a least perceptible position. Therefore, the order of acquisition of these morphemes by Cimcim may be possibly explained by means of the perceptual salience factor. Of course, more data need to be collected, using a large number of children and see whether they also follow the above order of acquisition of these morphemes. If so, then one can look at possible factors that might be responsible for that order. We also noticed that the factor of perceptual salience does not explain the order of acquisition of SVA markers, PA markers before the noun prefixes.

In the SiSwati data, we also noticed that these morphemes were acquired gradually (as we can see in Table 1) rather than suddenly. Blount (1969) in his study of Luo children observed gradual emergence of inflections, and Brown (1973) also noted this with English children.

Since according to SiSwati data agreement markers - SVA markers and PA markers - were acquired before noun prefixes, then this implies that agreement markers should not necessarily be derived from noun prefixes. The two morphemes - noun prefixes and agreement markers - should be regarded as distinct but related morphemes. This proposal raises a number of questions, such as: how would these morphemes be represented in the lexicon? What kind of rules will relate them?, etc. All these questions are beyond the scope of this study.

In the next chapter we will look at the experimental data on agreement markers.
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**Table 1**

Emergence of the Morphemes in Cimcim's Utterances
Chapter 6

FOOTNOTES

1 Some works that have shown that agreements were historically pronouns are: Givón (1975), Kunene (1975).

2 See Givón (1969); Gregersen (1967).
Chapter 7

THE AGREEMENT MARKERS IN THE
FOUR AND ONE-HALF YEAR OLD
TO SIX YEAR OLD CHILDREN

7.0 Introduction

This chapter deals with the experimental data on agreement
markers of the four-and-one-half to six-year olds. The subjects used
were the same subjects that were used in chapter five.

The agreement markers that are discussed in this chapter are:
the subject-verb-agreement markers (SVA); the object-verb-agreement
markers (OVA); and the possessive agreement markers (PA).

It has been mentioned in the previous chapters that agreement
markers in most cases show certain similarities with the prefix of the
noun that controls agreement in that sentence, e.g.:

(7.1) a) li -kati li-dla si-nkhwa
      pref.-cat SVA-eat pref.-bread
      'The cat is eating bread.'

b) li -kati li-ya-si -dla (si-nkhwa)
   pref.-cat SVA-ya-OVA-eat pref.-bread
   'The cat is eating it.' (bread)

c) si -nkhwa s - e - li - kati
   pref.-bread PA - PM - pref. - cat
   'The bread of the cat.'

In 7.1(a), the SVA marker /li-/ is identical to the noun prefix /li-/ of the noun li-kati 'cat', which controls the agreement in that
sentence. In 7.1(b), the OVA marker /-si-/ is also identical to the prefix /si-/ of the noun si-nkhwa 'bread', which would be represented obligatorily by the OVA marker should the object noun si-nkhwa 'bread' get deleted. In 7.1(c), the possessive agreement marker /s-/ is also similar to the prefix /si-/ of the noun si-nkhwa 'bread' that is being possessed by the noun li-kati 'cat'. The possessive agreement marker in this utterance is actually /si-/, the vowel /-i-/ being deleted by a vowel deletion rule.

Since some agreement markers show some similarities with the noun prefix of the noun that controls agreement in the sentence, the child in acquiring agreement markers in SiSwati may use one of the following strategies: Given a noun, a child might use an agreement marker that is based on the shape of the noun prefix that controls the agreement (Strategy 1). One should point out that there is no similarity between the prefix of class 1a/2a singular and the agreement markers of that class simply because nouns of class 1a/2a have a /Ø-/ singular prefix. If the child does not use Strategy 1, she/he might use agreement markers that are based on meanings of the nouns (Strategy 2). According to this strategy, nouns that denote humans will be assigned one agreement marker; and nonhuman nouns another. If this strategy is used, then we would expect semantic overgeneralizations of the following type:

(7.2) a) i) si-lima u-ya-dla
    pref. - fool SVA - ya - eat
    'The fool is eating.'
ii) Instead of: si - lima    si - ya - dla
    pref. - fool     SVA - ya - eat
    'The fool is eating.'

b) i) in - khosi    u - ya - dla
    pref. - king     SVA - ya - eat
    'The king is eating.'

ii) Instead of: in - khosi    i - ya - dla
    pref. - king     SVA - ya - eat
    'The king is eating.'

c) umu - ntfu     u - ya - dla
    pref. - person    SVA - ya - eat
    'The person is eating.'

d) i) lu - hlanya     u - ya - dla
    pref. - lunatic   SVA - ya - eat
    'The lunatic is eating.'

ii) Instead of: lu - hlanya     lu - ya - dla
    pref. - lunatic   SVA - ya - eat
    'The lunatic is eating.'

In 7.2(a)-(d), the nouns that control agreement markers in these
utterances denote humans. If the child is using semantics in acquiring
agreement markers, then she/he may come up with some semantic over-
generalization as in 7.2(a)-(b), where all these nouns use SVA marker
/u-/ . We notice that in adult speech these nouns use different SVA
markers. The aim of this experiment was to find out what generaliza-
tions these subjects would make. The subjects, as already mentioned,
could make morphological or semantic overgeneralizations. They could
also make morphological-semantic generalizations (Strategy 3), in which case we would expect that some of the SVA markers would be morphologically generalized and others would be generalized on the basis of semantics. It was pointed out earlier that it would be difficult to prove that the subjects were using this strategy in their overgeneralizations instead of Strategies 1 and 2. Before looking at the data to see which strategy they support, a word on method, materials, and procedure used in the experiment is in order here.

7.1 Method

7.1.1 The Subjects
The subjects used were the same subjects that were used in chapter five.

7.1.2 Materials and Procedure
Since the questions on agreement markers were interspersed between the questions eliciting number in nouns, I used the same models as described in chapter 5, namely, Berko's (1958) model, and Anisfeld and Tucker model (1968).

The same pictures that were used in eliciting number in nouns were used to elicit the agreement markers, except that I used only the first three production tasks because there was no way of finding out, with word and picture matching, whether the subjects were matching the noun with the picture on the basis of the agreement markers or on the basis of the noun prefix. For the OVA markers and the PA markers
I used the first two production tasks. There was no way of asking subjects to use the OVA markers or the PA markers in the Story Telling task.

Let me state briefly how I elicited agreement markers (SVA markers; OVA markers; and PA markers) in each task.

7.1.2.1 Production Task 1: Words and Pictures

I used 48 pictures in this task. All pictures were used in pairs. One picture consisted of one figure doing an action and another, of more than one similar figure doing the same action. The picture with one figure doing an action was to elicit the singular form of an agreement marker, and the picture with more than one similar figure doing the same action was to elicit the plural form of an agreement marker. In order to elicit a singular agreement marker, I showed the subject a picture with one figure in it, which had been given a name. Then I told the subject what the action was that was carried out by this figure. I would ask the subject to repeat the verb, which in most cases was a dummy word. For example, I showed the subject a picture as I said:

(7.3) Loku kubitwa ngokutshi ngumutfo. This is called umutfo.

Ngibona umutfo (Class 1/2).

Ngibonani?

\[\text{The subject responded:} \quad (\text{ubona}) \text{ umutfo.}\]

\[\text{(You see) umutfo.}\]

Loku lokwentiwa ngumutfo sitshi

The action that is done by umutfo is termed

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kuveca.
Sitshi kwentani?

\[\text{The subject responded:}\]
(sitshi kuveca.)

Mine ngiyaveca;
umutfo _________?

\[\text{The subject was expected to give a singular response:}\]
(umutfo) u-ya-veca/

\[\text{(Umutf}o\text{) is vencing.}\]

To elicit the plural response, the subject was shown a picture with several similar figures doing the same action. Then I gave a name to the action that was carried out by these figures. As in the singular case, I would ask the subject to repeat the plural form of a noun, as well as the verb. I showed the subject a picture as I said:

(7.4) Loku kubitwa ngokutshi ngemasafa.

Ngibona emasafa. (5/6)
Ngibonani?

\[\text{The subject responded:}\]
(ubona) emasafa. /

Loku lokwentiwa ngemasafa sitshi kuveca.

Sitshi kwentani?

\[\text{The subject responded:}\]
(sitshi kuveca.) /

Mine ngiyaveca,
emasafa _________?

\[\text{The subject was expected to give a plural response:}\]
(emasafa) a-ya-vec a.

\[\text{(Emasaf} a\text{) are vencing.}\]
This was done with nouns (dummy) of all classes. The questions eliciting the singular or plural SVA markers were interspersed between other questions on singular/plural prefixes, tenses, etc.

Let me give an example as to how I elicited possessive agreement markers of the N+N type. In this experiment each picture had one or several figures to be introduced. If the singular noun was to be used in the possessive construction, then in the second picture the same figure that was introduced in the first picture was held by an animal (to show possession). I used the same noun si-Iwane 'animal' as a possessor to make the question more clear to the subjects. For example, I showed the subject a picture as I said:

(7.5) Loku kubitwa ngokutshi

litafa.

Ngibona litafa. (5/6).

Ngibonani?

What do I see?

(The subject responded:
(UBona) litafa. / /
(You see) litafa.

Silwane sinelitafa.

The animal has litafa.

As I said this, I showed the subject another picture with the same figure held by an animal./ /

Silwane sinani?

What does the animal have?

(The subject responded:
(silwane) sinelitafa. / /
(The animal) has litafa.

Uma ngingafuni kutshi
silwane sinelitafa,
nginxatshi
litafa ______?

If I do not want to say:
the animal has litafa,
I can say:
litafa ______?

(The subject was expected to give a singular PA marker:
litafa 1 - e si -Iwane The litafa of an animal.

PA -PM - pref.-animal/)
To elicit the possessive agreement marker in the plural, the subject was shown a picture with several similar figures being held by an animal. For example, I showed the subject a picture as I said:

\[(7.6)\] Loku kubitwa ngokutshi ngematafa. 
This is called ematafa.

Ngibona ematafa. (5/6) I see ematafa.

Ngibonani? What do I see?

\[\text{The subject responded:} \]
\[(\text{ubona}) \text{ ematafa}\] (You see) ematafa.

Silwane sinematafa. The animal has ematafa.

\[\text{As I said that, I showed the subject another picture with similar figures held by an animal.}\]

Silwane sinani? What does the animal have?

\[\text{The subject responded:} \]
\[(\text{silwane}) \text{ sinematafa.} \]
(The animal) has ematafa.

Uma ngingafuni kutshi: If I do not want to say:
Silwane sinematafa, The animal has ematafa,
ngingatshi I can say ematafa ______?
ematafa ______?

\[\text{The subject was expected to give a plural PA marker:} \]
\[(\text{ematafa}) \text{ }  \emptyset-\text{e-} \text{- si-lwane} \]
The ematafa of an animal.
\[\text{PA-PM -pref-animal} \]

Let me now give an example of how I elicited the OVA markers. They were not directly elicited by use of pictures. What I did was to introduce the dummy noun by use of the picture, then from there I elicited the absolute¹ pronoun (which is not discussed in this study), and then I went on to elicit the OVA markers. I showed the subject a picture with several figures as I said:

\[(7.7)\] Loku kubitwa ngokutshi batjeki. (1/2) This is called batjeki.

Mine ngifuna batjeki. I want batjeki.
Mine ngifunani? What do I want?

The subject responded:
(ufuna) batjeki. (You want) batjeki.

Uma ngingafuni kusho leligama (batjeki),
ngingatshi ngifuna ______? I can say I want ______?

The subject was expected to respond by saying:
(ngifuna) bona. (I want) them.

Mine batjeki ____? As for batjeki ____?

The subject was expected to give a response with an OVA marker of class 1/2 plural /ba/-:
u-ya-ba-funa You want them.
SVA-ya-OVA-want /

The singular forms of the OVA markers were elicited in a similar way.

I showed the subject a picture with one object as I said:

(7.8) Loku kubitwa ngokutshi sibafu. (7/8) This is called sibafu.

Mine ngifuna sibafu. I want sibafu.

Mine ngifunani? What do I want?

The subject responded:
(ufuna) sibafu. (You want) sibafu.

Uma ngingafuni kusho leligama (sibafu),
ngingatshi ngifuna ____? I can say I want ____?

The subject responded:
(ufuna) soka. (You want) it.

Mine sibafu ____? As for me sibafu ____?

The subject was expected to give a response with an OVA marker of class 7/8 singular /si/-:
u-ya-si-funa You want it.
SVA-ya-OVA-want/
The questions eliciting subject-verb-agreement (SVA) markers were interspersed between the questions on singular prefixes or plural prefixes; and tenses (tense is not discussed in this study). The questions eliciting either object-verb-agreement (OVA) or possessive agreement (PA) markers were interspersed between the questions on pronouns (absolute).

7.1.2.2 Production Task 2: Words Alone

All the 48 nouns that were used in Task 1 were also used in this task. No pictures were used, but the subjects were required to give responses that would include SVA markers, OVA markers, and PA markers. Instead of showing a picture, then, I asked the subjects questions such as:

(7.9) Ake ngitshi kungena umutfwa laph'emyango. Let's say a pygmy walks in.
Mine ngitotshi ngibona umutfwa (1/2)
Ngitotshi ngibonani?
\[The subject responded: (ubona) umutfwa.\]
Loku lokwentiwa ngumutfwa sitotshi kuveca.
Sitotshi kwentani?
\[The subject responded: (sitotshi) kuveca.\]
Mine ngiyaveca umutfwa _____?

I will say that I see umutfwa.
What will I say I see?
(You see) umutfwa.
What the pygmy will do (after coming in) we will call kuveca.
How do we call the action?
(We shall call it) kuveca.
I am vencing umutfwa ____?
The subject was expected to give a response:

\[ u\text{-ya-vec}a \quad \text{She/he is vecing.} \]

\[ \text{SVA-ya-vec}a \]

To elicit the plural SVA marker of this noun or other nouns, I simply substituted a plural noun instead of the singular noun in 7.9 as follows:

\[ \text{(7.10) Ake ngitshi kungena batfwa lapha emnyango. Let's say pygmies walk in (here).} \]

\[ \text{Mine ngitotshi ngibona batfwa. (1/2) I will say that I see pygmies.} \]

\[ \text{(Mine ngitotshi)ngibonani? What will I say I see?} \]

\[ \text{The subject responded:} \]

\[ \text{(ubona) batfwa. (You see) pygmies.} \]

\[ \text{Loka lokwentiwa batfwa sitotshi kuveca sitotshi kwentani? What the pygmies will do (after coming in) we will call it kuveca. How are we going to call it?} \]

\[ \text{The subject responded:} \]

\[ \text{(sitotshi) kuveca. (We shall say) kuveca.} \]

\[ \text{Mine ngiyaveca batfwa ____? I am vecing, the pygmies ____?} \]

\[ \text{The subject was expected to give a response:} \]

\[ \text{ba-ya-vec}a \quad \text{They are vecing. SVA-ya-vec}a \]

In eliciting possessive agreement markers, I used the noun si-lwane 'animal' as a possessor, and used nonsense nouns for nouns possessed.

I asked the questions as follows:

\[ \text{(7.11) Ake ngitshi kungena lisandza laph'a emnyango. Let's say a lisandza walks in (here).} \]

\[ \text{Mine ngitotshi ngibona lisandza. (5/6) I will say that I see lisandza.} \]

\[ \text{Ngitotshi ngibonani? What do I see?} \]
The subject responded:
(ubona) lisandza.  
(You see) lisandza.
Silwane sinelisandza, silwane sinani?
The animal has lisandza, what does the animal have?

The subject responded:
(silwane) sinelisandza.  
(The animal) has lisandza.
Uma ngingafuni kutshi silwane sinelisandza, ngingatshi lisandza _____?
If I do not want to say the animal has lisandza, I can say lisandza _____?

The subject was expected to give a singular PA marker of class 5/6:

1 - e - si -lwane
PA -PM - prefix-animal/

of an animal.

Similarly, for plural PA markers:

(7.12) Ake ngitshi kunjena emasandza lapha emnyango.
Let's say emasandza walks in (here).
Mine ngitotshi ngibona emasandza.  (5/6)
I will say that I see emasandza.
Ngitotshi ngibonani?
What do I see?

The subject responded:
(ubona) emasandza.  
(You see) emasandza.
Silwane sinemasandza, silwane sinani?
The animal has emasandza, what does the animal have?

The subject responded:
(silwane) sinemasandza.  
The animal has emasandza.
Uma ngingafuni kutshi silwane sinemasandza, ngingatshi emasandza _____?
If I do not want to say the animal has emasandza, I can say emasandza _____?

The subject was expected to give a plural PA marker of class 5/6:

(emasandza)
Ø - e - si -lwane
PA-PM - pref.-animal/

of the animal

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The OVA markers were elicited in a similar way. For instance, to elicit the singular OVA markers, I used the singular noun of a particular class; and I used nouns in the plural form to elicit the plural OVA markers. I used dummy nouns that used the verb funa 'want'. An example of the OVA questions is as follows:

(7.13) Ake ngitshi kungena sifupha lapha emnyango. Let's say sifupha walks in (here).

Mine ngitotshi ngibona sifupha. (7/8) I will say that I see sifupha. (7/8)

Mine ngifuna sifupha. I want sifupha.

Mine ngifunani? What do I want?

(The subjects responded:

(ufuna) sifupha. / (You want) sifupha.

Uma ningafuni kusho leligama (sifupha), If I do not want to say this word (sifupha),

ningatshi ____? I can say ____?

(The subject responded:

(ufuna) -- sona. / (You want) it.

Mine sifupha ____? As for me sifupha ____?

(The subject was expected to use the class 7/8 /si-/ singular OVA marker in his/her response:

u - ya - si - funa. You want it.

SVA - ya - OVA- want/

To elicit the plural form of an OVA marker I used a noun in the plural form, e.g.:

(7.14) Ake ngitshi kungena tibeke lapha emnyango. Let's say tibeke walks in (here).

Mine ngitotshi ngibona tibeke. (7/8) I will say that I see tibeke.

Mine ngifuna tibeke. I want tibeke.

Mine ngifunani? What do I want?
The subject responded:
(ufunu) tibeke.

(You want) tibeke.

Uma ningafuni kusho leligama (tibeke), ngingatshi ngifuna ____?
If I do not want to say this word (tibeke), I can say I want ____?

The subject responded: (ufuna) tona.

(You want) them.

Mine tibeke ____?
As for me ____?

The subject was expected to use the class 7/8 plural OVA marker /-ti-/ in his/her response:

u - ya - ti - funa.
You want it.

SVA - ya - OVA- want

7.1.2.3 Production Task 3: Story Telling

This task was only used to elicit SVA markers, since there was no way of telling the subjects to use sentences containing possessive agreement markers or OVA markers in their constructions.

In this task, the subjects were required to tell a story based on the action done by the figures or figure shown to them in the second picture of each pair. For example, I said the following as I was showing the subject the first picture:

(7.15) Loku ngumsafa. This is called umsafa.

Ngibona umsafa. (5/6) I see umsafa.

Sibonani? What do we see?

The subject responded: (sibona) umsafa. (We see) umsafa.

Sekufika lomunye umsafa. Then another umsafa came along.

I said this as I held up another picture of two or more running similar figures.
Ngitekele ngaloku lokwentiwa nguloku. Now, give me the description of what is going on

The subject might have responded as follows:

Ngibona basafa ba-ya-gijima. I see basafa. They are running.

SVA-ya-run

In eliciting the noun singular from given plural nouns, as well as the plural subject-verb-agreement marker, I proceeded as follows: I showed the subject a picture with several similar figures as I said:

(7.16) Loku ngemasafa. These are emasafa.
Ngibona emasafa. (5/6) I see emasafa.
Sibonani? What do we see?

The subject responded:
(sibona) emasafa. (We see) emasafa.

Sekuhamba lokunye One of them goes away,

I said this as I held up another picture of one figure running or lying down.

Sekusala kunye. and one remains.

Ngitekele ngaloku lokwentiwa nguloku. Now, give me the description of what is going on

The child might have responded as follows:

Sekusala umsafa, Then umsafa, who remains, is

ti lele - e -- sleeping -- --.

SVA - sleep - RPTM

Since the recognition tasks were not used in the elicitation of the SVA markers, OVA markers, and PA markers, we are now going to look at the results of the responses given by these subjects.
7.2. The Results of Each Task

I will discuss the results of each experiment according to the type of agreement markers that were investigated rather than according to the results obtained under each task. Let us now look at the results on the SVA markers.

7.2.1. The Subject-Verb-Agreement Markers

The results obtained from Tasks 1 (words and pictures) and 2 (words alone) were similar for all the subjects. The results obtained were as follows:

\[
\begin{array}{|c|c|c|c|c|}
\hline
\text{Class} & \text{Nouns Used} & \text{Number} & \text{Adult SVA} & \text{Subject SVA} \\
\hline
1/2 & umu - tfo & singular & u - & u - \\
    & ba - tfo & plural & ba - & ba - \\
    & bo-mu - tfo & plural & ----- & ba - \\
1a/2a & o - fohlo & singular & u - & u - \\
    & bo - fohlo & plural & ba - & ba - \\
3/4 & umu - gi & singular & u - & u - \\
    & imi - gi & plural & i - & i - (S.7&8) \\
    & imi - fuhlo & plural & i - & i - \\
    & bo-m - fuhlo & plural & ----- & ba - \\
5/6 & li - lola & singular & li - & li - \\
    & ema - lola & plural & a - & a - \\
7/8 & si - bafu & singular & ti - & si - \\
    & ti - bafu & plural & ti - & ti - \\
9/10 & in - sikho & singular & i - & i - \\
    & tin - sikho & plural & ti - & ti - \\
11/10 & lu-nyawo "foot" & singular & lu - & li - \\
    & tin-nyawo "feet" & plural & ti - & ti - \\
14 & bu - fo & sing./pl. & bu - & bu - \\
15 & ku - hlwe & sing./pl. & ku - & ku - \\
\hline
\end{array}
\]
In 7.17, if we compare the SVA markers of the subjects to those of an adult speaker, we notice that the subjects used the same SVA markers as in adults, except in the case of $S_g$, who used SVA marker /u-/ with the plural dummy noun *imi-gi*, instead of the expected /i-/ . We also noticed that the subjects used /li-/ as a singular SVA marker for class 11/10 instead of the adult SVA marker /lu-/ . In noun prefixes, we noticed that the subjects used the singular prefix /li-/ of class 5/6 for adult nouns that used the prefix /lu-/ of class 11/10. Thus, the use of /li-/ instead of /lu-/ also occurs in SVA markers of these classes. We may also notice that the plural SVA markers of classes 1/2 and 3/4 are different: the subjects used /ba-/ with plural nouns of class 1/2 and /i-/ for plural nouns of class 3/4.

In order to arrive at the correct choice of the SVA marker, the subjects seem to have relied on the morphology of the noun prefix given, rather than its meaning. For instance, in classes 3/4 and 9/10 the subjects used /i-/ as a plural SVA marker simply because the noun began with the prefix /imi-/ and /in-/ . The same thing might be said of classes 7/8, 9/10, and 11/10 plural forms, where the subjects used the plural SVA marker /ti-/ because the noun prefix of these classes is /ti-/ for class 7/8 and /tin-/ for classes 9/10 and 11/10. On the basis of these data, we can deduce a rule that says: if a noun prefix begins with a vowel, then the SVA marker will be similar to the initial vowel of the prefix, e.g.:

<table>
<thead>
<tr>
<th>Prefix</th>
<th>Number</th>
<th>Class</th>
<th>Adult SVA</th>
<th>Subjects SVA</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) umu -</td>
<td>singular</td>
<td>1/2</td>
<td>u -</td>
<td>u -</td>
</tr>
<tr>
<td>umu -</td>
<td>singular</td>
<td>3/4</td>
<td>u -</td>
<td>u -</td>
</tr>
<tr>
<td>*imi-</td>
<td>plural</td>
<td>3/4</td>
<td>i -</td>
<td>i -</td>
</tr>
<tr>
<td>in -</td>
<td>singular</td>
<td>9/10</td>
<td>i -</td>
<td>i -</td>
</tr>
</tbody>
</table>

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In 7.18(a), we notice that the initial vowel of the prefix is identical to the SVA marker of that class. The exception to this rule is the prefix /ema-/ of class 5/6, which takes /a-/ as a SVA marker rather than the initial vowel of the prefix /e-/

Where the noun prefix consists of a CV prefix, then the SVA marker of that class will be CV in shape, namely, identical to the prefix as follows:

<table>
<thead>
<tr>
<th>Prefix</th>
<th>Number</th>
<th>Class</th>
<th>Adult SVA</th>
<th>Subject SVA</th>
</tr>
</thead>
<tbody>
<tr>
<td>ba -</td>
<td>plural</td>
<td>1/2</td>
<td>ba -</td>
<td>ba -</td>
</tr>
<tr>
<td>li -</td>
<td>singular</td>
<td>5/6</td>
<td>li -</td>
<td>li -</td>
</tr>
<tr>
<td>si -</td>
<td>singular</td>
<td>7/8</td>
<td>si -</td>
<td>si -</td>
</tr>
<tr>
<td>ti -</td>
<td>plural</td>
<td>7/8</td>
<td>ti -</td>
<td>ti -</td>
</tr>
<tr>
<td>tin -</td>
<td>plural</td>
<td>9/10, 11/10</td>
<td>ti -</td>
<td>ti -</td>
</tr>
<tr>
<td>bu -</td>
<td>sg./pl.</td>
<td>14</td>
<td>bu -</td>
<td>bu -</td>
</tr>
<tr>
<td>ku -</td>
<td>sg./pl.</td>
<td>15</td>
<td>ku -</td>
<td>ku -</td>
</tr>
</tbody>
</table>

The rules we have deduced to express the relationship between the noun prefixes and the SVA markers used with nouns of certain classes seem to work to yield the correct adult forms for all the classes, except for class la/2a. We noticed that the vowel used in the SVA marker is similar to the initial vowel that occurs in the prefix with the exception of class 5/6 plural, which uses /a-/ rather than the initial vowel of the prefix /e-/

In class la/2a singular, the prefix is /0-/ and yet the subjects used the SVA marker /u-/ with the nouns of this class. In the plural nouns of the same class, /ba-/ was used as an SVA marker and yet the plural noun prefix of this class is /bo-/. If the subjects depended solely on the morphological shape of the prefix, then the
singular SVA marker for class 1a/2a should have been /Ø-/, and the plural form would have been /bo-/ for the plural nouns of the same class. In the case of the plural SVA marker /ba-/ for class 1a/2a, we can argue that the subjects did not distinguish between the prefixes /ba-/ and /bo-/ of classes 1/2 and 1a/2a, respectively, giving them the same SVA marker /ba-/. If it were true that the subjects did not distinguish between /bo-/ and /ba-/, then they should have used the SVA marker /ba-/ for nouns in class 14, since they use /bu-/ as a prefix; but they did not. Class 1a/2a singular prefix /Ø-/ raises a question on the morphological relationship of the noun prefixes and their SVA markers, because the SVA marker /u-/, which is used with the singular prefix /Ø-/, clearly does not show any morphological similarity with it.

As we may recall from chapter 2, class 1a/2a contains nouns that have a range of meanings, e.g.:

a) proper name, e.g.: Cimcim 'Cimcim' bo-Cimcim 'C.&Co.'
b) kinship terms, e.g.: make 'mother' bo-make 'mothers'
c) a question noun, e.g.: bani 'who' bo-bani 'who (pl.)'
d) nouns denoting animals, e.g.: logwaja 'hare' bo-logwaja 'hares'
e) nouns of foreign origin, e.g.: shukela 'sugar' bo-shukela 'sugars'

Some of the nouns of this class are common in the vocabulary of children, such as proper names and kinship terms. One possible explanation as to why the subjects used class 1/2 SVA markers /u-/ and /ba-/ with nouns of this class 1a/2a might be because most of the nouns of class 1a/2a that are in the subject's vocabulary denote humans. Since class 1/2 contain only nouns that denote humans, the subjects
might use the same SVA markers for nouns in class 1a/2a that denote humans.

Now let us consider the responses that were given by the subjects in Task 3, i.e., Story Telling:

(7.20)

<table>
<thead>
<tr>
<th>Class</th>
<th>Nouns</th>
<th>Required Number</th>
<th>Pref.</th>
<th>Adult SVA</th>
<th>Pref. SVA</th>
<th>Subj. Subj. SVA</th>
<th>Subj. SVA</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) 1/2</td>
<td>um-safa</td>
<td>pl.</td>
<td>ba - ba -</td>
<td>bo-m - ba -</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>sg.</td>
<td>umu - u -</td>
<td>umu - u -</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) 1a/2a</td>
<td>ø-fohlo</td>
<td>pl.</td>
<td>bo - ba -</td>
<td>bo - ba -</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>sg.</td>
<td>ø - u -</td>
<td>ø - u -</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) 3/4</td>
<td>um-tfozo</td>
<td>pl.</td>
<td>imi - i -</td>
<td>bo-m - ba -</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>sg.</td>
<td>umu - u -</td>
<td>umu - u -</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d) 5/6</td>
<td>ema-sandza</td>
<td>sg.</td>
<td>li - li -</td>
<td>li - li - u -</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e) 7/8</td>
<td>ti-nelwa</td>
<td>sg.</td>
<td>si - si -</td>
<td>i - i - u -</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>sg.</td>
<td>in - i -</td>
<td>i - i -</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>11/10</td>
<td>sg.</td>
<td>lu - lu -</td>
<td>lu - lu -</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f) 7/8</td>
<td>ti-nkhane</td>
<td>sg.</td>
<td>si - si -</td>
<td>i - i - ku -</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>9/10</td>
<td>sg.</td>
<td>in - i -</td>
<td>in - i -</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>11/10</td>
<td>sg.</td>
<td>lu - lu -</td>
<td>lu - lu -</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>g) 14</td>
<td>bu-luhla</td>
<td>pl.</td>
<td>bu - bu -</td>
<td>bo - ba -</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>sg.</td>
<td>bu - bu -</td>
<td>bu - bu -</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>h) 15</td>
<td>ku-ve</td>
<td>pl.</td>
<td>ku - ku -</td>
<td>ku - bo - ba -</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>sg.</td>
<td>ku - ku -</td>
<td>ku - ku -</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NOTE: In column I is the list of noun classes; in column II is the list of nouns that were given to the subjects. In column III is the number which the subjects were supposed to use with the noun in column II in their story telling. In column IV is the list of noun prefixes to be used as a response to given nouns in column II. In column IV (e) and (f), we notice that there are three possible singular prefixes that could be used with the given plural noun. If the nasal is analyzed as part of the noun, then the subjects could
have used one of those singular prefixes. But, if the nasal is analyzed as part of the prefix, then the singular prefixes that can be used are /in-/ of class 9/10, and /lu-/ of class 11/10. In column V is the list of SVA markers that can be used with the nouns that used the prefixes in column IV.

Column VI - VII represent the responses the subjects gave. In column VI is the list of prefixes the subjects used with the nouns given in column II. In column VII is the list of SVA markers the subjects used in Tasks 1 (word and picture) and Task 2 (words alone). In column VIII is the list of SVA markers the subjects used in their story telling task.

In 7.20, if we compare the noun prefixes given as a response by the subjects with the noun prefixes of adult speakers, we notice that the subjects used different plural prefixes from adult speakers. For instance, in 7.20(a), the subjects used /bo-/' as a plural prefix instead of the expected adult prefix /ba-/; in 7.20(c) the subjects used /bo-/' as a plural prefix instead of the adult prefix /imi-/'.

The plural prefix /bo-/' was again used by the subjects with the nouns of classes 14 and 15, which use the singular prefixes /bu-/' and /ku-/', respectively. In all the cases, the /bo-/' was added to the singular form of the noun, e.g.:

<table>
<thead>
<tr>
<th>Noun</th>
<th>Number</th>
<th>Adult</th>
<th>Class</th>
<th>Subjects</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>um-safa</td>
<td>pl.</td>
<td>ba-safa</td>
<td>1/2</td>
<td>bo-m-safa</td>
<td>I/IIA</td>
</tr>
<tr>
<td>um-tfozo</td>
<td>pl.</td>
<td>imi-tfozo</td>
<td>3/4</td>
<td>bo-m-tfozo</td>
<td>I/IIA</td>
</tr>
<tr>
<td>bu-luhla</td>
<td>pl.</td>
<td>bu-luhla</td>
<td>14</td>
<td>bo-bu-luhla</td>
<td>XIV/IIA</td>
</tr>
<tr>
<td>ku-va</td>
<td>pl.</td>
<td>ku-va</td>
<td>15</td>
<td>bo-ku-ve</td>
<td>V/IIA</td>
</tr>
</tbody>
</table>

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In chapter 5, we used Roman numerals in order to designate the noun classes for the subjects because the subjects' noun classes were not always similar to those of adult speakers.

In 7.20, if we compare the singular noun prefixes of the subjects with those of adult speakers, we notice that they are the same, except in 7.20(e) and (f). The subjects used the singular prefix /i-/ for both nouns which used /ti-/ or /tin-/ as a plural prefix. In adult speakers the possible singular prefixes which could have been used are /in-/ of class 9/10 and /Iu-/ of class 11/10, since both classes use /tin-/ as a plural marker. The only reason why most speakers know which prefix to use in the singular is their knowledge of the singular forms of those nouns. If the speakers do not know the meaning of a given plural noun with the plural prefix /tin-/, then there is also a possibility of using the singular prefix /si-/ of class 7/8, if the nasal in both dummy nouns: ti-nelwa and ti-nkhane is analyzed as part of the stem rather than as part of the prefix. There are nouns in class 7/8 which have nasal-initial stems, such as si-nkhwa 'bread', ti-nkhwa 'pieces of bread'.

In 7.20, if we compare the SVA markers that were used by the subjects with those of adult speakers, we noticed that they are identical, except in 7.20(c), where the subjects used /ba-/ instead of the expected adult /i-/ . But this is because the subjects used /bo-/ as the plural prefix of that class rather than using the adult plural prefix /imi-/ . We will recall that in Tasks 1 (Word and Pictures) and 2 (Words Alone), the subjects used the expected SVA marker /i-/ for nouns of this class because in those tasks the correct plural noun was
given to them by me. For instance, in the case of the noun imi-gi, the subjects were only required to give the SVA marker that can be used with that noun. In the story telling task, the subjects were required to give the plural form of the noun and then use the noun they gave in a story, which required them to use the SVA marker that goes together with the noun they gave as a response. The subjects also used /ba-/ as an SVA marker of classes 14 and 15. They did this because they had assigned a plural prefix /bo-/ to these classes, which do not have a plural prefix in adult speech.

The use of the "wrong" SVA marker by the subjects seems to point out that the subjects looked, as it were, at the morphological shape of the noun prefix and then assigned a SVA marker that could be used with that noun.

In 7.20(d)-(f) an interesting thing happened. The pictures that were used in eliciting 7.20(d) and (e) had human figures, but in 7.20(f), the picture that was used was a cartoon - with human figures in it. The subjects gave the correct form of the nouns required and then proceeded to tell a story on the basis of what the figure or figures was/were doing on the picture. In the process of telling the story, the subjects used different SVA markers from those that they used at the beginning of the story. In the case of 7.20(d) and (e), the subjects used the SVA marker /u-/ of class 1/2, while in 7.20(f) they used the SVA marker /ku-/ of class 14. The SVA marker /ku-/ can be used with nouns denoting humans if the speaker wants to be derogatory; otherwise, it is commonly used with nonhuman nouns - especially when they are conjoined.² To give an example of how the
subjects told their stories that yielded the responses in 7.20(d) and (c), let us look at Sg's descriptions:

(7.22) lwandle: ...ngitekele ngalokwentiwa nguloku. ...now, give me the description of what is going on.

(7.23) a) Subject 9:

ngi-bona li-sandza I see li-sandza
SVA-see pref.-sandza

li-ya-hamba. u-phetsh-e walking. She/he is
SVA-ya-go SVA-having-RPTM

li-bhukheysi u-buya returning with a book-bag
pref.-book-bag SVA-return

e-si -kolw -eni from school.
loc.-pref.-school-loc.

u-gcok -ile She/he is dressed up.
SVA-dress-RPTM

b) Adult:

Ngibona li-sandza I see li-sandza
SVA-see pref.-sandza

li-ya-hamba. Li-phetsh-e walking. He/she is
SVA-ya-go SVA-have -RPTM

li-bhukheysi li-buya returning with a book-bag
pref-book-bag SVA-return

e-si -kolw -eni. from school.
loc-pref.-school-loc.

Li-gcok -ile He/she is dressed up.
SVA-dress-RPTM

(7.24) a) Subject 9:

sengitotshi ngi-bona I will say I see
I will say SVA-see

i-nelwa. inelwa.
pref.-nelwa

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u-fak -e li-kepisi.. She/he is wearing a cap.
SVÂ-put-on-RPTM pref.-cap

b) Adult:

sengitotshi ngi-bona I will say I see
I will say SVA-see

i-nelwa.
pref.-nelwa i-nelwa.

I-fak -e She/he is
SVÂ-put-on-RPTM

li-kepisi... wearing a cap.
pref.-cap.

(7.25) a) Subject 9:

ngi-bona I see
SVA-see

i-nkhane. inkhane.
pref.-nkhane

Ku-lel -e It is sleeping.
SVÂ-sleep-RPTM

Ku-na -loku -nye. It is with another one
SVA-with-Adj.agree-another.

b) Adult:

ngi - bona I see
SVA - see

i-nkhane. inkhane.
pref.-nkhane

I - lel - e. It is sleeping.
SVA - sleep - RPTM

I - na - le -nye It is with another one.
SVA - with - adj.agree-another

7.22 gives the last portion of my question. In 7.23, Sg gave
a correct singular form li-sandza (class 5/6) from the dummy plural
noun ema-sandza (class 5/6). She used the /li-/ of class 5/6 as the
SVA marker, then after that she used the SVA marker /u-/ of class 1/2. In 7.24, she gave i-nelwa (class IXA/VIII) as the singular form of ti-nelwa (class 9/10 or 11/10), but instead of using the SVA marker /i-/ she used the /u-/ of class 1/2 again. In 7.25, where cartoons with nonhuman figures were used, the subject used the SVA marker /ku-/ of class 15 instead of using the SVA marker /i-/ of class 9a/10. This implied that the subject was aware that the figure was "similar to humans" but nonhuman, and, therefore, it should be classified as nonhuman by using the SVA marker /ku-. In 7.23(a) and in 7.24(a), we noticed that the subject used the appropriate SVA markers at the beginning of the story, then she used "wrong" SVA marker, namely, /u-/ of class 1/2 as she got more involved in the story. This implies that the subject "remembered" what subject to use at the beginning of the story, but as the story progressed she then used the SVA markers that designated semantic categorization of nouns. Nouns that were introduced by the use of human figures were used with the SVA marker /u-/ of class 1/2, and those that were introduced by the use of nonhuman figures were used with SVA marker /ku- of class 15. Thus, from 7.23 - 7.25 we got the following nouns and SVA markers:

<table>
<thead>
<tr>
<th>Noun Prefixes</th>
<th>Class</th>
<th>Adult SVA Markers</th>
<th>Class</th>
<th>Subjects SVA Markers</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>1i-</td>
<td>5/6</td>
<td>1i-</td>
<td>5/6</td>
<td>u-</td>
<td>1/2</td>
</tr>
<tr>
<td>i-</td>
<td>9a/10</td>
<td>i-</td>
<td>9/10</td>
<td>u-</td>
<td>1/2</td>
</tr>
<tr>
<td>i-</td>
<td>9a/10</td>
<td>i-</td>
<td>9/10</td>
<td>ku-</td>
<td>15</td>
</tr>
</tbody>
</table>

These data suggest that children might use semantics in order to decide on SVA markers. We need to design an experiment that will
use cartoons as pictures, and another set of pictures that have human figures, in order to find out what agreement markers that the subjects will use. The experiment should be done with a large number of children. On the basis of that, one would be in a position to say whether the children use semantics in order to give a correct SVA marker or not.

From the results of Tasks 1 and 2, as well as some results from Task 3, we noticed that the relationship between the noun prefixes and the SVA markers seem to be morphologically controlled. But on the basis of limited data we also noticed that the relationship between the noun prefix and the SVA markers might be semantic, since some of the overgeneralizations that were made by the subjects were semantic. For instance, all nouns that denoted humans were assigned the SVA marker /u-/ of class 1/2, while some of the nonhuman nouns were assigned the SVA marker /ku-/ of class 15.

Now let us look at the results for the OVA markers.

7.2.2. The Results for Object-Verb-Agreement (OVA)

The following results on OVA markers were obtained from Tasks 1 (Words and Pictures) and 2 (Words Alone):

<table>
<thead>
<tr>
<th>Nouns Used</th>
<th>Number</th>
<th>Class</th>
<th>Adult</th>
<th>Subjects</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) um-tjeki</td>
<td>sg.</td>
<td>1/2</td>
<td>-m</td>
<td>-m</td>
</tr>
<tr>
<td>ba-tjeki</td>
<td>pl.</td>
<td>1/2</td>
<td>-ba</td>
<td>-ba</td>
</tr>
<tr>
<td>b) Ø-zave</td>
<td>sg.</td>
<td>1a/2a</td>
<td>-m</td>
<td>-m</td>
</tr>
<tr>
<td>bo-zave</td>
<td>pl.</td>
<td>1a/2a</td>
<td>-ba</td>
<td>-ba</td>
</tr>
<tr>
<td>c) um-tshafa</td>
<td>sg.</td>
<td>3/4</td>
<td>-wu</td>
<td>-m</td>
</tr>
<tr>
<td>imi-tshafa</td>
<td>pl.</td>
<td>3/4</td>
<td>-yi</td>
<td>-yi-(S&lt;sub&gt;7&lt;/sub&gt; &amp; S&lt;sub&gt;8&lt;/sub&gt;)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-ba/-yi-(S&lt;sub&gt;9&lt;/sub&gt;)</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Nouns Used</th>
<th>Number</th>
<th>Class</th>
<th>Adult</th>
<th>Subjects</th>
</tr>
</thead>
<tbody>
<tr>
<td>d) li-tafa</td>
<td>sg.</td>
<td>5/6</td>
<td>- li-</td>
<td>- li-</td>
</tr>
<tr>
<td>ema-tafa</td>
<td>pl.</td>
<td>5/6</td>
<td>- wa-</td>
<td>- wa-</td>
</tr>
<tr>
<td>e) si-tshafa</td>
<td>sg.</td>
<td>7/8</td>
<td>- si-</td>
<td>- si-</td>
</tr>
<tr>
<td>ti-tshafa</td>
<td>pl.</td>
<td>7/8</td>
<td>- ti-</td>
<td>- ti-</td>
</tr>
<tr>
<td>f) in- tshafa</td>
<td>sg.</td>
<td>9/10</td>
<td>- yi-</td>
<td>- yi-</td>
</tr>
<tr>
<td>tin-tshafa</td>
<td>pl.</td>
<td>9/10</td>
<td>- ti-</td>
<td>- ti-</td>
</tr>
<tr>
<td>g) lu-zaka</td>
<td>sg.</td>
<td>11/10</td>
<td>- lu-</td>
<td>- li-</td>
</tr>
<tr>
<td>tin-zaka</td>
<td>pl.</td>
<td>11/10</td>
<td>- ti-</td>
<td>- ti-</td>
</tr>
<tr>
<td>h) bu-zaka</td>
<td>sg.</td>
<td>14</td>
<td>- bu-</td>
<td>bu- (S₇)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ba-/bu-(S₈ &amp; S₉)</td>
</tr>
<tr>
<td>i) ku-zaka</td>
<td>sg.</td>
<td>15</td>
<td>- ku-</td>
<td>- ku-</td>
</tr>
</tbody>
</table>

In 7.27, if we compare the OVA markers that were used by the subjects with those of adult speakers, we notice that they are similar except in classes 3/4, 11/10, and 14, where the subjects used different OVA markers.

In class 3/4, all the subjects used /-m-/ as the singular OVA marker instead of the expected /-wu-/ in adult speech. The /-m-/ used by the subjects is similar to the OVA marker of class 1/2 singular.

In class 3/4, S₇ and S₈ used /-yi-/ as an OVA marker as in adults, but S₉ started off by using /ba-/ when she was giving a response in both tasks (words and pictures; or words alone) and then used /-yi-/. This might suggest that S₉ was not sure which OVA marker she should use with nouns that use /imi-/ as a plural prefix. We may recall that the subjects used /bo-/ as a plural prefix for nouns in this class. The /-ba-/ is similar to the plural OVA marker of class 1/2.

In class 11/10, the subjects used the OVA marker /-li-/ instead of the expected /-lu-/.

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nouns of class 11/10, the subjects used the prefix /-li-/ of class 5/6 instead of the expected prefix /-lu-/ in adult speech.

In class 14, Sg and Sg started off by using /ba-/ as an OVA marker for this class, then changed to /bu-/. I am not sure why these subjects did that because the dummy noun **bu-zaka** was used with a singular meaning and not a plural one. If it were used with a plural meaning, then the use of /-ba-/ as an OVA marker could have been justified since the children assigned /bo-/ as a plural prefix of that class. One possible explanation I could give is that they might have perceived /bu-/ as /bo-/, thus using /ba-/ as an OVA marker, because they changed to /-bu-/ when I repeated the question.

To sum up, the subjects used the correct forms of OVA markers except in class 3/4 singular where they used /-m-/ instead of the expected /-wu-/.

They used /-m-/ instead of the expected /-wu-/ simply because the singular noun prefixes /umu-/ of classes 1/2 and 3/4 are similar. They also used the same plural prefix /bo-/ for both classes, which would justify their use of /-m-/.

In class 11/10, the subjects used /-li-/ as an OVA marker because, as we noticed, all the adult singular nouns of this class were used with the singular prefix /li-/ of class 5/6.

These data on the OVA markers again seem to show that the relationship between the noun prefixes and their respective OVA markers is morphological rather than semantic. Now let us look at the results of the possessive agreement markers.
7.2.3 The Results for the Possessive-Agreement Markers (PA)

The following results are a summary of two tasks: Task 1 (Words and Pictures) and Task 2 (Words Alone):

<table>
<thead>
<tr>
<th>(7.28) Class</th>
<th>Nouns Used</th>
<th>Adult PA-PM-Pref-Stem</th>
<th>Subjects PA-PM-Pref-Stem</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) 1/2</td>
<td>um-tjeki</td>
<td>w -e - si -lwane</td>
<td>w -e - si -lwane</td>
</tr>
<tr>
<td></td>
<td>ba-tjeki</td>
<td>b -e - si -lwane</td>
<td>b -e - si -lwane</td>
</tr>
<tr>
<td>b) 1a/2a</td>
<td>Ø-zave</td>
<td>w -e - si -lwane</td>
<td>w -e - si -lwane</td>
</tr>
<tr>
<td></td>
<td>bo-zave</td>
<td>b -e - si -lwane</td>
<td>b -e - si -lwane</td>
</tr>
<tr>
<td>c) 3/4</td>
<td>um-tshafa</td>
<td>w -e - si -lwane</td>
<td>w -e - si -lwane</td>
</tr>
<tr>
<td></td>
<td>imi-tshafa</td>
<td>y -e - si -lwane</td>
<td>y -e - si -lwane</td>
</tr>
<tr>
<td>d) 5/6</td>
<td>li-tafa</td>
<td>l -e - si -lwane</td>
<td>l -e - si -lwane</td>
</tr>
<tr>
<td></td>
<td>ema-tafa</td>
<td>O -e - si -lwane</td>
<td>O -e - si -lwane</td>
</tr>
<tr>
<td>e) 7/8</td>
<td>si-tshafa</td>
<td>s -e - si -lwane</td>
<td>s -e - si -lwane</td>
</tr>
<tr>
<td></td>
<td>ti-tshafa</td>
<td>t -e - si -lwane</td>
<td>t -e - si -lwane</td>
</tr>
<tr>
<td>f) 9/10</td>
<td>in-sikho</td>
<td>y -e - si -lwane</td>
<td>y -e - si -lwane</td>
</tr>
<tr>
<td></td>
<td>tin-sikho</td>
<td>t -e - si -lwane</td>
<td>t -e - si -lwane</td>
</tr>
<tr>
<td>g) 11/10</td>
<td>lu-zaka</td>
<td>lw-e - si -lwane</td>
<td>l -e - si -lwane</td>
</tr>
<tr>
<td></td>
<td>tin-zaka</td>
<td>t -e - si -lwane</td>
<td>t -e - si -lwane</td>
</tr>
<tr>
<td>h) 14</td>
<td>bu-zaka</td>
<td>b -e - si -lwane</td>
<td>b -e - si -lwane</td>
</tr>
<tr>
<td>i) 15</td>
<td>ku-zaka</td>
<td>kw-e - si -lwane</td>
<td>kw-e - si -lwane</td>
</tr>
</tbody>
</table>

In 7.28, if we compare the possessive agreement markers used by the subjects, we notice that they are similar to those of an adult speaker, except in class 11/10 singular. The subjects used /l/-/ (of class 5/6 singular) as a possessive agreement marker instead of the adult possessive agreement marker /lw-/- of class 11/10. We noticed earlier that these classes 5/6 and 11/10 have similar noun prefixes: class 5/6 singular prefix is /li-/-, and class 11/10 singular prefix is /lu-/-.

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the subjects used class 5/6 singular prefix /li-/ instead of /lu-/, which is the singular prefix of class 11/10. Thus, the subjects used possessive agreement markers of class 5/6 singular instead of the possessive agreement markers of class 11/10 singular in adults.

Again, the PA markers seem to be morphologically conditioned, thus supporting Strategy 1. Now, let us look at overgeneralizations that were made by the subjects in handling the agreement markers.

7.3. Discussion

7.3.1 Morphological Generalizations

The results of the two Tasks 1 (Words and Pictures) and 2 (Words Alone) were similar for the OVA markers and the possessive agreement markers. The generalizations that were brought out by these data were morphological rather than semantic. For instance, in the case of the OVA markers, class 3/4 was assigned the singular OVA marker /-m-/ of class 1/2 simply because the noun prefix of that class is /umu-/ like that of class 1/2. The OVA marker for class 3/4 singular should have been /-wu-/

The results of the first two tasks were also similar for SVA markers. For instance, if the noun given used the plural prefix /bo-/ then the SVA marker that the subject used with this prefix would be /ba-/. This was also true even if the noun given as a response had an inappropriate prefix: the subjects simply used the SVA marker of the class that goes with the inappropriate prefix used. For instance, we noticed that the subjects gave the plural form of class 3/4 as /bo-/

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instead of the expected /imi-/., then used /ba-/ as an SVA marker instead of /i-/.

7.3.2. Semantic Generalization

In the story telling task, the subjects focused their attention on the meaning of the dummy noun that was being introduced. If the introduced noun denoted humans, then in the process of story telling the subjects used the SVA marker /u-/ of class 1/2 (which contains nouns that denote humans only) instead of the expected SVA marker that "agreed" with the noun prefix of the dummy noun. In other words, dummy nouns that denoted humans were used with the SVA marker /u-/ in the story, while nonhuman nouns elicited the SVA marker /ku-/ of class 15. This implies that the subjects at this point were making semantic overgeneralizations.

To sum up, the OVA markers and the possessive agreement markers showed some morphological generalizations. This was true also for SVA markers in the results obtained by Tasks 1 and 2. But in the story telling task, the SVA markers showed some semantic overgeneralizations. The reason might be that in story telling, the subjects might divide their world into humans and nonhumans. However, one cannot make this claim with confidence unless the experiment is repeated with a large number of children.

7.4 The Noun Prefixes and Agreement Markers

The data presented in Chapter 6 showed that agreement markers emerge before noun prefixes. In the experimental data on Chapter 5,
we noticed that subjects $S_7 - S_9$ had acquired classes 1a/2a, 5/6; classes 7/8 and 9/10 were treated as one class; and that class 11/10 was missing. Classes 1/2, 3/4, 14, and 15 used one plural prefix marker /bo-/ and yet in adult speech we noticed that these classes use different plural prefixes.

In this chapter we noticed that the subjects had no problem in handling possessive agreement markers; in the case of OVA markers, they had one "mistake" in class 3/4 singular, where the subjects used the OVA marker /-m-/ instead of /-wu-/ . The OVA marker /-m-/ should be used with nouns of class 1/2 singular. In the case of SVA markers, the subjects again used the plural SVA marker /ba-/ with nouns of class 3/4 plural instead of the expected /imi-/. The "error" of using class 1/2 agreement markers for class 3/4 nouns suggests that the subjects have not yet made a distinction between classes 1/2 and 3/4. The distinction between these two classes is semantic in nature, namely, nouns of class 1/2 contain nouns that denote humans and those of class 3/4 are nonhuman. Thus, classes 1/2 and 3/4 are treated as one class by subjects; therefore, they have to use identical agreement markers.

The results for the story telling task suggested that the subjects were making semantic distinctions among SVA markers, and yet this distinction was not made in nouns, especially in nouns of class 1/2 and class 3/4. This implies that the singular/plural relationship in nouns is morphologically controlled in the 4-6 year-olds; and this is true for some agreement markers such as OVA markers, possessive agreement markers, as well as the SVA markers to
a certain extent. But in the story telling task, the SVA markers appear to have been at least partially semantically controlled.

These data suggest that, at the age of 4-6 years, children are capable of using appropriate agreement markers in their utterances, and that they are capable of using appropriate singular and plural noun prefixes.

7.5 Conclusion

In this chapter we were looking at the experimental data on the SVA markers, the OVA markers, and the PA markers. We proposed three strategies that the child might use in handling these agreement markers. We proposed that a child might use morphological generalizations in acquiring these agreements (Strategy 1), or that she/he may use semantic overgeneralizations (Strategy 2), or that she/he may use morphological-semantic overgeneralizations (Strategy 3). We pointed out that it would be difficult to go about proving Strategy 3.

In looking at the SiSwati data, we noticed that the subjects made overgeneralizations that were morphological in nature, especially in the data obtained from Tasks 1 (Words and Pictures) and 2 (Words Alone). In Task 3 (Story Telling) the results were not similar to those of the first two tasks, in that in story telling the children used one SVA marker for nouns denoting humans and another SVA marker for nouns denoting nonhumans. This implies that in Tasks 1 and 2 the subjects made morphological overgeneralizations, thus supporting Strategy 1, while in Task 3 (Story Telling) the subjects
made semantic overgeneralizations, thus supporting Strategy 2. I am not in a position of saying with certainty why the subjects made use of morphological overgeneralizations in Tasks 1 and 2 and semantic ones in Task 3, but I can offer a speculation: in Tasks 1 and 2 the subjects' responses were somehow controlled, in that the subjects were given a form and the only thing they needed to do was to supply a different form of that morpheme. Thus, the subjects in these tasks were required to do just one thing, namely, to give the required form of the given morpheme. In story telling, however, the subjects were not only required to supply the form of the given morpheme, but in addition, they were required to use the responses they gave in sentences as they related their stories. Thus, this task involved more subtasks of the subjects than the first two tasks. Since this was the case, the subjects made more "errors" in the story telling task than in the first two tasks. For instance, we noticed that the subjects used SVA markers that were not morphologically related to the noun prefix of the noun they gave as a response the more they got involved in their stories. This implies that the children made these "errors" simply because they had to handle a number of linguistic operations in story telling than they had to in the first two tasks. This, therefore, might have been the reason why they made those "errors" in the story telling task but not in the first two tasks.

In comparing noun prefixes and agreement markers, we noticed that there were more appropriate agreement markers used by the subjects than there were appropriate noun prefixes.
Let us now draw some conclusion on the basis of the data discussed in these chapters.
Chapter 7

FOOTNOTES

1

An absolute pronoun traditionally is defined as a pronoun that can replace a noun phrase, but unlike the SVA markers or OVA markers, absolute pronouns can occur as bound morphemes or unbound morphemes, e.g.:

a) Ng1 - funa    si-nkhwa
   SVA - want    pref.-bread
   'I want bread.'

b) Ng1 - funa    sona (Unbound)
   SVA - want    it (bread)
   'I want it.'

c) i) Ng1 - funa  li - kati  l - e - si  - lima
   SVA - want    pref. - cat PA - PM - pref. - fool
   'I want the fool's cat.'

ii) Ng1 - funa   li - kati  l - a - so (fool)
   SVA - want    pref. - cat PA - PM - pro. (bound)
   'I want it's cat.'

In (b), sona 'it' occurs as an unbound morpheme, and it refers to the deleted noun si-nkhwa 'bread'. In (c, ii), the so 'it'; is actually from sona 'it' after deleting the -na. After the /-na/
deletion it is used as a bound morpheme and it refers to the deleted noun si-lima 'fool'.

In SiSwati, as in most Bantu languages, see Givón (1970), when two nouns from two different noun classes are conjoined, there is a problem of which SVA agreement to use. Each language in Bantu has solved this problem differently. For instance, in SiSwati, if the two conjoined nouns are human, then the SVA marker used is that of class 1/2 /ba-/; but if the conjoined nouns are both nonhuman, then the SVA marker /ku-/ of class 15 is used, e.g.:

a) um - fati ne-n -dvodza ba-ya-hamba
   prefix - woman(1/2) with-pref.-man(9/10) SVA(1/2)-ya-hamba
   'The man and a woman are walking.'

b) si - bungu ne-li -gundvwane ku-ya-hamba
   prefix - woman(7/8) with-pref.-rat(5/6) SVA(15)-ya-go
   'The worm and a rat are going.'

Such constructions are avoided in the language by using the following structures:

c) um - fati u - hamba ne-in-dvodza
   prefix - woman(1/2) SVA(1/2) - go with-prefix-man
   'A woman is walking with a man.'

d) si - bungu si - hamba ne-li-gundvwane
   prefix - woman(7/8) SVA(7/8) - go with-prefix-rat
   'A worm is walking with a rat.'
Chapter 8

SUMMARY AND CONCLUSIONS

8.0 Introduction

The aim of this study was to investigate the order of acquisition of nouns and some affixes that can be used with the nouns, such as the locative affixes /e---ini/; etc., as well as some agreement markers; and to see how these data tie up with the claims that have been made by other investigators in dealing with language acquisition. These data were also collected with an idea that they would help in shedding some light on the status of certain grammatical morphemes, viz., the noun prefixes and their relationships to agreement markers. Since this is a pioneering work, it did not focus on the detailed study of the development of each morpheme discussed, but rather it looked at the emergence of different morphemes in relation to each other.

The data collected for the purpose of this study consist of spontaneous data and experimental data. The spontaneous data used in this study were obtained mainly from two subjects: Cimcim, who was 26 months when the research began and 36 months when the research terminated, and Zwane, who was interviewed from the age of 35 months to 42 months. The subjects that were used for the experimental data were older than Cimcim and Zwane (4½-6 years). The reasons for using older subjects for experimental data were the following:

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(a) - a number of problems were encountered in running experiments
with subjects younger than 3½ years-old. They did not give responses
and at times they simply shrugged their shoulders. (b) - the older
subjects were used also so as to find out whether the noun class
system as well as the studied agreement markers were already mastered
by the age of 4½-6 years old.

While these data are nonconclusive in that the study was
pseudo-longitudinal in nature, and in that there were few subjects
that were used both in the spontaneous and the experimental data, we
can still make some tentative observations on the basis of these data.

8.1 Observations

The observations that were made on the basis of the data
collected in this study were the following:

(1) In SiSwati, as in most Bantu languages, a noun consists of
two morphemes; viz., a prefix and a stem. Since this is the case, we
advanced a number of strategies that a child might make use of in
acquiring nouns. The child might acquire nouns as a unit, that is,
produce both prefix and a stem in nouns, or she/he might acquire the
morphemes of the noun separately; the choice then would be stems
before prefixes or prefixes before stems.

Looking at the SiSwati data we noticed that the child acquired
the nominal stems before nominal prefixes. In cases of monosyllabic
stems as well as disyllabic stems that are vowel initial, we noticed
that the stems were acquired together with their prefixes. For
instance, the noun lu-tshi 'straw' was acquired as a unit by Cimcin,
because when she acquired the prefixes later she rendered the singular form as li-lutshi 'straw' and the plural form as ti-lutshi 'straws'; instead of the expected lu-tshi 'straw' and tin-tshi 'straws' in adult speech. We also noticed that Zwane acquired the noun si-su 'stomach' as a unit, because he gave ti-sisu 'stomachs' as the plural form, instead of the adult plural ti-su for 'stomachs.' From these as well as other similar examples discussed, we noticed that the SiSwati data support the strategy that nominal stems are acquired before their nominal prefixes.

One possible explanation that was given as to why nominal stems emerged before nominal prefixes was based on McNeill's observation, namely, that during the telegraphic speech stage, children usually omit function words and retain content words, e.g. "gone suitcase" (McNeill, 1970). Since the meaning of the noun is contained in the noun stem, that might be the reason why the noun stems are acquired before nominal prefixes, simply because they are content words, while the prefixes are function words (morphemes). We also noticed that tone and stress seem to play no role in the acquisition of nominal stems before prefixes.

(2) We noticed that the nominal prefixes started to show up at the age of 30 months in Cimcim utterances, and that meanwhile she used possessive pronouns in order to mark number in the prefixless nouns. In other languages such as English, Latvian, German, etc., it has been observed that children use words such as 'many,' 'some' etc., or numbers 'one,' two,' etc., in order to mark plurality in
nouns before the children could make use of the appropriate grammatical morphemes, e.g. 'two shoe' (Rūke-Dravina, 1959).

When the prefixes finally emerged, some nouns used singular prefixes before using their plural alternatives while others used plural prefixes before using their singular alternatives.

(3) The locative markers in SiSwati consists of two discontinuous morphemes /e-/-ini/. In acquiring these morphemes we advanced some strategies that a child might use in acquiring these morphemes. We pointed out that a child might acquire the suffix /-ini/ before the prefix /e-/; or that she/he may acquire the prefix /e-/ before the suffix /-ini/; or that she/he may acquire these morphemes simultaneously.

Looking at SiSwati data, we noticed that the suffix /-ini/ emerged before its prefix counterpart /e-/. In verbs too, we noticed that the recent past tense marker /-ile/ emerged earlier than any prefixal morphemes that can be prefixed before the verb radical. Thus, these data support the emergency of suffixes before prefixes. That suffixial morphemes emerge before prefixal ones has been observed in many languages.

One of the possible reasons that was used in trying to explain the acquisition of suffixes before prefixes was Slobin's (1973) Universal A1 and Principle A. Slobin pointed out that if a semantic notion in a language is grammatically marked by use of a suffix, and in another language is marked by use of prefixes, then this notion will be marked earlier in a language that expresses it by means of suffixes than in the language that express the same semantic notion.
by use of prefixes. Slobin pointed out that this was simply because the suffixes were in a more perceptually salient position than the prefixal morphemes. That might be one of the possible reasons why the locative suffix marker /-ini/, the recent past tense marker /-ile/ were acquired earlier than the locative marker /e-/ and any prefixal morpheme that can be affixed before the verb radical.

We will recall that the locative prefix /e-/ and the noun prefix come before the nominal stems. For instance, in the locative construction; e-si-hlahl-eni 'on the tree' we notice that the /e-/ precedes the nominal stem -hlahla 'tree.' Focusing our attention on the locative prefix and the nominal prefix, we noticed that the locative /e-/ emerged before the nominal prefix prefixes. One possible explanation for this is that the noun prefix in these constructions is situated in the least perceptible slot, as opposed to the locative prefix /e-/, which occurs initially.

Thus, the order of acquisition of the morphemes of the noun and the locative affixes that have been discussed seems to be as follows:

a) - nominal stems (verb radicals)
b) - locative suffix: /-ini/ (recent past tense marker /-ile/)
c) - the locative prefix /e-/  
d) - finally the noun prefixes

(4) To recapitulate, from the data we discussed in this study, we noticed that the noun prefixes and the agreement markers emerged later than the suffixal morphemes such as locative markers /-ini/ and the recent past tense markers /-ile/. Focusing our
attention on the prefixal morphemes we proposed a number of possible orders that a child might make use of in acquiring these morphemes. The data supported the following order of acquisition of these morphemes:

a) - the SVA markers.
b) - the PA markers (in the N+N construction)
c) - the noun prefixes
d) - the OVA markers.

One factor that might be responsible for this order of acquisition of the above morphemes - in Cincim's data - is perceptual salience. Dennys (1977) pointed out that the initial position of a word seems to be perceptually salient. De Villiers (1973), pointed out that children seem to acquire the contracted forms before the non-contracted ones. In both Denny's and de Villiers' observations, the middle of the word is omitted, probably because it is less perceptible. The SVA markers and the PA markers are located at the leftmost position of a construction whenever they are used, while the OVA markers always occur in the middle of some word. The noun prefixes also occur at the initial position, but when they are used in a locative construction as well as possessive constructions then they fall in the middle of the word. Thus, the SVA markers and the PA markers might have been acquired earlier because they occur in a more perceptible part of the word than the noun prefixes and the OVA markers. This will also be true for the locative prefix /e-/.

Another observation we made in connection with the acquisition of these morphemes is that the morphemes emerged gradually rather
than suddenly, as was observed in other languages such as Russian and English. When the morphemes emerged in SiSwati, they were not used in all the environments but they were first used in a few environments and later in more environments.

(5) On the basis of the data discussed in this study, the order of acquisition of nominal and agreement markers seems to be as follows:

a) - nominal stems and verb radicals.

b) - some suffixal morphemes such as locative and the recent past tense.

c) - the possessive pronouns - especially those of first and second person.

d) - in few instances, (in my case, I had three utterances from Cimcim of the age of 27-28 months) the locative prefix /e-/ was used. Therefore, it is questionable whether it falls here in the order of acquisition of these morphemes.

e) - the SVA markers.

f) - the PA markers.

g) - the Noun prefixes.

h) - the OVA markers.

(6) The children acquiring SiSwati seem to have found the class noun system regular to a certain extent, since they were capable of giving singular or plural forms of the given nonsense words.
The subjects also used the process of overgeneralization in acquiring the above morphemes. In nouns most of the overgeneralizations that were made by the subjects were morphological in nature. For instance, when subjects were given a nonsense noun *ema-safa* they gave the singular form as *li-safa*, because the singular prefix /li-/ in adult speech corresponds to the plural prefix /ema-/. They did not make semantic overgeneralizations in acquiring noun classes.

There were other types of overgeneralizations that the subjects made. For instance, they regularized irregular forms of nouns e.g., *ti-nkhosi* 'kings' was given as a plural form for noun *in-khosi* 'king' instead of the adult form *ema-khosi* 'kings.' They also pluralized nouns that do not have a plural form. For instance, the noun *in-gati* 'blood' was rendered as *tin-gati* 'bloods;' *si-sa* 'kindness' was rendered as *ti-sa* 'kindesses.' Nouns that do not have singular alternatives were rendered singular. For instance, the mass noun *ema-finya* 'mucus' was rendered as *li-finya* 'a drop of mucus' etc. At times subjects used multiple prefixes on one form, probably because they failed to segment their nouns like adults. For instance, we noticed that Cimcim used forms like *li-lu-tshi* for 'straw' and *ti-lu-tshi* for 'straws.' In the experimental data we noticed that forms like *bo-m-lumbi* for 'whitemen' used two prefixes the plural prefix /bo-/ of class 1a/2a and the singular prefix /-m-/ of class 1/2.

In the data on agreement markers, we noticed some morphological overgeneralizations. These implied that the subject used morphology as a criterion on the process of acquiring agreement
markers. But we also noticed, from limited data, some semantic over-
generalizations in the story telling task. These data implied that
the subjects were using semantics as a criterion in acquiring agree-
ment markers. Therefore, there are discrepancies between the results
of these experiments. The discrepancies in the results might be
attributed to the fact that, in story telling the task involved more
subtasks of the subjects than the first two tasks. That might be
reason why subjects made more "errors" in this task. These experi-
ments need to be carried out with a large number of children in
order to see whether the subjects will make the same types of over-
generalizations in these tasks. At present one can only speculate
that, since in the story telling the child is left free to talk about
the noun introduced, thus dealing with a number of subtasks, the
child reverts to his or her own simple "world" where the nouns might
be semantically categorized into human and nonhuman.

(7) We also noticed that the noun classes were not fully
mastered at the age of 4½-6 years; and that there were more
appropriately used agreement markers than there were noun prefixes.
For instance, we noticed that the children never used the plural
prefix /imi-/ of class 3/4, and yet when given an adult noun with
/imi-/ they were capable of using the correct SVA marker /i-/. This
led us to the next point.

The noun prefixes and the agreement markers might show certain
grammatical or semantic similarities, but since agreement markers are
acquired earlier than the noun prefixes, it seems to me that they
should not be derived from noun prefixes, but that the two morphemes
- the noun prefixes and the agreement markers - should be considered as related but distinct morphemes. The question as to how should these morphemes be represented etc., is beyond the scope of this study.

(8) Finally, we also observed that the data obtained by experiments and the spontaneous data showed certain discrepancies. As was pointed out earlier, both types of data are important because they seem to complement each other. The information we get from spontaneous data are limited to the milieu of the child. This implies that some of the forms on constructions under study might not be represented in the spontaneous data. Thus, the spontaneous data might have biased information, while the experimental data will contain less or no information that can be attributed to rote learning.

8.2 Conclusion

As pointed out earlier, this study was mainly interested in looking at the order of acquisition of certain SiSwati morphemes in respect to one another. In the abstract, we noticed that some of the orderings can be accounted for in terms of observations made by some scholars including McNeill (1970), and Brown and Fraser (1963). The nominal stems were acquired before the nominal prefixes simply because they are content morphemes.

The acquisition of the locative suffix /-ini/ before its prefix counterpart /e-/ was accounted for by Slobin's (1973) principle A which is morphologically expressed through Universals Al and
El. And the acquisition of the SVA markers, PA markers, and the noun prefixes before the OVA markers was explained by the principle of perceptual salience hierarchy.

There remains, however, a residue of material which we cannot yet explain on the bases of these principles or observations, which deserves further study. For instance, the SVA markers, the PA markers, and the noun prefixes, all occur at the beginning of a construction or word. On the basis of the principle of perceptual salience hierarchy one would expect a simultaneous acquisition of these morphemes. But we noticed that the SVA markers were acquired before the PA markers, and the PA markers before the noun prefixes. We also noticed that the order of acquisition of these morphemes cannot be explained by Brown's (1973) law of cumulative complexity. Therefore, this implies that there is still work to be done in order to find explanations for the order of acquisitions of these morphemes and other morphemes that occur in SiSwati.

Although this study was pseudo-longitudinal in nature, and based on utterances of few subjects, it does make a contribution to the field of language acquisition in that it has increased the base of availability of data in the field of language acquisition. It is also the first work to furnish data on the acquisition of noun prefixes, noun classes, and the agreement markers that were discussed in this study. This abstract also tested some of the claims that were made on language acquisition, on the basis of languages that are different from SiSwati. It also shed some light as to the tentative
order of acquisition of the morphemes discussed; what is regular in the SiSwati noun class system.

Since this work used few subjects, more work need to be done with a large number of children to see whether their data will confirm the order of acquisition etc., of the morphemes that were discussed.
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