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A GRAMMAR OF ANGAS.

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UNIVERSITY OF CALIFORNIA

Los Angeles

A Grammar of Angas

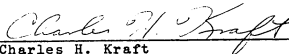
A dissertation submitted in partial satisfaction of the  
requirements for the degree Doctor of Philosophy  
in Linguistics

by

Donald Arden Burquest

1973

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1973

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## PUBLICATIONS

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ABSTRACT OF THE DISSERTATION

A Grammar of Angas

by

Donald Arden Burquest

Doctor of Philosophy in Linguistics

University of California, Los Angeles, 1973

Professor Barbara H. Partee, Chairman

Angas is a member of the Plateau Cluster of the Plateau-Sahel Group of the Chadic language family. It is the first language of approximately 130,000 persons living in Benue-Plateau State in northern Nigeria. This dissertation is based upon field research conducted during a period of residency in the Angas area from January 1968 to April 1970.

Angas is not an unstudied language, but presentations of the grammar have to this point been very incomplete. This is the first attempt to present a complete description of Angas grammatical structure within the framework of modern linguistics. A transformational model similar to that developed in Chomsky's Aspects of the Theory of Syntax is used, with discussions of nominalization and pronominalization forming major sections. Phonology is discussed only briefly, with the reader referred to a published study by the author.

When compared to other Chadic languages (Dera, Ga'anda, Hausa, Margi, Sura, and Tera are referred to in the

dissertation), Angas is at times conspicuous both in the rules which it omits and in those which it has. Further, in the literature the classification of Angas has been the subject of some dispute. The discussion is reviewed and further relevant data brought to light. Included in the relevant discussion are: (1) evidence for the presence in Angas of the Chadic mu- prefix of location, agent, and instrument, which appears as a preposition and in an alternate form of specific lexical items when occurring in nominalized constructions; (2) a hypothesis regarding the origin of third person pronominal forms in Angas which are not typically Chadic (the plural form appears to be an extension of the pluralizing morpheme, while the non-characteristic singular form appears to be related to the -ka of the Hausa relative perfective aspect).

This description is limited for the most part to the sentence as the highest unit of discourse. Some comments are made which refer to structure larger in scope than the sentence, but they are not formulated.



## Chapter 1

### Introduction

The Angas language is the first language of about 130,000 people living in Pankshin Division, Benue-Plateau State, in northern Nigeria. Although not at all well known, Angas is not an unstudied language, and in fact a grammar was written by a government official as early as 1915 (Foulkes 1915). Nevertheless, its classification has been somewhat in doubt. My intention here is not to dispute its classification, but because of its somewhat non-typical characteristics as a Chadic language some comments are necessary.

In his pioneering work in African language classification, Greenberg (1963, page 46) proposed nine groups of Chadic languages, including Angas as one of the members of a subgroup of Group 1. In his discussion, Greenberg suggested seven Afroasiatic features pertaining to grammatical formatives which are commonly found in Chadic languages. These characteristics are summarized in (1):

- (1) 1. feminine formative ɛ
2. k/t masculine/feminine opposition
3. n connective between nouns in a genitive construction
4. characteristic plural formation (doubling of final C with e added, internal change of

vowel to a, suffix of -en, internal change  
of vowel to a plus suffix of -en)

5. phonological correspondences in pronouns

6. verbs with w- in perfective but lacking it  
in other forms

7. m- prefix of place, agent, instrument

Of these characteristics Angas is totally lacking in four  
and has the other three only in a minimal way. It does have  
some evidence of an internal vowel change to a in plural  
forms which is one of the characteristics, but never in  
nouns. Note the examples in (2):

(2)	<u>sg</u>	<u>pl</u>	
	tu	cwa	'to kill' (cf. Sura <u>twa</u> )
	fwiin	fwan	'to untie'
	piin	pyan	'to break'
	pus	pwas	'to shoot'
	cen	can	'to cut'
	kun	kwan	'to grow'

Further, there is some data which can possibly be interpreted  
as evidence of the existence of an m- prefix of place, agent,  
and instrument. In the Agent nominal construction (see  
Chapter 5), the two most common nouns which occur as the  
first noun are go 'person' and bi 'thing', representing  
semantically the functions of agent and instrument. These  
two morphemes occur with prenasalization in this construction,  
and they are the only ones to do so. Some examples are  
given in (3):

(3)	ŋgò-karm	nam	'butcher'
	person-killing	animal	
	m <sup>h</sup> bii-karm	nam	'butchering tool'
	thing		

Compare these forms with those of (4), where go and bii occur without prenasalization when not in this construction, and where other morphemes do not have prenasalization, even when occurring in Agentive nominal constructions:

(4)	go	ce	'someone'
	person	a	
	bii	ce	'something'
	thing		
	lù-yin		'dispensary'
	hut-medicine		
	tà-r-fwan		'rainy season'
	moon-rain		

Possibly, the prenasalization with these two morphemes can be interpreted as a remnant of the historical m- prefix of agent and instrument; there is a large degree of form-meaning correspondence. Also, there is in Angas a preposition n- which denotes location which may be a remnant of the locative use; some examples appear in (5):

(5)	n-lù	'in the hut'
	n-wòk	'in the compound'
	n-kàsuwa	'in the market'

The third characteristic which Angas manifests is pronominal similarity, the full discussion of which may be found in Chapter 11. The other four features are totally lacking, and as shown by the data above the two mentioned here occur only in a restricted way. By contrast with Angas, Hausa has

at least five of the seven features and in fairly full manifestation (characteristic plural formation and the y-perfective are lacking as far as I know). In Greenberg's study, however, he concluded that lexical correspondences were of sufficient number and quality to allow Angas still to be treated as a Chadic language, in spite of its notable lack of the majority of the typically Chadic features.

The tentativeness of his proposal, however, is shown by another paper published at the same time by Jungraithmayr which carries the title "On the Ambiguous Position of Angas". In this paper Jungraithmayr reiterates Greenberg's Afroasiatic features of Chadic and includes a portion of a list of the same sorts of features compiled by Lukas. He claims that Angas does not manifest these features, and as I have shown above the Angas manifestation is only partial at best. Jungraithmayr concludes (1963: 275-276):

If we compare the morphological and structural features of Angas and Sura with those of the Ron-dialects and further with the 'classical' chadohamitic languages like Hausa, Bade, Logone or Mubi, we start wondering why we have classified Angas and Sura... within the Afroasiatic or Hamito-Semitic family.

Jungraithmayr's procedure in the paper is to compare Angas with several other languages. He first compares it with Sura and establishes a close relationship between the two. Then he compares Angas and the Ron languages (also Chadic), Angas and Hausa, and Angas and Ibibio (a Benue-Congo language). He finds several similarities between Angas and Sura on the one hand and Ibibio on the other, which include the following:

(6) plural verb stems

characteristic tone pattern for the genitive relation (treated in this dissertation as Compound Nouns), with one noun having low tone (the modified (preceding) in Angas, and the modifying (following) in Ibibio)

existence of so-called "reported speech" pronouns (treated in this dissertation as third person pronouns identical in reference to certain others occurring in the same context with a restricted class of verbs, see Chapter 11)

negative occurring in final position and with a kV phonological shape

third person plural pronoun mva (mo in Sura), which bears close similarity with the respective pronoun mmo in Ibibio

nin 'cattle' in Angas and Sura, which bears close similarity with the Ibibio nan rather than to the Chadic root

Jungraithmayr suggests that these similarities might be explained by the possibility of a non-genetic underlying stratum common to the languages involved. He concludes his article with the statement (page 278):

After all these indications we come to the conclusion that the linguistic position of Angas--and its numerous relatives--is somewhat ambiguous, but not to that extent that its exclusion from the Chad family would be sufficiently justified.

He includes Angas as a language of the "Western Group" of Chadic equivalent to Greenberg's Group 1.

In 1966 Newman and Ma published a paper on comparative Chadic phonology and lexicon, in which they developed certain sound changes within Chadic and its subgroups and reconstructed nearly 150 proto-forms. They combined Greenberg's groups 3 and 6 into what they call the Biu-Mandara Group (now Biman) and his groups 1 (including Angas) and 9 into the Plateau-Sahel Group (now Platel). Within each group were five clusters of languages, organized again on the bases of traditional historical linguistics. Greenberg's remaining groups were not classified. (7) contains a list of Platel Clusters and their member languages as compiled by Newman and Ma:

(7)

<u>Hausa Cl</u>	<u>Ngizim Cl</u>	<u>Bolewa Cl</u>	<u>Plateau Cl</u>	<u>"Subgroup 9"</u>
*Hausa	Ngizim	Bolewa	*Angas	Jegu
		*Dera	Ankwe	Mubi
		Gasi	Gerka	Sokoro
		Karekare	Montol	Somrai
		Maha	*Sura	Tuburi
		Ngamo		

In this discussion of Angas I will be at times making reference to data from Hausa, Dera, and Sura representing three clusters of Platel (asterisked on the chart); Ga'anda, Tera, and Margi representing two clusters of Biman; and Buduma and Logone from Greenberg's Group 2, not integrated into the Newman-Ma proposals. My intent in presenting information from these six groups of Chadic is simply to compare Angas phenomena with those of other related languages,

not to attempt any formal classification on the basis of syntactic phenomena.

Although there are variations in speech from one area to another among the Angas, these dialectal variations appear to be limited to lexical items, and there is apparently no difficulty in communication among the various local populations.<sup>1</sup> The greatest dialectal divergence is between that form of the language spoken by the so-called "hill" Angas living around Pankshin and on the escarpment of the Jos Plateau, and that spoken by the "plain" Angas living in the valley to the east and southeast.

In addition to the investigations of Angas classification noted above, there have been a few descriptive works published on the language. But in actuality very little has been done on Angas grammatical structure, and nothing to date from a transformational point of view. The major linguistic studies are Foulkes (1915), Jungraithmayr (1964b), and Ormsby (1914).<sup>2</sup>

Foulkes (1915) is especially interesting in the insights it contains. Foulkes was a District Officer, who apparently studied the Angas language in addition to his other duties.

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<sup>1</sup>An exception to this statement is the population of the village of Myet, located to the southeast of the Angas geographical center. The Myet residents consider themselves to be Angas, but their language is not mutually intelligible with that of the other Angas speakers.

<sup>2</sup>Jungraithmayr (1963) refers to "unpublished notes recorded by Dr. Lukas in 1958". To my knowledge these notes are still unpublished and unavailable.

The many demands on his time, coupled with the fact of his lack of linguistic training and the comparatively rudimentary state of descriptive linguistics at the time he wrote, make his work all the more impressive. Foulkes' main aim in his work was to show a relationship between Angas and Hausa, and his more insightful comments will be referred to in this grammar when appropriate.

Another work to which I will refer frequently is Junggraithmayr's description of Sura (Junggraithmayr 1964a). Angas and Sura both belong to the same Cluster of Platel, as I mentioned above, and the similarities in structure between the two languages are striking. Possibly a major portion of the analysis proposed here for Angas will be applicable to Sura as well.

In recent years transformational grammars have been written on at least three other Chadic languages: Tera (P. Newman 1970), Ga'anda (R. Newman 1971), and Dera (P. Newman 1972). In addition, a grammar of Ngizim is in preparation by Russell Schuh. Of these languages, Ga'anda and Tera belong to the Tera Cluster of the Biu-Mandara Group, and Dera and Ngizim belong to Plateau-Sahel (see (7) above).

My objectives in this grammar are two. First, to present clearly the grammatical structure of Angas up to and including the level of the sentence (comments regarding structure beyond the sentence are made from time to time, especially in Chapter 12, but these are only of a preliminary nature). Second, to compare Angas grammatical structure



with that of other Chadic languages studied to date (especially the recent studies mentioned above). I hope in this way to make available a more thorough study of Angas than is presently available (thus giving a representative of another Cluster in a transformational model), and to suggest confirmation of the classification of Angas as a Chadic language through recourse to grammatical similarities it shares with other Chadic languages, to the extent that this is possible.

In attempting to achieve these objectives I have concentrated on clarity and perceptual simplicity of statement, rather than the formal simplicity which is generally stressed in transformational theory. This is an attempt to make this grammar more readable, especially to those linguists who are not well-versed in transformational grammar. I assume, however, that the reader has a basic understanding of the transformational model, so I give no theoretical introduction here. Basically I follow the framework outlined in Chomsky 1965. It will be noted that in the examples given there is a great deal of repetition of a small core of vocabulary. I have restricted the vocabulary in this way as a further step toward clarity, hoping to make the structure more lucid and the discussion easier to follow.

I am a field linguist primarily, not a theoretician, and in this grammar I avoid arguments of a theoretical nature for the most part. I hope, however, that my coverage of Angas grammatical structure will be of sufficient quality

and clarity so as to allow the theoretical ramifications of the facts of the language to be traced by others. Specifically, in this grammar I discuss nominalization (Chapter 5) and pronominalization (Chapter 11), two major issues in current transformational theory, without attempting for the most part to support theoretically the analysis I propose or to exploit its theoretical ramifications.

The analysis presented here is based on field work conducted in the Angas area during the period from January 1968 to January 1970 under the auspices of the Institute of Linguistics, Zaria.<sup>3</sup> During this time I resided in Tuwan (a village near Kabwir), but visits were made throughout the area. The analysis here represents the language as spoken in the Kabwir area. Several Angas men blended enormous patience with vast portions of their time in teaching me their language; chief among them are Barnaba Gompwel, Gorai Goyit, and Josiah Nzhim. To them I extend my thanks.

A brief sketch of Angas phonology is given here as an aid to understanding of the grammatical analysis which forms the major part of this dissertation.<sup>4</sup>

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<sup>3</sup>The Institute of Linguistics (Nigeria) is an affiliate of the International Summer Institute of Linguistics, Inc.

<sup>4</sup>For a more complete statement of Angas phonology (from a Structuralist point of view) see Burquest 1971.

The following is a chart of Angas phonemes:

		LABIAL	ALVEOLAR	VELAR
STOP	vl	p	t	k
	vd	b	d	g
	gl	ɸ	ɖ	ʔ
FRIC	vl	f	s	h
	vd	v	z	ʒ
RES	nas	m	n	ŋ
	lat		l	
	trill		r	
SEMI			y	w
VOWEL			i	e
			e	o
				a

Prenasalization, labialization, and palatalization occur frequently in sequences which make their appearance unpredictable. I treat such complex segments as sequences which conform to the following basic syllable structure pattern:

$$(N)C(\left\{\begin{matrix} Y \\ W \end{matrix}\right\})V(C)$$

Prenasalization occurs as a sequence in the lexicon of a consonant preceded by a homorganic nasal. The following consonants may be prenasalized:

p	t	k
b	d	g
ɸ		
	s	
	z	

Additional sequences of nasal plus consonant may occur as the result of the occurrence of nouns in indirect object constructions or locative constructions introduced by the preposition n-. Labialization occurs as the result of the occurrence of the semivowel /w/ following a consonant, with the same rounding effect which is produced by a following rounded vowel in non-contrastive instances. The following consonants may be labialized:

p	t	k
b	d	g
ɸ		ʔ
f	s	
v	z	
m		ŋ
	r	

Palatalization occurs as the result of the occurrence of the semivowel /y/ following a consonant, with the same palatalizing effect which is produced by a following high front vowel in non-contrastive instances. The following consonants may be palatalized:

p	t	k
b	d	g
	s	
	z	
m		ŋ

There are a few examples of contrastive length in vowels involving the phonemes /ə/ and /a/, realized phonetically as [ɛ] vs. [ɛ:] and [a] vs. [a:]. These contrasts carry only a very low functional load and are not included in the chart.

The phoneme written as /' / on the chart has the two manifestations of [ʔ] in initial position before vowels and [ɕ] when palatalized. The former manifestation is not written in the examples, the latter together with its palatalization is written as dy as in the Angas orthography. The two vowels /i/ and /ə/ are written in the examples as ii and i respectively.

There is no contrast in Angas between voiced and voiceless consonants in word-final position. Voicelessness is a property of that environment, and in the examples the voiceless stops are written there. The resonants, which have no voiceless counterparts of a phonological nature, have a voiced onset fading to voicelessness in word-final position. The full inventory of word-final consonantal phonemes is the following:<sup>5</sup>

p	t	k
m	n	ŋ
	s	
	l	
	r	

Also in final position a certain number of highly restricted phonetic consonantal clusters may occur. In all of these two-member clusters the first sound is a liquid and

---

<sup>5</sup>The phone [ʃ], here treated as a sequence of /s/+/y/, appears finally in very rare instances and always in an ideaphonic word. /sy/ is not an allowable final sequence in terms of the above statements, so these few words remain a problem.

the second is a labial or velar voiceless stop or nasal.<sup>6</sup>

The total inventory of such final combinations, then, is the following:

lp	rp
lk	rk
lm	rm
lŋ	rŋ

Such phonetic clusters are best properly treated as containing an intervening vowel in underlying structure (i.e., at the systematic phonemic level), which is generally deleted (although a phonetic [ə] is sometimes found). Such an analysis is based upon the following facts:

1. Angas syllable structure is predominantly of the CVC-type, with no occurrences other than the above of CC in final position.
2. A vowel can occasionally be heard between the abutting consonants, especially in slow speech.
3. In Sura some cognates with Angas words containing the above clusters contain a vowel, e.g.:<sup>7</sup>

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<sup>6</sup> An analysis of underlying voiced stops in final position here and above may be preferable, with a devoicing rule effecting the voicelessness. Such an analysis would reflect the morpheme-structure condition that abutting consonants must agree in voicing in this latter instance (and in the former if silence is considered [-voice]). The same devoicing rule would apply as in the singular cases.

<sup>7</sup> The Sura data is from Jungraithmayr 1964a.

<u>Angas</u>	<u>Sura</u>	
birŋ	berŋ	'horse'
warŋ	wuran	'big'
mwelm	malom	'coco-yam'
melp	melep	'to shine'

It seems preferable, then, to treat these words as having an underlying vowel which is generally lost (or reduced in length) in this environment. This is the proposal adopted here.

Angas has three contrastive tones, all level. Tone and length are not written in the examples given in this grammar except in cases where minimal pairs are best kept distinct. In those instances length is written as a doubling of the vowel, and tone is written as follows:

Ṽ	high
̄V	mid
˘V	low

Angas morphemes are commonly monosyllabic. No verbs of more than one syllable occur,<sup>8</sup> and nouns of more than one

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<sup>8</sup> A possible counterexample to this statement is that group of verbs which are semantically unitary but syntactically bi-morphemic; e.g., ca dir 'to forget', le yit 'to hope', la shii (or, maŋ shii) 'to follow'. Especially the first of these is difficult, in that ca and dir have no clear meaning in isolation and in fact appear only in this construction (le yit and la shii can probably be broken down lexically into 'cause face' and 'receive foot' respectively, but ca and dir have no such correlates). But it is clear grammatically that these are all bi-morphemic in that the gerundive forms insert the possessive marker ki- between the two parts just as if the second part were a nominal object (see the full discussion of such forms in Chapter 5).

syllable are not common. Further, the most common syllable shape constituting a single morpheme is CVC. Often Angas syllable structure reflects the loss of a final vowel present in proto-Chadic. Note the following comparisons with Hausa, for example:

<u>Angas</u>	<u>Hausa</u>	
mat	maataa	'woman'
met	mai da	'go' (H= 'restore')
pup	ubaa	'father'
nam	naama	'meat'
tul	tuuluu	'water pot'

It may be the case that we have here a case of vowel loss resulting in resyllabification, with subsequent shortening of the vowel in the syllable now closed (CVV.CVV>CVVC>CVC).



## Chapter 2

### The Sentence

There is grammatical structure which has to do with linguistic context of greater breadth than the sentence in Angas, a fact which is undoubtedly true for all the languages of the world. At present, however, linguists know little about how to handle such high-level structure, and for the most part details of such structure are not covered in transformational grammar. That is, linguists have concerned themselves largely with sentence grammars rather than discourse grammars. I will follow the same course here, although I will discuss briefly some of the more striking higher level relations later (see Chapter 12).

In Angas there are two sentence types--verbal sentences, and non-verbal sentences. These two sentence types are distinguished by the presence or absence of a finite verb. For example, (1) is a verbal sentence, (2) is a non-verbal sentence:

- |     |                  |                      |
|-----|------------------|----------------------|
| (1) | mwa ne gi mwa    | 'they see the goats' |
|     | they see goat pl |                      |
| (2) | mwa gi mwa       | 'they are goats'     |
|     | they             |                      |

The verbal sentence has two basic parts, a subject and a predicate. The subject is composed of a noun phrase (to be discussed in Chapter 4) and the predicate a verb phrase

(to be discussed in Chapter 3). The verb phrase in (1) is transitive and thus contains an object NP. Transitivity in this grammar is treated as a function of the lexicon and the co-occurrence restrictions defined therein by the subcategorization and selection features; transitive verbs are specified as requiring objects, intransitive verbs as disallowing them. Distinctions within the verbal sentence type which are determined by the internal structure of the verb phrase will thus be discussed in Chapter 3. The order of constituents in the verbal sentence is subject, verb, object.

In (1) above there is no overt subject other than the person-aspect marker mwa. The person-aspect markers are proposed here as being part of the verb phrase, specifically the manifestation of tense (see Chapter 3). This proposal is made because the markers may be present even in cases in which an NP subject is also present, although in certain situations the markers are generally deleted. So, the following sentences are identical in meaning and both are grammatical, although the second is the more common of the two:

- (3) gurm      mwa mwa ne gi      mwa      'the people see the  
       person pl they see goat pl      goats'
- (4) gurm      mwa ne gi      mwa      'the people see the  
    goats'

In (4), then, the person-aspect marker has been deleted. That it is this morpheme which is deleted and not the plural marker of the noun phrase can be seen in two environments.

First, following teko the person-aspect marker is obligatorily low in tone (that is, it is obligatorily in the subjunctive aspect, see Chapter 7; the person-aspect markers themselves are in Chapter 11). This can be seen in sentences like (5) which contain no NP subject following teko:

- (5) mwa le teko mwa` ji 'they made them come'  
       they cause that they come

In fact, sentences like (6), containing both an NP subject and a person-aspect marker following teko do not occur:

- (6) \*mwa le teko gurm mwa mwa` ji

Rather, such sentences containing NP subjects undergo deletion obligatorily, and when they do the result is as in (7):

- (7) mwa le teko gurm mwa ji 'they made the people  
       person pl come'

Here it is the person-aspect marker which has been deleted, not the plural marker of the NP, as can be seen by the tone on the morpheme which remains.

A second bit of evidence for person-aspect marker deletion is in sentences involving third person singular forms in the completive aspect. Here the person-aspect marker is optional, and in the majority of cases it does not occur:

- (8) malam ki met 'the teacher went'  
       teacher he go

- (9) malam met 'the teacher went'

(9) is much more common than (8), although (8) is grammatical also. (The distinction may be one of emphasis upon the fact of the completed nature of the action, in that the person-aspect markers carry by definition aspect information as well

as information regarding person and number; I am, however, unable to verify or disprove this hypothesis at present, and in fact I assume that there is no distinction.)

Thus in (6) and (7) and in (8) and (9) there is some indication of a process of person-aspect marker deletion. My proposal is to say that the same process is active in (3) and (4) also. Because of the factors involved in the process, however, formulation of a single rule of person-aspect marker deletion is very complex. The facts are as follows: (1) any marker of the subjunctive aspect occurring after an NP subject in the same sentence is always deleted; (2) the third person singular marker of the completive aspect is optionally deleted when following an NP subject; (3) all forms except the third person singular of the non-present aspect are optionally deleted when following an NP subject.

The peculiar nature of the third person singular markers may have to do with their origin (see the discussion in Chapter 11). The situation could be simplified by placing all deletable forms in a single paradigm, but the resulting simplicity would be a false one in that the semantic and formal unity of the completive and non-present aspects would be lost. I have taken the alternate course here of treating the phenomenon as a sequence of three rules, each deleting the forms of a particular aspect, as required:

### T2.1 COM-Deletion (optional)

$$\text{SD: } [X - \text{NP} - \text{COM} - Y]_S$$

$$\frac{\quad}{\begin{matrix} 1 & 2 & 3 \end{matrix}} \begin{matrix} [+III] \\ [-pl] \end{matrix}$$

$$\text{SC: } 1 - 2 - 3 \Rightarrow 1 - 3$$

Condition:  $3 \neq \text{cep}$

### T2.2 NPR-Deletion (optional)

$$\text{SD: } [X - \text{NP} - \text{NPR} - Y]_S$$

$$\frac{\quad}{\begin{matrix} 1 & 2 & 3 \end{matrix}} \left\{ \begin{matrix} [-III] \\ [+III] \\ [+pl] \end{matrix} \right\}$$

$$\text{SC: } 1 - 2 - 3 \Rightarrow 1 - 3$$

### T2.3 SUBJ-Deletion<sup>1</sup>

$$\text{SD: } [X - \text{NP} - \text{SUBJ} - Y]_S$$

$$\frac{\quad}{\begin{matrix} 1 & 2 & 3 \end{matrix}}$$

$$\text{SC: } 1 - 2 - 3 \Rightarrow 1 - 3$$

Admittedly, this analysis misses the overall generalization that person-aspect marker deletion takes place only in the presence of an overt NP subject. Nevertheless, for reasons of clarity a treatment involving these three rules seems to me to be preferable to the single complex rule which is formally possible. The operation of these rules and their interaction with other rules will be discussed below, but in later derivations these rules will commonly be omitted.

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<sup>1</sup>Rules which are not specifically designated as optional are obligatory.

The deletion of a person-aspect marker which directly follows an NP subject has confirmation also in Sura. Jungraithmayr (1964a, page 35) points out that the same process is found there as in Angas, although he makes no mention regarding aspectual restrictions (if any). Later (page 43) he points out the existence of third person serial verbs, which may be a result of the same process. Further, R. Newman (1971) points out that in Ga'anda the third person singular person-aspect marker is deleted in the perfective and aorist aspects; she makes no comment as to whether an NP subject must be present for the deletion to take place, so apparently it does not.

A second process of deletion operates in Angas as well. This is the familiar process deleting a repeated NP in context by a rule of Equi-NP Deletion. This deletion process can be seen within a single sentence; for example, (1) is inelegant in its repetition of the subject:

- (10) gurm mwa mwa met kasuwa, 'the people went to  
 person pl they go market the market, but the  
 daŋ gurm mwa mwa siit bii people didn't buy  
 but buy thing anything'  
 ce ka  
 a NEG

Much better, in both English and Angas, is (11), in which the repeated subject does not occur:

- (11) gurm mwa mwa met kasuwa, 'the people went to  
 daŋ mwa siit bii ce ka the market, but they  
 didn't buy anything'



b) gurm mwa TNS ne gi mwa

Equi-NP Deletion  
does not apply

gurm mwa ne gi mwa PA Deletion

(13)a and b would have as output the following (again assuming that TNS is NPR):

a) mwa ne gi mwa 'they saw the goats'

b) gurm mwa ne gi mwa 'the people saw the goats'

I suggest that this phenomenon of deletion of repeated NPs in context is common in languages of the world, and that in any grammar approaching the problem from the point of view adopted here will handle it in much the same way. I make no attempt here to formulate the rule for Angas because of the problems of establishing reference and defining the allowable context in which deletion may take place, problems which are as yet unsolved. In addition, although its usage can be seen in sentences like (10) and (11) its function is largely on the level of discourse structure and thus outside the bounds of this grammar.

In addition to the basic structures illustrated and discussed above, verbal sentences may contain adverbial constructions denoting manner, accompaniment, location, instrument, time, and purpose. I have not exhaustively investigated such constructions so conclusions reached in this grammar must be regarded as somewhat tentative. The order in which the adverbial constructions occur is generally that



given above, although any one of them may be moved to the front of the sentence for reasons of emphasis or stylistics (see Chapter 9). The following sentences are illustrative of the sorts of adverbial constructions and combinations which occur:

- |      |           |                     |                     |              |                 |
|------|-----------|---------------------|---------------------|--------------|-----------------|
| (14) | mwa ji    | ki-malar            | n-kasuwa            |              | 'they bring     |
|      | they come | <u>with-peanuts</u> | <u>in-market</u>    |              | peanuts to      |
|      |           | ACC                 | LOC                 |              | the market'     |
| (15) | mwa ji    | ki-kaya             | mwa duŋ-duŋ         |              | 'they bring     |
|      |           | <u>with-load</u>    | <u>pl much-much</u> |              | many loads'     |
|      |           |                     | ACC                 |              |                 |
| (16) | mwa ji    | n-kasuwa            | duŋ-duŋ             |              | 'many people    |
|      |           | <u>in-market</u>    | <u>much-much</u>    |              | come to the     |
|      |           | LOC                 | MAN                 |              | market'         |
| (17) | mwa cin   | kasuwa              | m-Pwel              | cinii        | 'they hold the  |
|      | do        | market              | <u>in-Dawaki</u>    | <u>today</u> | Dawaki market   |
|      |           |                     | LOC                 | TIM          | today'          |
| (18) | mwa ji    | n-kasuwa            | mpii malar          |              | 'they come to   |
|      | come      | <u>in-market</u>    | <u>for peanuts</u>  |              | the market for  |
|      |           | LOC                 | PUR                 |              | peanuts'        |
| (19) | mwa mār   | mār                 | shi-cen             | ahanyii      | 'they farm with |
|      | hoe farm  | <u>with-hoe</u>     | <u>now</u>          |              | a hoe now'      |
|      |           | INST                | TIM                 |              |                 |

These adverbial constructions are identical with those occurring in non-verbal sentences (to be discussed below). Thus, their actual formulation would be best described for all sentences, not just the verbal ones. Nevertheless, because of the complicated nature of the first base rule (B1, below), for reasons of clarity I treat ADV here on the level of the sentence types instead. The following, then, is proposed as the structure of the verbal sentence:

$$B2. S_v \rightarrow NP - VP - (ADV)$$

The non-verbal sentence type does not contain a finite verb. Its structure consists also of two parts, however, which we may again refer to as subject and predicate. The subject is comparable to what is sometimes called the topic, and the predicate the comment, given a topic-comment structure framework.

The example given above for the non-verbal sentence was (2):

- (2) mwa gi mwa 'they are goats'  
       they goat pl

Alternatively, the subject and predicate sometimes occur separated by the morpheme do:

- (20) mwa do gi mwa 'they are goats'

The meaning is apparently the same, although in (20) we might expect an emphasis upon mwa (perhaps identifying one group of animals in contrast to other possible groups), since do generally occurs as a mark of emphasis (see Chapter 9); for example:

- (21) mwa yè nan 'they seized me'  
       they seize me  
 (22) nan do mwa yè 'they seized me'

Although more research is needed here, my present hypothesis is that the presence of do always marks emphasis, even in sentences like (20) in which emphasis is not immediately apparent. Thus do does not appear in the base of the non-verbal sentence, but is always inserted by an emphasis transformation.

The subject of a non-verbal sentence must be an NP. The predicate, however, may be either a second NP, an adjective, an ADV construction, a possessive construction, or a numeral. The following examples are illustrative of the sorts of structures which occur:

- (23) as k<sup>h</sup>i-nyi bi<sup>j</sup>im<sup>2</sup> 'his dog is big'  
dog of-him big  
aj
- (24) mazep k<sup>h</sup>i-nyi d<sup>i</sup>i 'his bride is there'<sup>3</sup>  
bride of-him there  
LOC
- (25) mwa k<sup>i</sup>-pas mwa 'they have arrows'  
they with-arrow pl  
ACC
- (26) mat k<sup>h</sup>i-nyi n-l<sup>u</sup> 'his wife is in the hut'  
wife of-him in-hut  
LOC
- (27) kasuwa cinii 'the market is today'  
market today  
TIM
- (28) go da malam 'that man is a teacher'  
person that teacher  
NP
- (29) as bi<sup>j</sup>im mi-nyi 'the big dog is his'  
dog big of-him (cf. (23))  
POS
- (30) as mwa pet 'there are five dogs'  
dog pl five  
num

---

<sup>2</sup>The sequence ki-nyi will be converted by phonological rules into the actual occurring form ki-ni<sup>i</sup>.

<sup>3</sup>A second meaning is the existential 'his bride exists'; it appears that this distinction is best handled by assuming the existence of two words d<sup>i</sup>i 'there', one with the existential meaning and one with the locative meaning of the gloss of (24).



In all cases like the above in which more than a single ADV occurs, the first ADV is functioning as a predicate adverb, the second as a sentence-level adverb. The sentence-level adverbs are treated in the same manner for both verbal and non-verbal sentences, and we may suggest, then, that the rule generating non-verbal sentences is the following:

$$B3. S_N \rightarrow NP - \left\{ \begin{array}{c} NP \\ ADV \\ POS \\ aj \\ num \end{array} \right\} - (ADV)$$

As seen in (29), POS has as its structure the sequence mi + NP. This structure may be formulated as follows:

$$B4. POS \rightarrow \underline{mi}\text{-}NP$$

In his analysis of Tera, P. Newman (1970, page 24) treats adjectives and quantifiers as belonging to the same class. This treatment is impossible for Angas in that the two classes have different distributions, adjectives occurring before the plural marker, numerals after it:

(35) as bijim mwa                    'big dogs'  
       dog big pl

(36) as mwa pet                    'five dogs'  
       five

Further, numerals in Angas do not undergo reduplication when pluralized as adjectives do (see Chapter 6); and, of course, both adjectives and numerals may occur together with the same noun:

(37) as bijim mwa pet            'five big dogs'

Thus I keep the two classes separate in Angas.



Pending further investigation, I propose the following formulation for Adverbial constructions in Angas:

B5. ADV → (MAN)(ACC)(LOC)\*(TIM)(INST)(PUR)<sup>4</sup>

I have mentioned above that any element of either sentence type may be emphasized, with very few exceptions. The following sentences are given here as examples of this process (details will be discussed in Chapter 9):

- (42) Musa siit gi 'Musa bought a goat'  
       buy goat
- (43) Musa do siit gi 'Musa bought a goat'
- (44) gi do Musa siit 'Musa bought a goat'
- (45) siit do Musa cin 'Musa bought it'<sup>5</sup>
- (46) mwa ki'-pas mwa n-sàr 'they have arrows in  
       they with-arrow pl in-hand their hands'
- (47) mwa do mwa ki'-pas mwa n-sàr 'they have arrows in  
       their hands'
- (48) pas mwa do mwa ki'-mwa n-sàr 'they have arrows in<sup>6</sup>  
       their hands'

---

<sup>4</sup>I mean by this formulation to stipulate that at least one of the items in parentheses must be chosen. The asterisk means that LOC may be repeated.

<sup>5</sup>If the object is included in the emphasized element, the whole VP is fronted:

(45) a) siit ki-gi do Musa cin 'Musa bought a goat'  
       buying of-goat do

In both (45) and (45)a the verb which is fronted appears in its so-called verbal noun form; the rules deriving such forms will be discussed in Chapter 5.

<sup>6</sup>Note that the movement (actually copying) of the object of *ki-* here results in the appearance of a pronominal trace in the original position. Such matters are discussed in Chapter 9.

- (49) n-sàr dɔ mwa kɪ-pas mwa 'they have arrows in their hands'

In addition to emphasis of constituents as in the sentences above, Angas allows entire sentences to be emphasized. Note the following examples:

- |      |      |                 |      |         |      |      |   |   |
|------|------|-----------------|------|---------|------|------|---|---|
| (50) | Musa | síit            | gi   | dɔ      | da   | }    | 7 | 'it is the case that<br>Musa bought a goat'                 |
|      |      | buy             | goat |         | that |      |   |   |
| (51) | Musa | síit            | gi   | dɔ      | nyii | }    |   |   |
|      |      |                 |      |         | this |      |   |   |
| (52) | mwa  | kɪ-pas          | mwa  | n-sàr   | dɔ   | da   | } | 'it is the case that<br>they have arrows in<br>their hands' |
|      |      | they with-arrow | pl   | in-hand |      | that |   |   |
| (53) | mwa  | kɪ-pas          | mwa  | n-sàr   | dɔ   | nyii | } |   |
|      |      |                 |      |         |      | this |   |   |

Sentence emphasis, then, is a phenomenon which may optionally be chosen for both types of sentences. It should be pointed out that this is not necessarily characteristic of Chadic languages. Tera disallows sentence emphasis (P. Newman 1970: 15,84), as does Dera (P. Newman 1972:Chapter 5)<sup>8</sup>; Ga'anda, however, allows it (R. Newman 1971:7).

A second phenomenon which also occurs with both sentence types is negation. Any sentence may be negated by the addition of ka in final position. Note the following examples:

- (54) mwa ne gi mwa ka (cf 1) 'they didn't see the goats'

---

<sup>7</sup>The occurrence of da or nyii depends upon contextual factors of previous reference, geographical position, etc., which are not completely understood at this time.

<sup>8</sup>At the time of writing the only form of Newman's Dera grammar available was a preliminary draft without consecutive paging. As a result all references to his work will refer only to the chapter in which the information appears.



- (55) malam met ka (cf 9) 'the teacher didn't go'  
 (56) mwa ye nan ka (cf 21) 'they didn't seize me'  
 (57) as ki-nyi bijim ka (cf 23) 'his dog isn't big'  
 (58) mwa ki'-pas mwa ka (cf 25) 'they don't have  
                                 arrows'  
 (59) màt ki-nyi n-lù ka (cf 26) 'his wife isn't in the  
                                 hut'

A full discussion of negation will be found in Chapter 10.

A third phenomenon which also occurs with both sentence types is question-formation. Any sentence may be changed into a question by the addition of the question-marker a in final position. Note the following examples:

- (60) mwa ne gi mwa-a? (cf 1) 'did they see the  
goats?'
- (61) mwa ne gi mwa ka-a? (cf 54) 'didn't they see the  
goats?'
- (62) as ki-nyi bijim-a? (cf 23) 'is his dog big?'
- (63) as ki-nyi bijim ka-a? (cf 57) 'isn't his dog  
big?'

Utilizing the formulation pioneered by Katz-Postal (1964) and endorsed by Chomsky (1965), we may generate along with the initial sentence symbol special symbols which will contain the proper semantic information and which will later act as "triggers" to stimulate the operation of the appropriate transformations to produce sentence emphasis, negation, and questions. We may suggest then as the initial base rule the following (where E represents sentence Emphasis, NEG Negation, and Q Question):<sup>9</sup>

<sup>9</sup>Question words require the presence of Q for their insertion but have a lexical source in this analysis (see Chapter 9).

$$B1. \#S\# \rightarrow \left\{ \begin{array}{l} S_V \\ S_N \end{array} \left\{ \begin{array}{l} \{(IMP)\} \\ \{(Q)(E)\} \end{array} \right\} \right\} (NEG)\#$$

The occurrence of emphasis of the sentence, negation, and questioning are thus optional choices of the base (the occurrence of word emphasis, as illustrated in (43)-(45) and (47)-(49), is treated in this grammar as an optional choice in the lexicon, see Chapter 9). Imperative (IMP) is in mutually exclusive distribution with both questioning and emphasis in verbal sentences. The ordering of elements in the rule above is somewhat arbitrary in that E has as its effect a transformational rearrangement or constituents with only a minor insertion of new material; negation is given last in the rule and will be in final position unless the interrogative morpheme occurs, in which case the latter will be final.<sup>10</sup>

The presence of E will trigger the Sentence Emphasis transformation T2.4 as follows:

#### T2.4 Sentence Emphasis

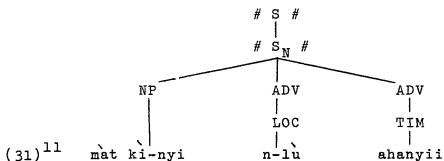
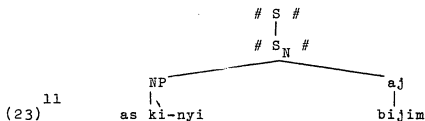
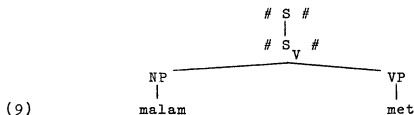
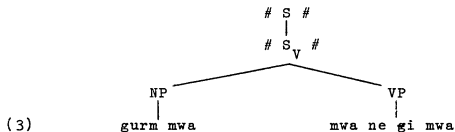
$$\begin{array}{l} SD: \left\{ \begin{array}{l} S_V \\ S_N \end{array} \right\} - E - X \\ \quad \quad \quad 1 \quad \quad 2 \quad 3 \\ SC: 1 - 2 - 3 == 1 - \underline{do} \left\{ \begin{array}{l} \underline{da} \\ \underline{nyii} \end{array} \right\} - 3 \end{array}$$

In concluding this discussion of Angas sentence types, a few diagrams of sentences discussed to this point will be

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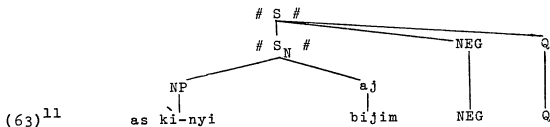
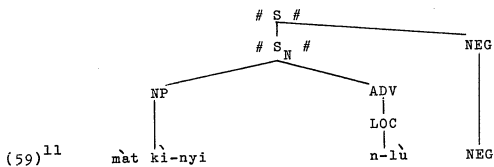
<sup>10</sup>I assume here that the phonological shape of the negative marker and interrogative markers (there are actually two) will be developed by the phonological readjustment rules as required.

given. Only the structure discussed up to this point will be found in these diagrams:




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<sup>11</sup>The underlying structure of NPs containing possessives is discussed at length in Chapter 4.




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## Chapter 3

### The Verb Phrase

The Angas verb phrase consists of four parts in underlying structure: an obligatory tense marker, an obligatory finite verb, an optional object (either an NP or a particular type of prepositional phrase), and an optional indirect object (ultimately, a specially marked NP). The tense marker carries information regarding aspect and will ultimately be supplemented by features of person and number derived from the sentence subject, resulting in an obligatory person-aspect marker (I have discussed above certain environments in which this person-aspect marker may subsequently be deleted). In contrast to this Angas ordering, in Logone (Lukas 1936:22) the indirect object precedes the direct object rather than following it, an ordering which is characteristic of Hausa as well; this alternate ordering occurs in restricted environments in Angas (and some other Chadic languages) as well, as will be seen in a later chapter.

Angas verbs may be subcategorized into five groups according to the contexts in which they may or must occur:

- (a) verbs which must occur with an object in the VP--  
e.g., ne 'see'
- (b) verbs which must not occur with an object in the  
VP--e.g., ji 'come'

- (c) verbs which must not occur with an object in the VP, but which must occur with a PO-phrase (to be defined below)--e.g., tap 'care for'
- (d) verbs which may or may not occur with an object in the VP, and which may or may not occur with an indirect object in the VP--e.g., siit 'buy'
- (e) verbs which may or may not occur with an object in the VP--e.g., met 'go'<sup>1</sup>

Note the following examples:

- (3) Musa ne birŋ                    'Musa saw a horse'  
      see horse
- (4) \*Musa ne
- (5) Musa ji                        'Musa came'  
      come
- (6) \*Musa ji wok  
      compound
- (7) Musa ji n-wòk                'Musa came home'  
      in-compound
- (8) Musa tap        po-jep mwa    'Musa cared for the  
      care-for child pl        children'
- (9) \*Musa tap jep mwa

---

<sup>1</sup> Some verbs are, of course, further constrained in their distributions, as is undoubtedly true of various lexical items in all languages. For example, if tok 'speak' does not occur with an NP object, it must occur with ACC:

- (1) Musa tok shik        mwa                'Musa talked to them'  
      speak message to-them
- (2) Musa tok        ki-mwa                'Musa greeted them'  
      with-them

Such matters are purely idiosyncratic and thus belong in the lexicon.

- (10) Musa met wok 'Musa went home'  
go compound
- (11) Musa met 'Musa has gone'
- (12) Musa siit birɔ 'Musa bought a horse'  
buy horse
- (13) Musa siit birɔ mwà 'Musa bought them a horse'  
for-them
- (14) Musa siit mwà 'Musa bought it for them'

That wok in (10) is an NP object, not a LOC, is shown by two facts; it lacks the internal structure of LOC (basically, an introductory preposition, see Chapter 6); and in cases in which the VP containing it is nominalized wok is preceded by the possessive marker ki- (a diagnostic environment in which only NP objects occur, see Chapter 5).

In the Standard Theory framework, such subcategorization is handled through the use of lexical features. Thus, all verbs are marked lexically as to the environments in which they may occur, and a universal matching rule of lexical insertion assures that only those verbs which are permitted in certain environments do in fact become candidates for lexical insertion there.

There seems to be no characteristic classification of verbs in Chadic. Often simply the terms "transitive" and "intransitive" occur in the descriptions with no subdivisions. In contrast to the classification proposed above for Angas, for Ga'anda R. Newman proposes eight verb subclasses (R. Newman 1971:39ff). In that this eight-way classification is predicated upon a case grammar approach, it is not clear the





- (16) Musa COM met wok 'Musa has gone home'  
 Musa ki met wok
- (17) Musa INC met wok 'Musa went home'  
 Musa nyi met wok
- (18) ...teko Musa SUBJ met wok '...so that Musa went home'  
 ...teko Musa nyi met wok

SUBJ is introduced only by transformational rule when the environment which calls for its presence occurs (see Chapter 7). The other aspects are free choices in the base. The rule generating these aspectual possibilities may thus be formulated as follows:

$$B14. \text{ TNS} \rightarrow \left\{ \begin{array}{l} \text{NPR} \\ \text{COM} \\ \text{INC} \end{array} \right\}$$

There are no deep structure auxiliaries in Angas. Transitive verbs may, however, take sentential objects instead of simple NP objects. The final result of such constructions may look very much like an auxiliary construction in another language; the inventory of verbs which may occur in that position is, however, vast and for all intents and purposes identical to the set of all transitive verbs. Note the following pairs of sentences which illustrate this construction:

- (19) a) Musa met wok 'Musa went home'  
           go compound
- b) Musa met ne ki-wok 'Musa will see the com-  
           seeing of-compound pound'
- (20) a) Musa cam wok 'Musa touched the  
           touch compound'

- b) Musa cam ne ki-wok 'Musa has seen the compound'<sup>3</sup>
- (21) a) Musa ne wok 'Musa saw the compound'  
see
- b) Musa ne met ki-birŋ mwa 'Musa saw the horses'  
going of-horse pl departure'
- (22) a) Musa man birŋ mwa 'Musa knows horses'  
know
- b) Musa man laŋ ki-birŋ 'Musa can ride a horse'  
riding

It will be noted that a semantic shift takes place when a sentential object occurs instead of a simple NP object for met 'go' and cam 'touch', and to a lesser extent for man 'know'. This semantic phenomenon is a function of the lexicon, these verbs and others like them having two distinct semantic readings, depending upon their occurrence with simple NP vs sentential objects.

The underlying structures proposed for such structures include an embedded sentence under the NP object in VP. Later transformational rules delete the repeated subject (T5.1), change the verb to its verbal noun form and delete TNS (T5.2), and insert the possessive marker before any accompanying object (T5.3); these rules are discussed in detail in Chapter 5. So, proposed underlying structures for the sentences above are the following:

- (19)b' [Musa [NPR met [[Musa NPR ne wok]<sub>S</sub>]<sub>NP</sub>]<sub>VP</sub>]<sub>S</sub>

---

<sup>3</sup>That is, 'Musa has had the experience of seeing the compound at some time in the past'. The meaning here is quite distinct from that of the completive aspect.

- (20)b' [Musa [COM cam [[Musa COM ne wok]<sub>S</sub>]<sub>NP</sub>]<sub>VP</sub>]<sub>S</sub>  
 (21)b' [Musa [COM ne [[birɔ mwa COM met]<sub>S</sub>]<sub>NP</sub>]<sub>VP</sub>]<sub>S</sub>  
 (22)b' [Musa [COM man [[Musa COM laŋ birɔ]<sub>S</sub>]<sub>NP</sub>]<sub>VP</sub>]<sub>S</sub>

requirement of a following embedded sentence as mentioned above. The verb cep is not the only one which requires such an aspectual context; the verb met, for example, when occurring with an embedded sentence under its NP object must always be preceded by NPR. This too can be specified by lexical features on the verb itself.

Second, note that in (23) the completive person-aspect marker (in this case mwaà) cannot be deleted when followed by cep, even though an NP subject is present; in that this is the case also when the marker is the third person singular form, the condition on COM-Deletion (T2.1) is needed.

Third, note that in (24) the order of rules which apply is Equi-NP Deletion (T5.1), then deletion of the person-aspect marker (in this case by T2.2). More on this below.

The indirect object which may occur in the VP is characterized by the presence of the benefactive marker n- preceding the construction if an NP, or by a tonal pattern characteristic of the relationship if a pronoun. Note the following examples, in which the underlying structure is followed by the surface form:

(25) [Musa COM síit birŋ Io-sher]<sub>S</sub>

Musa	síit	birŋ	n-shèr	'Musa bought a horse
buy	horse	for-friend	for a friend'	

(26) [Musa COM síit birŋ Io-mwa]<sub>S</sub>

Musa	síit	birŋ	mwa	'Musa bought a horse
		for-them	for them'	

The formulation of the indirect object construction may be presented as follows:

B13. IO  $\rightarrow$  Io-NP

The phonological readjustment rules will replace the symbol Io by n- if what follows is not a pronoun; in cases of pronominal indirect objects, the readjustment rules will effect the proper process to make the pronoun subject to the phonological rules which produce the proper tonal perturbations.

An interesting parallel to the Angas indirect object is the situation in Sura. Jungraithmayr (1964a:26ff) reports that n- precedes both nouns and pronouns in the equivalent Sura construction (with a few cases of semivowels or /g/ instead when a pronoun has such a phoneme initially). Clearly the two systems are related, although the two types of objects are differentiated in Angas (but n- does in fact occur with certain pronominal forms in sentential complements, see Chapter 11).

So, for the verb phrase, the following base rule can be proposed to present its structure:

B12. VP  $\rightarrow$  TNS - Vb -  $\left\{ \begin{array}{c} \{NP\} \\ \{PO\} \end{array} \right\}$  - (IO)

Vb will be replaced by a lexical item so designated and matching the environment in its lexical features at the time of lexical insertion.

The PO phrase is characterized by the following rule:

B15. PO  $\rightarrow$  po - NP

There are not many verbs which occur with PO, but it is nevertheless one of the defining environments for verb sub-classes as discussed at the beginning of this chapter.

For purposes of comparison, a brief discussion of the common Chadic phenomenon termed "verbal extensions" is in order. Such constructions are pointed out frequently in studies of Chadic languages; e.g., Hausa (Parsons 1960:28ff); Tera (P. Newman 1970:18,43); Dera (P. Newman 1972:Chapter 6); Ga'anda (R. Newman 1971:8); Logone (Lukas 1936:49ff); Buduma (Lukas 1939:60ff).

By way of example, I present here the inventory of the Buduma extensions as found in Lukas 1939, giving some of his examples to illustrate their use:

1. -li 'inside'  
y-al 'to add to'  
place-inside
2. -re 'causative, applicative'  
wu-kwó<sup>í</sup>-re 'I drive back'  
I-return-causative
3. -he 'causative'  
ke-he<sup>é</sup> 'to teach'  
know-causative
4. -hi 'passive'  
na-ga-hí<sup>í</sup> 'it is broken'  
it-break-passive
5. -lgu  
wu-ta-lgu<sup>í</sup> 'I add to'  
I-putaway-?

6. -ge

behá-ge  
count-?

'to pay'

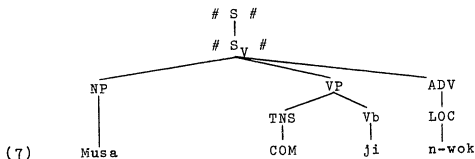
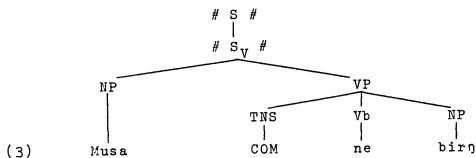
Some of the meanings are difficult to extract in a systematic way, as is somewhat typical of the construction. Here in Buduma the extensions are verbal suffixes. In Tera and Ga'anda the same information is conveyed by particles; in Dera the process may be suffixation, change in verb stem plus reduplication, or separate particles, there being a single instance of each; in Hausa the mechanism is change of the final vowel of the verb and resulting tonal perturbations.

By contrast, Angas has no such structures. It has no verbal suffixes, no particles associated with the verb, and no internal changes of the verb stem (except for tone in the verbal noun form). It may be that Angas once had a system like Hausa, and that the loss of the final vowel of morphemes resulted in the loss of the verbal extensions. But in any case, the same semantic content can be conveyed in Angas, although by different means. 'the idea "inside" requires a locative phrase, "causative" requires the verb 'to cause' and an embedded sentence, and "passive" as defined above is also a locative phrase (see Chapter 6).

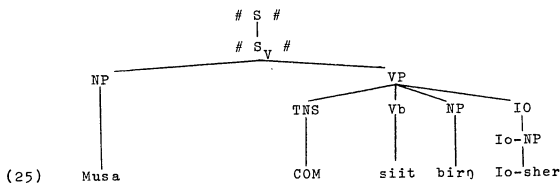
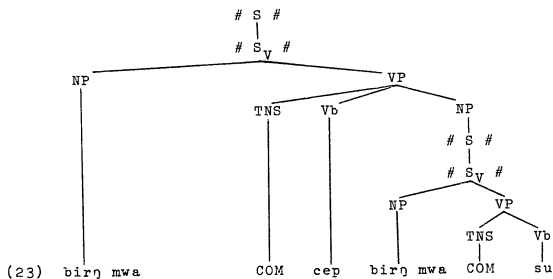
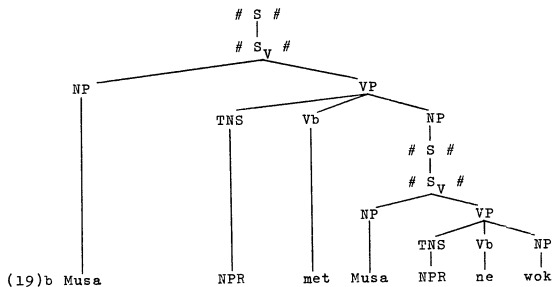
But the question is whether any unified syntactic process denoted by the phrase "verbal extension" really exists. It seems that the only unity among the set of facts outlined above is semantic, and that the idea of a "Chadic

characteristic of verbal extensions" is questionable. All languages allow for semantic modification of the verb, and in that sense they have the same process, but not even all the Chadic descriptions which use the term use it to refer to the suffixation which is implied. Finally, what unity syntactically is there among the three processes used in Dera, and if there is none what is the value of grouping the semantic facts together. It is my feeling that the matter of verbal extensions has been granted undue status in Chadic studies; this may be because of its clear (and unified) presence in Hausa, the Chadic language best known to date, but it seems not to be a syntactic characteristic of Chadic.

In conclusion of this chapter, I present the following diagrams to illustrate the underlying structures of some of the sentences presented above:







## Chapter 4

### The Noun Phrase

The Noun Phrase in Angas is very complex, having a great capacity for multiple embeddings, with a number of transformational rules required to derive the proper surface forms. Following Chomsky (1965),<sup>1</sup> the NP is considered here to be the source for the infinite recursive nature of the language through the reintroduction within NP of the initial symbol #S# which calls for a further pass through the base rules, ad infinitum.

In its surface structure, the NP may be considered to have as many as six potential parts: a head noun, a modifying construction (an adjective or embedded sentence), a possessive phrase, a determiner, a plural marker, and a number word. Of these, only the head noun is obligatory. Below are some examples of surface NPs:

- (1) as 'dog'  
      dog  
      noun
- (2) as bijim<sup>2</sup> 'big dog'  
      big  
      aj

---

<sup>1</sup>See especially the discussion on pages 134ff.

<sup>2</sup>Dera (P. Newman 1972:Chapter 7) shows an ordering adjective-noun as common, but this seems to be less characteristic of Chadic languages than the noun-adjective ordering found in Angas.

- (3) as bijim kî-nyi 'his big dog'  
           of-him  
           POS
- (4) as bijim kî-nyi da 'that big dog of his'  
           that  
           det
- (5) as bijim kî-nyi da mwa 'those big dogs of his'  
           pl
- (6) as bijim kî-nyi da mwa pet 'those five big dogs  
           five of his'  
           num

These structures appear to be parallel to those found in Sura. Note the following examples of Sura NPs (from Jungraithmayr 1964a:24):

- (7) gürüm 'man'  
       gürüm mó 'men'  
           pl
- lú díisè mó 'these huts'  
       hut this pl
- yèm dí rét mó 'good people'  
       son(?) a(?) good pl
- kéróm kè dǎa mó 'my father's servants'  
       servant of father pl

Presumably this last NP is ambiguous as to the gloss given or "servant of my fathers"; see the discussion below regarding the scope of the plural marker in Angas.

The analysis proposed here is to treat adjectives, possessive phrases, and number words as derived from embedded sentences. Each makes a statement regarding the head noun, and all equally "modify" the head noun. This treatment of adjectives follows that proposed for such constructions since

the earliest days of transformational grammar;<sup>3</sup> I have extended the notion here to cover the other areas mentioned, I think with adequate independent motivation.

Postulating a sentential source for adjectives correlates well with my proposal that negation occurs only at the sentence level (see rule B1), because some NPs containing adjectives occur with the negative marker within the NP. For example, note the following:

(8)     go     riit-riit mwa     'good people'  
          person good-good pl

(9)     go riit-riit ka     mwa     'bad people'  
                              neg

(10)    go riit-riit ka mwa ji ka 'the bad people didn't  
  come'

As I have formulated the rules, the only possible source of neg in (9) is at the sentence level, so riit-riit ka mwa has a sentence as its source; that this source cannot be simply the sentence in which the NP occurs is clear from (10), where the sentence-level neg itself appears. Thus the NP-internal neg must come from an embedded sentence, and if adjectives also have a sentential source the nature of the embedded sentence is to a large extent defined. Thus the two analyses complement each other.

The proposal made here, then, is that the NP in underlying structure consists of three parts: a head noun, an optional modifying construction, and an optional determiner;

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<sup>3</sup>For example, see Chomsky (1957:72ff,113-114).

alternatively, NP may be rewritten as an embedded sentence. It takes three rules to show this structure, however, because the head noun itself may be a conjoined structure (actually a nominal plus ACC), and pronouns are handled as both lexically introduced (in which case they do not occur with any modification) and transformationally derived (in which case the modifiers are deleted by identity of reference, see Chapter 11). The rules needed are the following:<sup>4</sup>

B16. NP  $\rightarrow$   $\left\{ \begin{array}{l} \text{NOM (ACC)*} \\ \text{\#S\#} \end{array} \right\}$

B17. NOM  $\rightarrow$   $\left\{ \begin{array}{l} \text{NOUN} \\ \text{pn} \end{array} \right\}$

B18. NOUN  $\rightarrow$  noun (\#S\#) (det)

Here pn refers to pronouns which are introduced lexically. Anaphoric pronouns are produced on a second lexical pass which "spells" phonologically the NPs marked [+pro] by the rules of Chapter 11.

Any two or more nouns can be conjoined in ACC by B16. ACC is generally realized as ki-NP (see B6), but ki- is replaced by dan between the last two nouns of a conjoined series. Note the following examples:

<sup>4</sup>Rosenbaum (1967:12) notes that in English all constructions for which I am here (for Angas) proposing the structure of embedded sentence dominated by NP in English have an alternative extraposed form in which it occurs, and he concludes that this it is in fact the head noun of the NP which occurs with a sentence modifier, and thus the head noun is always present in every rewrite of NP. There are no constructions in Angas which make such an analysis necessary or even desirable. The structure of the NP as proposed here is similar to that proposed by Newman for Tera (P. Newman 1970:179-180).

(11) Musa daŋ Bitrus mwa ji 'Musa and Bitrus came'  
and they come

(12) Musa ki'-Bitrus daŋ Umaro mwa ji 'Musa and Bitrus  
and and Umaro came'

All NPs involving conjoined elements are plural, as can be seen in the fact that all the above examples occur with plural person-aspect markers. This spreading of the feature [+pl] to the person-aspect marker from the conjoined NP is accomplished by rule T6.2, and since this is a far-reaching rule all discussion will be delayed until Chapter 6. Any conjoined NPs involving pronominal elements have several additional factors which must be kept in mind. First, in all such constructions ki' always appears, even where daŋ would be expected by the above statement. Then, if a pronominal form and a noun are conjoined, the pronominal form must occur first:

(13) \*Musa ki'-mun mu ji  
we we

(14) mun ki'-Musa mu ji 'Musa and I/we came'

Second, if the conjoined elements are both pronominals a precise ordering is necessary as follows: first person, second person, third person. Note the following examples:

(15) mun ki'-ga mu ji 'you and I/we came'  
we you we

(16) mun ki'-mwa mu ji 'I/we and they came'  
we they we

(17) wun ki'-mwa wu ji 'you (sg/pl) and they  
you(pl) you(pl) came'

As can be seen in the above examples, the person of the person-aspect marker must be the same as that of the first

member of the conjoined NP. Third, the pronominal form occurring before ki- is always [+pl] (again, note the above examples). This results in the systematic ambiguities which appear in the glosses above, since both underlying singular and underlying plural forms appear pluralized in such constructions.

Now, how can such facts be handled? The occurrence of ki- and daŋ can be completely handled in the lexicon, following the pattern of restricting morpheme distributions discussed at various places above. Then, the ordering of conjoined elements within a single NP which must be accounted for is as follows:

$$(18) \begin{bmatrix} +\text{pro} \\ +\text{I} \end{bmatrix} > \begin{bmatrix} +\text{pro} \\ +\text{II} \end{bmatrix} > \begin{bmatrix} +\text{pro} \\ +\text{III} \end{bmatrix} > [-\text{pro}]$$

I shall simply suggest here that ordering of conjoined elements within an NP is based upon the scale of strengths sketched above, although I do not know how to formulate such a required ordering with the transformational framework.<sup>5</sup> Rules producing the plural forms as required are discussed in Chapter 6.

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<sup>5</sup>P. Newman (1970:44) for Tera suggests the following formulation to handle the same facts:

SD: X - NOM<sub>1</sub> - and - NOM<sub>2</sub> - Y

SC: 1 - 4 - 3 - 2 - 5

Condition: NOM<sub>2</sub> ranks above NOM<sub>1</sub> in the following scale:

1st-person pronoun	1
2nd-person pronoun	2
NOUN	3

The ordering in (18) is fairly common in Chadic. Tera manifests the same ordering, and Margi and Hausa appear to do so as well. In Tera, however, an additional rule may apply, separating conjoined subjects, moving the second conjunct to a position following the predicate (P. Newman 1970:53). This rule may apply only if the first member of the conjoined structure is a pronominal form, and when the conjunct is moved this form becomes plural. By contrast, Angas does not allow conjunct movement. The sequence ki-NP can occur after the predicate, but only as an expansion of ACC as ADV, not as an alternate form of a conjoined NP subject. Note the examples in (19):

- (19) Musa daŋ Bitrus mwa ji } 'Musa and Bitrus came'  
 \*Musa ji ki'-Bitrus  
 Musa ji ki'-Bitrus 'Musa came with  
 (=brought) Bitrus'  
 Musa daŋ Bitrus mwa se bii } 'Musa and Bitrus ate'  
 eat thing  
 \*Musa se bii ki'-Bitrus  
 Musa se bii ki'-Bitrus 'Musa ate with Bitrus'

Notice that in the construction with ACC under ADV a singular pronominal form may occur initially, although in the conjoined NP structure only plural forms occur. The examples in (20) bring this out clearly:

- (20) \*ŋan ki'-Bitrus mu ji  
 mun ki'-Bitrus mu ji 'I/we and Bitrus came'  
 ŋa ji ki'-Bitrus 'I came with (=brought) Bitrus'  
 mu ji ki'-Bitrus 'we came with (=brought)  
 Bitrus'



Thus, the facts of Angas and Tera are virtually opposite, with the exception of the identical phenomenon of the ordering of conjoined elements with the NP. That is, in Tera pluralization of the pronominal form takes place only if its conjunct is moved; in Angas, movement of the conjunct is not possible, but pluralization of the pronominal form always takes place.

In a recent review of Newman's Tera grammar, Ritter (1972) suggests that the conjunct movement rule occurs widely in Chadic and may indeed be reconstructible as a feature of proto-Chadic. Angas is an example of a Chadic language which lacks the rule; if it is reconstructible in proto-Chadic, it has been lost in Angas.

I have mentioned above that adjectives in Angas are derived from embedded sentences. For example, for (2) above the underlying structure proposed is:

(2) a)  $[as_i [as_i bijim]_S]_{NP}$

where the subscripts are used to show identity of reference. Rules B16-B18 generate the sequence:

noun - # S #

Then rules B1-B3 supply the structure for the embedded sentence under discussion. What is needed in the derivation are rules to delete the repeated noun and irrelevant structure.



- (22) as komeye nyi bijim ji 'the dog which is big  
come came'

Alternatively, however, further rules may be applied. First, the [+pro] NP may be deleted, specifically when directly following komeye (i.e., when the [+pro] NP was initial in the embedded sentence). This may be formulated as follows:

#### T4.2 Pro-Deletion (optional)

SD: X - komeye - NP - Y  
[+pro]

1                      2                      3

SC: 1 - 2 - 3  $\Rightarrow$  1 - 3

Application of T4.2 to (2)b will have the following result:

- (2) d) [as komeye biJim]<sub>NP</sub>

If not further affected by rules, (2)d will result in the surface NP:

- (2) e) as komeye bi.jim 'the dog which is big'

(2)e is a legitimate NP, as can be seen in the following sentences:

- (23) Musa ne as komeye bijim 'Musa saw the dog which  
is big'

- (24) as komeye biJim ji 'the dog which is big  
came'

Obviously, the meanings of (2)c and (2)e are identical.

Finally, a simple noun-adjective construction may be derived from (2)d. This derivation is performed by an optional rule deleting the relative clause introducer komeye in certain specified environments:

### T4.3 Rel-Deletion (optional)

SD: X - komeye -  $\left\{ \begin{array}{c} \text{aj} \\ \text{num} \\ \text{TNS} \end{array} \right\}$  - Y

1            2            3            4

SC: 1 - 2 - 3 - 4  $\Rightarrow$  1 - 3 - 4

Condition: obligatory if 3 is [+pl]

The rule applies only when the element following the relative clause introducer is an adjective, a numeral (see below), or TNS (for reasons discussed in Chapter 5), and then its application is optional unless the following element is [+pl], in which case it is obligatory. The crux here is that when an NP which is acted upon by these rules is [+pl], rules T4.2 and T4.3 must either both apply or both not apply. Of course, T4.3 cannot apply unless T4.2 does because of the requirements of its SD; but T4.3 must be constrained so as to obligatorily apply if T4.2 has, given a plural NP. This is to block ungrammatical sequences like:

(25) \* as mwa komeye pet  
dog pl which five

which must be realized either as:

(26) as mwa komeye mwa pet 'dogs which are five'  
dog pl which they five

if neither T4.2 or T4.3 applies, or as:

(27) as mwa pet 'five dogs'  
dog pl five

if both rules apply. The constraint on the interaction of these rules is formalized here by the condition on T4.3. Any number greater than 'one' is lexically [+pl]; any aj occurring with a plural NP will be marked [+pl] by T6.3 and



1	gak	11	sàr po gak	21	tek bap po gak
2	bap	12	sàr po bap	22	tek bap po bap
3	kwan	13	sàr po kwan	30	tek kwan
4	fiir	14	sàr po fiir	40	tek fiir
5	pet	15	sàr po pet	50	tek pet
6	piimii	16	sàr po piimii	60	tek piimii
7	pobap	17	sàr po pobap	70	tek pobap
8	pokun	18	sàr po pokun	80	tek pokun
9	pofar	19	sàr po pofar	90	tek pofar
10	sàr	20	tek bap	100	dari (Hausa) <sup>6</sup>

Some restrictions will need to be stated regarding the presence of the plural marker with nouns occurring with numbers larger than 'one' in sentences (whether or not under NPs), but this can be handled by selectional features in the lexicon. The plural marker has its source at the level of the noun in this description. Further, at this same level compound nouns are generated by allowing two or more nouns to be inserted lexically in sequence (for details see Chapter 5). These two matters can be handled by formulating the rule giving the structure of the final base rule having to do with nouns as follows:

B19. noun  $\rightarrow$  N\* (pl)

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<sup>6</sup>Interestingly, Foulkes (1915:68) notes that the form tek sàr was used for 100 at the time of his research, although the Hausa dari was coming into use. The two equivalent forms are currently in use among the Sura (Jungraithmayr 1964a:43).



- c) [as mwa [as mwa komeye pet bijim]<sub>S</sub>]<sub>NP</sub> T4.2
- d) [as mwa [as mwa pet bijim]<sub>S</sub>]<sub>NP</sub> T4.3
- e) [as mwa komeye as mwa pet bijim]<sub>NP</sub> 2nd cycle  
[+pro] T4.1
- f) [as mwa komeye pet bijim]<sub>NP</sub> T4.2
- g) [as mwa pet bijim]<sub>NP</sub> T4.3

This stage of the derivation of (27) points out the need for a rule which was not needed in the derivation of (2); we need here a rule to move the adjective to its proper position preceding any instance of the plural marker (actually preceding the determiner) within the NP:

#### T4.4 Adjective Movement

SD: [X - (det) - pl - aj - Y]<sub>NP</sub>

1                      2                      3                      4

SC: 1 - 2 - 3 - 4  $\Rightarrow$  1 - 3 - 2 - 4

T4.4 must be last cyclic so as to preserve the NP identity required by the Relativization rule, T4.1. If it applied at stage d above T4.1 would have to be refined so as to apply at stage e. When T4.4 is applied to (27)g above, the result is:

h) [as bijim mwa pet]<sub>NP</sub> T4.4

(27)h is realized in surface structure as:

i) as bijim mwa pet 'five big dogs'  
dog big pl five

Note the legitimacy of (27)i as an NP as shown in the following sentences:





Before discussing the possessive phrase it will be necessary first to discuss briefly the two types of possession which are common in Chadic languages. Many of these languages divide the noun inventory into two groups, those which are obligatorily (inalienably) possessed and those which are optionally (alienably) possessed. Nouns in the first group are normally kinship and body-part terms. This phenomenon is well substantiated in the literature on Chadic; it is found in Sura (Jungraithmayr 1964a:27), Tera (P. Newman 1970:106), Dera (P. Newman 1972:Chapter 7), Buduma (Lukas 1939:41ff), and Ga'anda (R. Newman 1971:103ff).

In his treatment of these constructions in Tera, for example, P. Newman (1970) proposes two distinct sources for the two types of possession, which may be characterized as in (31):

- (31) 'X belongs to Y'  $\Rightarrow$  X be Y 'X of Y' (alienable)  
 'X is connected to Y'  $\Rightarrow$  X-Y 'Y's X' (inalienable)

Note that the possessive marker be occurs in cases of alienable possession but no such marker occurs in inalienable possession. In addition to the semantic distinction present in underlying structure, Newman notes also that there is a syntactic difference between the two constructions in that the plural marker occurs after the juxtaposed nominals in the inalienable and before the possessive phrase in the alienable case.

A similar treatment is proposed for Ga'anda (R. Newman 1971:103ff). Operating within a case grammar framework,

Newman derives possession from the juxtaposition of two nouns. In the inalienable case the second noun is in the dative case, and the surface result is simple juxtaposition. Alienable possession is derived from a juxtaposition of nouns in which the second is in the benefactive case, with the result of juxtaposition with an intervening possessive marker. Thus, Ga'anda possession may be characterized as in (32):

- (32)  $X - Y_{\langle B \rangle} \Rightarrow X \text{ i-} Y$  'X of Y' (alienable)  
 $X - Y_{\langle D \rangle} \Rightarrow X-Y$  'Y's X' (inalienable)

As in Tera, the possessive marker occurs in the alienable construction and is lacking in the inalienable construction.

Angas too has this distinction between obligatory and optional or alienable and inalienable possession, as shown in the examples in (33):

- (33)  $\text{bir}\eta \text{ ki-Musa mwa}$  'Musa's horses'  
horse of-Musa pl  
 $\text{pup ki-Musa mwa}$  'Musa's "fathers" '  
father  
 $\text{aas ki-Musa mwa}$  'Musa's teeth' (which  
tooth he found)  
 $\text{aas-Musa mwa}$  'Musa's teeth' (in his  
mouth)

Indeed, pronominal possessors differ in form depending on just this distinction.<sup>7</sup> Notice the examples in (34):

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<sup>7</sup> Interestingly, Foulkes (1915:22) recognized this distinction but he was unable to find any underlying basis for it.

(34)	birŋ f-ga mwa of-you	'your (m) horses'
	pup-ga mwa	'your (m) "fathers"'
	aas f-ga mwa	'your (m) teeth' (which you found)
	aas-ga mwa	'your (m) teeth' (in your mouth)

That is, alienable possession requires the use of the possessive marker, while inalienable possession is by juxtaposition only, with no possessive marker. Angas mirrors the situation in Tera and Ga'anda where the presence of the possessive marker is conditioned in the same way.

For alienable possession in Angas the underlying structure proposed here is that of the possessor as the initial NP of a non-verbal sentence, with the possessed as the NP occurring in an accompaniment phrase as predicate, the whole embedded under an NP with identical reference to the possessed. Thus underlying the NP John's dog is dog with the sentence John is with a dog = John has a dog (there is no verb have in Angas). Given such an underlying structure, the derivation is very similar to that discussed above:<sup>8</sup>

- (35) a) [as mwa<sub>i</sub> [Musa kí-as mwa<sub>i</sub>]<sub>S</sub>]<sub>NP</sub> underlying  
b) [as mwa komeye Musa kí-as mwa]<sub>NP</sub> T4.1  
[+pro]

---

<sup>8</sup>The following discussion makes reference only to NP possessives. Some pronominal possessives will be produced in exactly the same way, with phonological rules providing the proper phonological shape. Some third person pronominal possessives will be derived from structures like those above by rules to be discussed in Chapter 11, with subsequent phonological development similar to that applicable to first and second person forms.

(35)b may then become the surface sentence:

- c) as mwa komeye Musa kí-mwa 'the dogs which  
 dog pl which with-them Musa has'

Alternatively, however, (35)b may be converted into an NP containing a possessive phrase. This is done by deleting the relative clause introducer and the accompaniment phrase, and inserting the possessive marker before the subject noun. The rule may be formulated as follows:

#### T4.5 Possessive Formation (optional)

SD: X - NP - komeye - noun - ACC - Y  
 1 2 3 4 5

SC: 1 - 2 - 3 - 4 - 5  $\Rightarrow$  1 - Pos-3 - 5

When applied to (35)b, T4.5 has the following effect:

- d) [as mwa Pos-Musa]<sub>NP</sub> T4.5

Like the adjective construction discussed above, the possessive phrase must be moved into position preceding the determiner (or plural marker if no determiner is present). The rule moving it, however, must follow the rule moving the adjective (T4.4) because in derived structures involving both adjectives and possessives, the adjectives precede. The rule needed to move the possessive construction to its proper position can be formulated as follows:

#### T4.6 Possessive Movement

SD: [X - (det) - pl - Pos-NP - Y]<sub>NP</sub>  
 1 2 3 4

SC: 1 - 2 - 3 - 4  $\Rightarrow$  1 - 3 - 2 - 4

Like T4.4, T4.6 must be last cyclic so as to preserve the NP identity required by the Relativization rule T4.1. The application of T4.6 to (35)d results in the following:

e) [as Pos-Musa mwa]<sub>NP</sub> T4.6

With no further rules to apply, (35)e becomes the surface NP:

f) as ki-Musa mwa 'Musa's dogs'  
dog of-Musa pl

Now, these rules are not sensitive as to whether the possessed noun is plus or minus for the feature [inal] (in-alienable), so all noun-plus-noun constructions derived from the underlying structure proposed are separated (or in another interpretation perhaps "linked") by the possessive marker. The result, then, is the first three sentences in (33).

Inalienable possession in my analysis is derived from an underlying compound noun construction (see the full discussion in Chapter 5), in which the first noun is [+inal]. So, the fourth sentence in (33) is in underlying structure:

[aas-Musa]<sub>noun</sub>  
[+inal]

This will result in a simple compound noun construction by the rules of Chapter 5:

aas-Musa 'Musa's tooth'  
[+inal]

The semantic interpretation rules will interpret this as inalienable possession, although the identical construction with a [-inal] noun will not be so interpreted:

- (36) [birŋ-Musa]<sub>noun</sub>  
 [-inal]  
 birŋ-Musa 'Musa's horse'  
 [-inal]

(36) is apparently identical in meaning to the following:

- (37) [birŋ<sub>i</sub> [Musa ki'-birŋ<sub>i</sub>]<sub>S</sub>]<sub>NP</sub>  
 birŋ ki-Musa 'Musa's horse'

Both (36) and (37) are possessive constructions, the distinction between (36) and the compound construction in aas-Musa being simply that aas is [+inal] and so available to the inalienable interpretation in this construction while birŋ is not, being [-inal].

When a pronominal form appears as the second noun, the result is as follows:

- (38) [aas-ŋan]<sub>noun</sub>  
 [+inal]  
 aas-na 'my tooth'  
 [+inal]

This is an inalienable construction. Compare this with the underlying structure of a similar alienable compound:

- (39) [birŋ-ŋan]<sub>noun</sub>  
 [-inal]

It is not possible in Angas for a pronoun to be part of a compound noun construction with a [-inal] noun, so a possessive marker is obligatorily inserted between the two forms here by a rule to be discussed below in another context, T9.4:

- [birŋ f-ŋa]<sub>noun</sub> T9.4  
 [-inal]  
 birŋ fana 'my horse'

T9.4 inserts the possessive marker only if the first noun is [-inal] and the second [+pro], and only if they are juxtaposed. It will be noted that any underlying distinction between the compound noun and the noun with embedded accompaniment phrase modifier is eliminated in surface structure by this rule.

In summary, then, the possessive constructions in Angas are of two types, one with a possessive marker and one without, just as in Tera and Ga'anda. The semantic interpretation rules, however, must be constrained so as to apply an inalienable interpretation always and only if the juxtaposed construction is in underlying structure, and only if the first noun is [+inal]. The following derivations exemplify the types of possession possible in Angas and their development:

(40)

- |  |   |      |
|--|---|------|
| a) [birŋ <sub>i</sub> [Musa kɨ́-birŋ <sub>i</sub> ] <sub>S</sub> ] <sub>NP</sub><br>[-inal] <sub>i</sub> | b) [aas <sub>i</sub> [Musa kɨ́-aas <sub>i</sub> ] <sub>S</sub> ] <sub>NP</sub><br>[+inal] |      |
| [birŋ komeye Musa kɨ́-birŋ] <sub>NP</sub><br>[-inal]   | [aas komeye M kɨ́-aas] <sub>NP</sub><br>[+inal]   | T4.1 |
| [birŋ Pos-Musa] <sub>NP</sub><br>[-inal]   | [aas Pos-Musa] <sub>NP</sub><br>[+inal]   | T4.5 |
| birŋ kɨ́-Musa 'Musa's horse'   | aas kɨ́-Musa 'Musa's tooth'   |      |
| c) [birŋ-Musa] <sub>noun</sub><br>[-inal]  | d) [aas-Musa] <sub>noun</sub><br>[+inal]  |      |
| birŋ-Musa 'Musa's horse'   | aas-Musa 'Musa's tooth'   |      |



a) [birɔ<sub>i</sub>[ʔan ki'-birɔ<sub>i</sub>]S]<sub>NP</sub>      b) [aas<sub>i</sub>[ʔan ki-aas<sub>i</sub>]S]<sub>NP</sub>  
[-inal] [+inal]

[birɔ komeye ʔan ki'-birɔ]<sub>NP</sub>      [aas komeye ʔan ki'-aas]<sub>NP</sub> Th.1  
[-inal] [+pro] [+inal] ['pro]

[birɔ Pos-ʔan]<sub>NP</sub>      [aas Pos-ʔan]<sub>NP</sub> Th.5  
[-inal] [+inal]

birɔ fana 'my horse'      aas fana 'my tooth'

c) [birɔ-ʔan]<sub>noun</sub>      d) [aas-ʔan]<sub>noun</sub>  
[-inal] [+inal]

[birɔ Pos-ʔan]<sub>noun</sub> T9.4  
[-inal]

birɔ fana 'my horse'      aas-na 'my tooth'

When possessive constructions occur together with the plural marker mwa as in (35)f ambiguities may result. For example, the following surface structure is ambiguous as to being either 'the women's hut' or 'the woman's huts':

This is a result of the obligatory movement of the possessive phrase to a position preceding mwa by T4.6 in the event that the underlying structure is as in (43):

(43) [lu mwa<sub>i</sub> [mat ki'-lu mwa<sub>i</sub>]<sub>S</sub>]<sub>NP</sub>

But the same surface ordering will result from the underlying string of (44):

(44) [lu<sub>i</sub> [mat mwa ki'-lu<sub>i</sub>]<sub>S</sub>]<sub>NP</sub>

The two underlying structures have identical surface manifestations, the differing scope of the plural marker in underlying structure having been lost. When both the head noun of the NP and the subject noun of the embedded sentence are plural the result is a sequence of two plural markers in succession in surface structure:'

(45) [lu mwa<sub>i</sub> [mat mwa ki'-lu mwa<sub>i</sub>]<sub>S</sub>]<sub>NP</sub>

lu	ki'-mat	mwa	mwa	'the women's huts'
hut	of-woman	pl	pl	

In all the discussion of this chapter, the head noun has rarely been mentioned. All nouns are inserted by the lexical insertion rule, of course, and I assume that they are lexically marked in such a way as to disallow (for example) pluralization for those mass nouns which never occur in a plural form, with restrictions regarding possible possessivization and other matters handled in the same way.

It is necessary to state here that Angas does not have grammatical gender, because grammatical gender has been suggested as a characteristic feature of Chadic languages. Indeed, it is found in Hausa, Logone (Lukas 1936:14), and Buduma (Lukas 1939:25), among others. Like Angas, however,

Sura does not have it (Jungraithmayr 1964a:23). In the languages mentioned as having gender, its manifestation is generally in terms of the form of the link in a genitival construction (see Chapter 5), plus the obvious pronominalization effects in those languages which distinguish gender in pronouns.

I conclude this chapter with a sample derivation of an NP containing an adjective, a numeral, and a possessive phrase. Again, the ordering of embeddings in underlying structure makes no difference in the order of elements in the surface structure when all are reduced from relative clauses.

I assume in this derivation that all sequences of as mwa have identical reference:

(46)

a)

[as mwa[as mwa[as mwa[Musa ki'-as mwa]<sub>S</sub>pet]<sub>S</sub>bijim]<sub>S</sub>]<sub>NP</sub>

1st cycle  
T4.1 b)

[as mwa[as mwa[as mwa komeye Musa ki'-as mwa pet]<sub>S</sub> bijim]<sub>S</sub>]<sub>NP</sub>  
[+pro]

T4.5 c)

[as mwa [as mwa [as mwa Pos-Musa pet]<sub>S</sub> bijim]<sub>S</sub>]<sub>NP</sub>

2nd cycle  
T4.1 d)

[as mwa [as mwa komeye as mwa Pos-Musa pet bijim]<sub>S</sub>]<sub>NP</sub>  
[+pro]

T4.2 e)

[as mwa [as mwa komeye Pos-Musa pet bijim]<sub>S</sub>]<sub>NP</sub>

T4.3 f)

[as mwa [as mwa Pos-Musa pet bijim]<sub>S</sub>]<sub>NP</sub>

3rd cycle

T4.1 g)

[as mwa komeye as mwa Pos-Musa pet bijim]<sub>NP</sub>  
[+pro]

T4.2 h)

[as mwa komeye Pos-Musa pet bijim]<sub>NP</sub>

T4.3 i)

[as mwa Pos-Musa pet bijim]<sub>NP</sub>

T4.4 j)

[as bijim mwa Pos-Musa pet]<sub>NP</sub>

T4.6 k)

[as bijim Pos-Musa mwa pet]<sub>NP</sub>

1)

as bijim ki-Musa mwa pet 'Musa's five big dogs'  
dog big of-Musa pl five

## Chapter 5

### Nominalization

Nominalization is a topic of major importance and interest in current work in transformational grammar. Some of the more important articles on the subject are Chomsky (1970), Fraser (1970), Lees (1966), and McCawley (1970).

There is general agreement that some types of nominalization (gerundive nominals) are to be derived transformationally in English. Basically the dispute is whether nominalizations of a second type (derived nominals) are to be derived by transformational rules from other structures, or whether they should instead be found in the lexicon (or derived by lexical rules) and inserted into sentences like any other lexical items. Chomsky (1970:188) summarizes the issue as follows:

We might extend the base rules to accommodate the derived nominal directly (I will refer to this as the 'lexicalist position'), thus simplifying the transformational component; or, alternatively, we might simplify the base structures, excluding these forms, and derive them by some extension of the transformational apparatus (the 'transformationalist position').

It is not possible to demonstrate conclusively that either course is totally satisfactory for all of Angas nominalization, although in an earlier treatment I made an attempt to defend a totally transformationalist approach. Rather, it seems that the various sorts of nominalizations should be

treated individually, each structure being evaluated on its own merits, a position which mirrors Chomsky's proposals for English. My point in this chapter, however, is not to attempt any theoretical arguments, but rather to present the sorts of structures found in Angas and to present data which supports my decision to treat them as variously transformationally or lexically derived. For these purposes it will be most convenient to break down such structures into six types.

The first type of nominalization I shall discuss will be referred to as the Possessive Gerundive. The Possessive Gerundive is a very common construction, being composed of a verbal noun (to be discussed below) followed by a possessive phrase. I will propose that the Possessive Gerundive is best handled as transformationally derived from a sentence embedded under an NP. The second type of nominalization I will discuss I will refer to as the Collapsed Gerundive. I will conclude that these are frozen expressions, best handled as lexically derived. Third, I will discuss Agentive nominals, constructions of noun plus VP in which the noun is semantic subject of the verb. A transformational analysis is proposed for these constructions. Fourth, I will discuss Locative nominals, constructions of noun plus VP in which the noun defines the location in which the action of the verb takes place. I propose a transformational derivation of these as well. Fifth, I will discuss a third

noun plus verb construction, the Objective nominal, in which the noun is semantic object of the verb, rather than subject or locative. One attempted transformational derivation of these constructions fails, and a second is proposed. Finally, I will discuss Compound Nouns. These constructions are common in the languages of the world, but no satisfactory transformational analysis has been proposed to my knowledge. I handle them in this grammar as generated in the base.

First, the Possessive Gerundive. Basically, the NP containing a Possessive Gerundive has three distributions. The following sentences illustrate its use as sentence subject (Possessive Gerundive constructions are underlined):

- (1) dyiip ki-shwe le po Musa 'guinea-corn harvest-  
harvesting of-corn hurt mouth ing is difficult  
for Musa'
- (2) dyiip ki-shwe kam mun 'guinea-corn  
crowd us harvesting is
- (3) dyiip ki-shwe shaŋ duŋ 'guinea-corn har-  
pleasant much vesting is very  
pleasant'
- (4) dyiip ki-shwe ki-Musa riit duŋ<sup>1</sup> 'Musa's guinea-corn  
of-Musa good much harvesting is  
very good'

The following examples illustrate the use of the Possessive Gerundive as object of the verb in a VP:

- (5) Musa met dyiip ki-shwe 'Musa will harvest guinea-  
go corn'
- (6) Musa man dyiip ki-shwe 'Musa knows how to harvest  
know guinea-corn'

---

<sup>1</sup>Actually, this sentence is ambiguous. It will be discussed below in detail.

- (7) Musa rot dyiip ki-shwe 'Musa wants to harvest  
want guinea-corn'
- (8) Musa kit dyiip ki-shwe 'Musa finished harvesting  
finish guinea-corn'

The third use of the Possessive Gerundive is probably the most common. Here it occurs as the object of the locative preposition po- (see Chapter 6). In this construction the semantic content of the phrase is what might be called the continuous aspect; the best gloss is something like 'X is at the point of doing Y'. Note the following examples:

- (9) Musa po-dyiip ki-shwe 'Musa is harvesting  
guinea-corn'
- (10) Musa po-fot f-wu<sup>2</sup> 'Musa is listening to  
hearing of-you you (pl)'

P. Newman (1970:58) notes that in Tera verbs in the continuous share certain properties with nouns, including the use of the linking particle. It is not clear that this is the case in Angas, since there is no linking particle as such, and the genitive relationship is shown only by a possible tonal change (see below). The presence of the following possessive construction as in the above cases is, however, an indication that to some extent the construction treats the verb as a noun, and this is further shown in the fact that it is the verbal noun form which occurs, not the finite verb form. So like in Tera, in Angas verbs in the continuous aspect (to the extent that the locative construction above

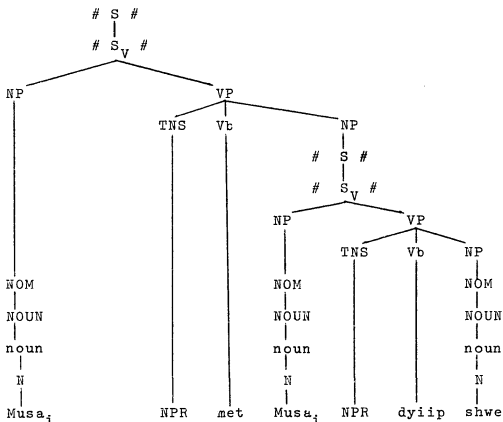
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<sup>2</sup>The formative f- is the shape of the possessive marker which occurs with pronominal forms. A phonological rule will change f-wu to fu.



can be considered an aspect at all) manifest noun characteristics, although not the same characteristics which are present in Tera.

Under a proposal of transformational derivation of the Possessive Gerundive, those cases in which the construction occurs as object of the verb in the VP (as in (5)-(8) above) are easily handled. The following underlying structure can be proposed, for example, for (5):



The first rule required is a rule to delete the subject of the embedded sentence in the event that it is identical in reference to the subject of the matrix sentence. This rule may be formulated as follows:

### T5.1 Object Equi-NP Deletion

SD:  $X - NP - \left\{ \begin{matrix} \text{prep} \\ \text{TNS-Vb} \end{matrix} \right\} - [NP - VP - (ADV)]_S - Y$

1      2              3              4              5

SC: 1 - 2 - 3 - 4 - 5  $\Rightarrow$  1 - 2 - 3 - 5

Condition: 2 and 4 are identical in reference

Rewriting the structure proposed above for (5) in linear form, we get the following:

a)  $[Musa_i [NPR met [[Musa_i [NPR dyiip shwe]_{VP}]_S]_{NP}]_{VP}]_S$

Application of T5.1 results in the following:

b)  $[Musa [NPR met [[[NPR dyiip shwe]_{VP}]_S]_{NP}]_{VP}]_S$

It is now the case that the embedded sentence contains only VP and no other constituents. Ross (1966) proposed that such S-nodes be deleted by convention. Applying his convention to the above structure results in the following:

c)  $[Musa [NPR met [[NPR dyiip shwe]_{VP}]_{NP}]_{VP}]_S$

Now the embedded verb must be changed into its verbal noun form. The conditioning environment for this change is complex:

### T5.2 Verbal Nominalization

SD:  $X - [(noun) - [TNS - Vb - (NP)]_{VP} \left( \left( \begin{matrix} \text{pl} \\ \text{LOC} \\ \text{Pos-noun} \end{matrix} \right) \right) ]_{NP} - Y$

1              2      3              4

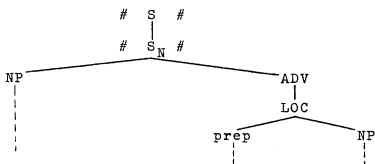
SC: 1 - 2 - 3 - 4  $\Rightarrow$  1 - 3 - 4  
[+VN]

The major environment is that the sentence node has been deleted, although others are necessary as given in the SD (most of these come into play in derivations below). The



- (11) a) [Musa<sub>i</sub> [NPR met [[Musa<sub>i</sub> [NPR ji]<sub>VP</sub>]<sub>S</sub>]<sub>NP</sub>]<sub>VP</sub>]<sub>S</sub>  
 b) [Musa [NPR met [[[NPR ji]<sub>VP</sub>]<sub>S</sub>]<sub>NP</sub>]<sub>VP</sub>]<sub>S</sub> T5.1  
 c) [Musa [NPR met [[NPR ji]<sub>VP</sub>]<sub>NP</sub>]<sub>VP</sub>]<sub>S</sub> pruning  
 d) [Musa [NPR met [[ji]<sub>VP</sub>]<sub>NP</sub>]<sub>VP</sub>]<sub>S</sub> T5.2  
     [+VN]  
 e) Musa ki' met ji 'Musa will come'  
     NPR go coming

The derivation of the Possessive Gerundive when occurring as object of a preposition (as in (9) and (10)) is very similar to that proposed above in which it is the object of the verb in a VP. The rule assigning internal to LOC (B7, see Chapter 6) will generate structures like the following:



This results in sentences like the following:

- (12) Musa po-makaranta 'Musa is at school'  
                 school            
       NP prep   NP  
 (13) Musa n-din-lu<sup>3</sup> 'Musa is in the hut'  
                 inside-hut            
       NP prep   NP  
 (14) Musa ka-kè-lu<sup>3</sup> 'Musa is on top of the hut'  
                 at-head-hut            
       NP prep   NP

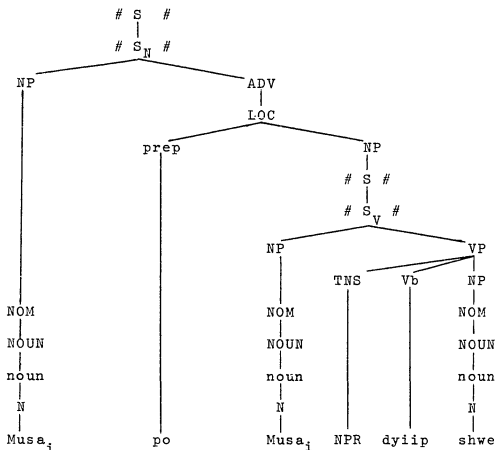
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<sup>3</sup>(13) and (14) contain compound noun constructions, which will be discussed in detail below.

This is identical to the structure found in (9) and (10):

- (9) Musa po-dyïip ki-shwe 'Musa is harvesting  
       NP prep harvesting of-corn guinea-corn'  
 (10) Musa po-fot f-wu 'Musa is listening  
       NP prep hearing of-you to you (pl)'

Following the pattern of the above derivation, then, we may suggest as the underlying structure for (9) the following:



The derivation would then be as follows:

- a) [Musa<sub>i</sub> [po [[Musa<sub>i</sub> [NPR dyïip shwe]<sub>VP</sub>]<sub>S</sub>]<sub>NP</sub>]<sub>ADV</sub>]<sub>S</sub>  
 b) [Musa [po [[[NPR dyïip shwe]<sub>VP</sub>]<sub>S</sub>]<sub>NP</sub>]<sub>ADV</sub>]<sub>S</sub> T5.1

- c) [Musa [po [[NPR dyiip shwe]<sub>VP</sub>]<sub>NP</sub>]<sub>ADV</sub>]<sub>S</sub> pruning
- d) [Musa [po [[dyiip shwe]<sub>VP</sub>]<sub>NP</sub>]<sub>ADV</sub>]<sub>S</sub> T5.2  
[+VN]
- e) [Musa [po [[dyiip Pos-shwe]<sub>VP</sub>]<sub>NP</sub>]<sub>ADV</sub>]<sub>S</sub> T5.3  
[+VN]

The final output is (9).

It is more difficult to propose an underlying and form and derivation for those cases in which the Possessive Gerundive occurs as sentence subject (as in (1)-(4) above). One treatment would be to propose that in each such case a sentence is embedded under the NP subject. For (1), then, an underlying structure like the following would be required:

- a) [[[Musa<sub>i</sub> [NPR dyiip shwe]<sub>VP</sub>]<sub>S</sub>]<sub>NP</sub> [NPR le po-Musa<sub>i</sub>]<sub>VP</sub>]<sub>S</sub>

Then what is needed is a subject Equi-NP Deletion rule, which could be formulated as follows:

#### T5.4 Subject Equi-NP Deletion

SD: 
$$[[[NP - VP - (ADV)]_S]_{NP} - X - Vb - NP - Y]_S$$
  

$$\quad \quad \quad 1 \quad \quad \quad \quad \quad 2 \quad \quad \quad \quad \quad 3 \quad \quad 4$$

SC: 1 - 2 - 3 - 4  $\Rightarrow$  2 - 3 - 4

Condition: 1 and 3 are identical in reference

The derivation of (1), then, would be as follows:

- a) [[[Musa<sub>i</sub> [NPR dyiip shwe]<sub>VP</sub>]<sub>S</sub>]<sub>NP</sub> [NPR le po-Musa<sub>i</sub>]<sub>VP</sub>]<sub>S</sub>
- b) [[[[NPR dyiip shwe]<sub>VP</sub>]<sub>S</sub>]<sub>NP</sub> [NPR le po-Musa]<sub>VP</sub>]<sub>S</sub> T5.4
- c) [[[[NPR dyiip shwe]<sub>VP</sub>]<sub>NP</sub> [NPR le po-Musa]<sub>VP</sub>]<sub>S</sub> pruning
- d) [[[[dyiip shwe]<sub>VP</sub>]<sub>NP</sub> [NPR le po-Musa]<sub>VP</sub>]<sub>S</sub> T5.2  
[+VN]

e) [[[dyiip Pos-shwe]<sub>VP</sub>]<sub>NP</sub> [NPR le po-Musa]<sub>VP</sub>]<sub>S</sub> T5.3  
           [+VN]

The final output would be (1).

Now, while such a derivation is possible for (1) and (2) above, it is not the case that it would suffice for (3) and (4). In (3) and (4) there is no apparent subject of the resulting nominalisation, so only an unspecified subject is possible in the underlying structure. So, for example, for (4) the following underlying structure could be proposed:

a) [[[go ce [NPR dyiip [shwe [Musa ki'-shwe]<sub>S</sub>]<sub>NP</sub>]<sub>VP</sub>]<sub>S</sub>]<sub>NP</sub>  
       riit duŋ]<sub>S</sub>

But now there is no identity between go ce 'someone' and another NP in the sentence. So what is needed for the sentence is a rule deleting the unspecified subject in such structures (which, being a designated element, will be recoverable). This rule may be formulated as follows:

#### T5.5 Unspecified Subject Deletion

SD: [[ [X - go ce - Y]<sub>S</sub> ]<sub>NP</sub> - VP - Z]<sub>S</sub>  
           1      2                          3

SC: 1 - 2 - 3  $\Rightarrow$  1 - 3

Applying this rule to the above structure and assuming the derivation of the possessive construction by rules discussed in Chapter 4, results in the following:

b) [[[[NPR dyiip[shwe Pos-Musa]<sub>NP</sub>]<sub>VP</sub>]<sub>S</sub>]<sub>NP</sub> riit duŋ]<sub>S</sub> T5.5

Now, since only VP occurs dominated by S pruning takes place, and the derivation is as follows:

- c) [[[NPR dyiip[shwe Pos-Musa]<sub>NP</sub>]<sub>VP</sub>]<sub>NP</sub> riit duŋ]<sub>S</sub> pruning  
 d) [[[dyiip[shwe Pos-Musa]<sub>NP</sub>]<sub>VP</sub>]<sub>NP</sub> riit duŋ]<sub>S</sub> T5.2  
     [+VN]  
 e) [[[dyiip[Pos-shwe Pos-Musa]<sub>NP</sub>]<sub>VP</sub>]<sub>NP</sub> riit duŋ]<sub>S</sub> T5.3  
     [+VN]

This is, of course, the structure directly underlying (4).

In Chapter 2 I mentioned briefly another instance in which the Possessive Gerundive occurs, viz. sentences in which the VP is emphasized and contains an NP object. I gave the following example:

- (15) siit ki-gi do Musa cin 'Musa bought a goat'  
       buying of-goat do

The details of emphasis are discussed in Chapter 9, but briefly the development is as follows. The underlying structure of (15) is:

- a) Musa COM siit gi  
       [+e]

Here the feature [+e] represents the lexical choice of emphasis possible for verbs. Since verbs alone cannot be emphasized, but only VPs, the entire VP is fronted for emphasis and TNS deleted, the verb is marked [+VN], the emphasis marker do is inserted, and the dummy verb cin 'do' appears in the position vacated by the moved verb:

- b) siit gi do Musa cin  
       [+e]  
       [+VN]

Then T5.3 applies:

- c) siit Pos-gi do Musa cin  
       [+e]  
       [+VN]

The final result is (15).



For Ga'anda, R. Newman (1971:20ff) proposes that verbal nouns are formed whenever two verbs occur in sequence, the second being marked as being a noun in such an environment, ultimately to become a verbal noun. For Angas such a formulation would not be adequate because of sentences such as that discussed above in which the Possessive Gerundive occurs as sentence subject. That is, in Angas it is not the fact that the verb follows a verb which makes it a verbal noun, but rather that it occurs in an environment which is in other circumstances available only to nouns. One of these environments is, of course, the position immediately following the main verb, but this is not the only such position. In the emphasized verb sentence (15) the verb is actually functioning as a noun subject, although in the derivation proposed it is not actually marked as such. Should its designation as NP be formalized its specification as [+VN] and the deletion of TNS would follow automatically from the rules formulated earlier.

Now, the question arises as to how best to treat the Possessive Gerundive construction. I have outlined above a transformationalist treatment, but a lexicalist treatment is possible as well.

A lexicalist approach here would require the juxtaposition in the lexicon of the verb-plus-noun sequences which are candidates for this construction. Rather than listing all of these (a task nearly infinite due to the vast

productivity of the construction), a lexical rule could combine them.<sup>4</sup> In any case, it would seem advantageous to allow rules T5.2 and T5.3 to produce the verbal noun form and insert the possessive marker.

If such a lexical rule were devised, however, it would be identical to B12 which gives the internal structure of VP, except that TNS would be omitted. Note that indirect objects can occur with the Possessive Gerundive, as shown in the following:

- (16) dyiip ki-shwe mva le po-Musa 'harvesting guinea-  
for-them corn for them was  
difficult for  
Musa'

By advocating a transformationalist analysis here duplication of this structure can be avoided.

Further, the resulting Possessive Gerundive for the most part does not allow the expansion available to most lexical nominals. They may not occur with the plural marker *nva*:

- (17) \*dyiip ki-shwe mwa le po Musa<sup>5</sup>  
pl

<sup>4</sup> See Annear and Elliott (1965) for a proposal regarding such rules. Also Chomsky (1965:184ff).

<sup>5</sup> In (17) and (19) it is possible, of course, for the modifiers to occur directly with the NP object of the verb of the Possessive Gerundive, but this is beside the point here. That is, (19) can legitimately mean 'the harvesting of the big guinea-corn is difficult for Musa', but this is of course a different structure and irrelevant to the discussion here.

Also, numerals cannot modify Possessive Gerundive constructions:

- (18) \*dyiip ki-shwe mwa pet le po Musa  
five

Finally, Possessive Gerundive constructions may not be modified by adjectives:

- (19) \*dyiip ki-shwe bijim le po Musa  
big

In apparent contradiction to the above, however, is the fact that Possessive Gerundive constructions do allow modification by possessive phrases:

- (20) dyiip ki-shwe ki-Musa riit duŋ 'Musa's guinea-  
of-Musa good much corn harvesting  
is very good'

In that numerals, adjectives, and possessive constructions are all derived from embedded sentences (see Chapter 4), it appears that the evidence here is conflicting, because possessive constructions are allowed while the others are not. However, this is due to confusion on the level of surface structure only. In (20) this is portrayed beautifully in that it is actually ambiguous; (2) may mean either:

- (a) Musa's guinea-corn harvesting is very good (=4))

or

- (b) the harvesting of Musa's guinea-corn is very good

In the latter case we have a simple modification of the noun guinea-corn by an embedded sentence:

- (20) b) [go ce [COM dyiip [shwe<sub>1</sub> [Musa ki-shwe<sub>1</sub>]<sub>S</sub>]<sub>NP</sub>]<sub>VP</sub>  
riit duŋ]<sub>S</sub>

On the other hand, in the former case the structure is as follows:

(20) a) [[[Musa[COM dyiip shwe]<sub>VP</sub>]<sub>S</sub>]<sub>NP</sub> riit dun]<sub>S</sub>

In (a) the semantic content is that the harvesting which Musa does is very good, while in (b) the meaning is that the harvesting of the crop which Musa owns is very good. There is no reading possible which would mirror a "true" possessive like 'The guinea-corn harvesting which Musa has is very good'. In the derivation of (b) above T5.5 applies to delete the unspecified subject, with the derivation proceeding as above; in (a) a further rule is required which will be discussed below.

The point I am making here is simply that in no instance does the Possessive Gerundive function as the head of an NP; at times (as in the case of the possessive construction) it appears to do so on the surface, but it does not in deep structure. On the other hand, there is a bit of evidence that the Possessive Gerundive has a sentence as its origin, namely that it can occur with ADV, which appears only at the sentence level. Note the following sentences:

- (21) dyiip ki-shwe cinii le po-Musa 'harvesting guinea-corn today today is difficult for Musa'
- (22) dyiip ki-shwe dun-dun le po-Musa 'harvesting a lot of guinea-corn much-much is difficult for Musa'
- (23) dyiip ki-shwe n-limar le po-Musa 'harvesting guinea-corn in the farm in-farm is difficult for Musa'

Finally, there is a note of evidence contrary to all the above in that it supports (possibly) a lexicalist position. This is the fact that the Possessive Gerundive has no element of tense involved, contrary to what might be expected if it was derived from VP as I propose. I handle this fact simply by deleting TNS in the derivation, but I have no explanation for the fact. In fact, in none of the constructions in Angas treated here as nominalizations does tense appear; TNS is restricted to full sentences only.

My conclusion, then, is that Possessive Gerundive constructions in Angas are best handled as transformationally derived from embedded sentences in underlying representation. In all the examples discussed in detail to this point the derivation has involved deletion of the subject of the embedded sentence. In (20), however, this is not the case. (20)a has as its deep structure the following:

a) [[[Musa [COM dyiip shwe]<sub>VP</sub>]<sub>S</sub>]<sub>NP</sub> riit dun]<sub>S</sub>

Here there is only one instance of Musa, so the Equi-NP Deletion rules cannot apply. The embedded sentence cannot, however, function itself as an NP, so the following rule is necessary:

#### T5.6 Subject Movement

SD: X - [[NP - VP - (ADV)]<sub>S</sub>]<sub>NP</sub> - Y  
           1      2      3          4      5

SC: 1 - 2 - 3 - 4 - 5  $\Rightarrow$  1 - 3 - Pos-2 - 5

Condition: 1  $\neq$  teko or tene



d) [[[dyiip Pos-shve]<sub>VP</sub> Pos-Musa]<sub>NP</sub> riit duŋ]<sub>S</sub> T5.3  
 [+VN]

The second nominalization I will consider I will refer to as the Collapsed Gerundive. It occurs much less commonly than the Possessive Gerundive, and the number of such constructions is heavily restricted. The following pairs of sentences represent the total inventory of such constructions known to me:

- |         |  |                             |
|---------|--|-----------------------------|
| (25) a) | Musa dyiip shve<br>harvest corn                | 'Musa harvests guinea-corn' |
| b)      | shvedyiip ki-Musa<br>of                        | 'Musa's g-corn harvesting'  |
| (26) a) | Musa le do<br>raise voice                      | 'Musa shouts'               |
| b)      | dole ki-Musa                                   | 'Musa's shouting'           |
| (27) a) | Musa cin shit<br>do                            | 'Musa works'                |
| b)      | shiticin ki-Musa                               | 'Musa's work-doing'         |
| (28) a) | Musa tu kok                                    | 'Musa plays'                |
| b)      | koktu ki-Musa                                  | 'Musa's playing'            |
| (29) a) | Musa se yil<br>eat earth                       | 'Musa eats earth (=thanks)' |
| b)      | yilse ki-Musa                                  | 'Musa's thanksgiving'       |
| (30) a) | Musa tok shik<br>speak word                    | 'Musa speaks'               |
| b)      | shiktok ki-Musa                                | 'Musa's speaking'           |
| (31) a) | Musa bam ke ki-Bitrus<br>snatch head of-Bitrus | 'Musa rescues Bitrus'       |
| b)      | kebam ki-Bitrus ki-Musa                        | 'Musa's rescue of Bitrus'   |

- (32) a) Musa dur pii 'Musa gives instructions'  
           command place
- b) piidur ki-Musa 'Musa's instructions'
- (33) a) mwa len po 'they argue'  
           they think mouth
- b) poleŋ ki-mwa 'their arguing'

Obviously, this construction is not nearly as productive as the Possessive Gerundive, and yet the similarities of the derived forms, and the retention of the semantic relationships in the sentential and nominal constructions are striking. It would be a simple matter to devise a rule to generate these expressions from an underlying structure similar (or perhaps identical) to that proposed for the Possessive Gerundive. The verb and its object would be interchanged in position, the verb would be marked to undergo a phonological tone-lowering rule, and the subject would be moved into a position following the new construction and preceded by the possessive marker. But these constructions seem rather to be fixed phrases in that there are no occurrences of part of one such construction with part of another, and the difficulty would lie in restricting application of the rule to just these particular combinations of morphemes. Further, the verbal change to low tone is without parallel elsewhere in Angas grammar. These considerations point to the preferability of simply listing the Collapsed Gerundive constructions in the lexicon, cross-referencing them in some way to the parts from which they are made (although it is not clear just how this should best be done). Alternatively, they



could be formed by lexical rule from the parts involved if such rules could be formulated economically.

In fact, Collapsed Gerundive constructions function just like lexical nouns in that they may occur with full NP expansion (taking into consideration certain lexical restrictions regarding quantification). Note the following pairs of NPs in which the first contains a lexical noun and the second a Collapsed Gerundive:

- |         |                                |                              |
|---------|--------------------------------|------------------------------|
| (34) a) | makaranta mwa                  | 'schools'                    |
|         | school pl                      |                              |
|         | b) shiktok mwa                 | 'words, messages'            |
| (35) a) | makaranta ki-mwa mwa           | 'their schools'              |
|         | of-them                        |                              |
|         | b) shiktok ki-mwa mwa          | 'their words, messages'      |
| (36) a) | makaranta ki-mwa mwa pet       | 'their five schools'         |
|         | five                           |                              |
|         | b) shiktok ki-mwa mwa pet      | 'their five words, messages' |
| (37) a) | makaranta riit ki-mwa mwa pet  | 'their five good schools'    |
|         | good                           |                              |
|         | b) shiktok riit ki-mwa mwa pet | 'their five good words'      |

A possible problem in the derivation lexically proposed here is the possessives. It seems intuitively unlikely that (35)b, for example, should have an underlying structure like the following:

- (38) [shiktok mwa<sub>i</sub> [mwa ki'-shiktok mwa<sub>i</sub>]<sub>S</sub>]<sub>NP</sub>

because mwa ki'-shiktok mwa 'they have words' is not a satisfactory sentence in itself. But that is exactly the

structure called for by the lexicalist analysis. Interestingly, when a modifier exists for shiktok such an underlying sentence is viable:

(39) mwa ki'-shiktok riit-riit mwa 'they have good words'

(40) mwa ki'-shiktok ce mwa 'they have some words'

Thus the apparent strangeness of the embedded sentence in (38) seems to be merely lexically idiosyncratic and thus of no significance in the argument.

Like the Possessive Gerundive, the Collapsed Gerundive has no trace of tense. While this fact was not considered as evidence for a lexicalist treatment with reference to the Possessive Gerundive, it serves as confirmatory evidence to the lexicalist approach here. My conclusion regarding Collapsed Gerundive constructions, then, is that they are best treated as lexically derived, with indexing to the parts from which they are made, but not derived by transformational rule.

There are many noun-plus-verb constructions in Angas which are tonally marked and which function as nouns. In the most common of these the noun element is semantic subject of the verb and is generally either go 'person' or bii 'thing'. I will term these constructions Agentive Nominals. For example:

- (41)      gò-karm    nam    mva<sup>7</sup>                    'butchers'  
          person-killing animal pl
- (42)      bìi-le        kir<sup>7</sup>                                'miracle'  
          thing-causing amazement

In this construction the noun is always low in tone, and the verb is in its verbal noun form. For the surface structure (43)a, which has the Agentive Nominal in subject position, we may propose (43)b as the underlying structure:

- (43) a) gò-karn nam mwa mwa ji       'the butchers came'  
                they come  
      b) [[go mwa, [go mwa, [NPR karn nam]<sub>VP</sub>]<sub>S</sub>]<sub>NP</sub> NPR ji]<sub>S</sub>

The first rule to apply is Relativization:

- c) [[go mwa komeye go mwa [NPR karn nam]<sub>vp</sub>]<sub>NP</sub> NPR ji]<sub>s</sub> T4.1  
[+pro]

Then T4.2 applies:

- d) [[go nwa komeye [NPR karm nam]<sub>VP</sub>]<sub>NP</sub> NPR ji]<sub>S</sub> T4.2

If no further rules apply, this structure will become the sentence:

- e) go mwa komeye mwa karm nam mwa ji 'the  
person pl who they kill animal they come butchers  
came'

Alternatively, the plural marker in d) may be deleted:

- f)  $[[go\ komeye\ [NPR\ karm\ nam]_{VP}]_{NP}\ NPR\ ji]_S$

(43)f will become the sentence:

7The morphemes go and bi are obligatorily prenasalized when occurring in their low-tone form, and they are the only morphemes with this characteristic. As I mentioned in Chapter 1, this may be a vestige of the proto-Chadic m- prefix of agent, instrument, and location (reflected by the prenasalization of go and bi and by the preposition n- respectively).

g) go komeye mwa karm nam mwa ji 'the butchers  
came'

This sentence is identical to (43)e. The rule to delete the plural marker in this context may be formulated as follows:

T5.7 Plural Deletion (optional)

SD: X - pl-komeye - Y

1 2 3

SC: 1 - 2 - 3  $\Rightarrow$  1 - 3

By ordering T5.7 before the rule deleting the relative clause introducer (T4.3), the latter rule can apply to the output of T5.7:

h) [[go [NPR karm nam]<sub>VP</sub>]<sub>NP</sub> NPR ji]<sub>S</sub> T4.3

(43)h is now subject to the rules discussed earlier in this chapter. The final stages of the derivation are as follows:

i) [[go [karm nam]<sub>VP</sub>]<sub>NP</sub> NPR ji]<sub>S</sub> T5.2  
[+VN]

(43)i may be the final stage, resulting in the sentence:

j) gò-karm nam mwa ji 'the butchers  
person-killing animal they come came'

Or, T5.3 may apply optionally:

k) [[go [karm Pos-nam]<sub>VP</sub>]<sub>NP</sub> NPR ji]<sub>S</sub> T5.3  
[+VN]

At both stage i) and k) a further rule is needed to mark the noun subject of the verbal noun to make it undergo a phonological rule to give it low tone. This rule may be formulated as follows:

# T5.8 Compound Rule

$$SD: [X - \text{noun} - \text{Vb} - Y]_{NP}$$

$$[+VN]$$

1                  2                  3

$$SC: 1 - 2 - 3 \Rightarrow 1 - 2 - 3$$

$$[+TL]$$

The feature [+TL] makes the item so marked subject to the tone-lowering rule, as required. Application of T5.8 to the above structure results in the following:

1) [[go [karm Pos-nam]<sub>VP</sub>]<sub>NP</sub> NPR ji]<sub>S</sub>                  T5.8

[+TL][+VN]

This structure directly underlies the sentence:

m) gò-karm kì-nam mva ji 'the butchers came'

of-animal

The meaning of (43)m and (43)a and (43)j is the same. (43)j and (43)m are derived as shown above; (43)a is similar, except that instead of T5.7 applying at stage d), the plural marker is moved to a position following the VP. This optional rule may be formulated as follows:

# T5.9 Rel Movement (optional)

$$SD: [\text{noun} - (\text{det}) - \text{pl} - \text{komeye} - \text{VP} - Y]_{NP}$$

1                  2                  3                  4

$$SC: 1 - 2 - 3 - 4 \Rightarrow 1 - 3 - 2 - 4$$

Applying T5.9 to stage d) above results in the following:

n) [[go komeye [NPR karm nam]<sub>VP</sub> mva]<sub>NP</sub> NPR ji]<sub>S</sub>                  T5.9

Application of T4.3 and T5.2 results in (43)a.

The following example illustrates the derivation of an Agentive Nominal in object position:



A lexicalist treatment here would require duplication of all relevant subcategorization and selection features in the lexical rules which would generate such constructions, since clearly a mere listing of the occurring constructions would be without value.

Second, the presence of the negative marker within the NP containing such constructions in my analysis must have a sentence origin. This evidence is only complementary, of course, not decisive, because the base rules could be formulated differently so as to allow NP negativization. Note these examples of Agentive Nominals containing negatives:

- (48)      gò-la      shii ka mwa      'non-followers'  
              person-taking foot neg pl
- (49)      gò-yak      am ka mwa      'those who do not  
              drawing water      draw water'
- (50)      gò-ten      kom ka mwa      'those who do not  
              sewing ear      pay attention'

In that the only source for the negative marker proposed in this grammar is a sentence, an analysis which derives Agentive Nominals from embedded sentences complements this proposal.

Third, the rules required to derive such forms under the proposed formulation require only three additional rules, utilizing for the most part rules which have independent syntactic motivation. In addition, the additional rules would be required anyway, even if a lexicalist approach were adopted. T5.8 would perhaps be a lexical rule, but T5.3 and T5.9 would be required as grammatical transformations in that

sentences having the structures of (43)i and (43)k, and (43)l and (43)n, all occur.

On the other hand, there is a degree of evidence that the derived structure is in fact a noun, and this evidence would appear on the surface to support a lexicalist approach. First, as in all the cases noted previously as well, there is no evidence of tense in the derived constructions, contrary to what might be expected in the derivation from a verbal sentence containing TNS in VP. This has been discussed before; it is not without significance, but the fact is that TNS is never present except in a full VP.

Second, the Agentive Nominal has a full expansion within the NP. Note the following examples (cf. (34)-(37)):

- (51)    gò-karm    nam    mwa            'butchers'  
         person-killing animal pl
- (52)    gò-karm nam    kì-mwa    mwa            'their butchers'  
                                 of-them
- (53)    gò-karm nam    kì-mwa mwa pet    'their five butchers'  
   five
- (54)    gò-karm nam    bijim kì-mwa mwa pet    'their five big  
   big            butchers'

The implication of the above is that this construction is considered to be a noun in terms of its distribution.

These arguments are not really arguments for a lexicalist analysis, however, because the structure of the expression as proposed here is an embedded sentence dominated by NP. It comes as no surprise, then, that the resulting construction functions like an NP.



Identical to the Agentive nominal in form, but differing from it in semantic content, is what I call here the Locative Nominal. In this construction the sequence is again noun-plus-verb, but in these instances the noun is a word denoting a place (whether spatial or temporal); that is, among others it carries the feature [+loc], which is important also in matters of emphasis (see Chapter 9). The noun thus defines the location in which the action of the verb (which occurs in its verbal noun form) occurs. Note the following examples:

- |      |                |        |                    |
|------|----------------|--------|--------------------|
| (55) | lu-karm        | nam    | 'slaughtering hut' |
|      | hut-killing    | animal |                    |
| (56) | pil-cik        | shve   | 'threshing area'   |
|      | place-pounding | corn   |                    |
| (57) | tar-kop        | shve   | 'planting season'  |
|      | moon-planting  | corn   |                    |
| (58) | pil-ter        |        | 'bed'              |
|      | place-sleeping |        |                    |

In this Locative Nominal the relation between the verb and following noun (if any) is that of verb-object, as in the Agentive Nominal. The difference between the two constructions lies in the relation of the first noun in the construction to the remainder. It will be noted that the noun introducing the construction is obligatorily low in tone, again like in the Agentive Nominal.

In that the semantic relation stays constant throughout all instances of the construction and the initial nouns form a natural class (both semantically and syntactically), a





To propose a lexical derivation of Locative Nominals would claim that the intermediate stages of sentences like (55) either do not mean the same (and thus should have differing sources in underlying structure), or that they are ungrammatical. Neither of these is the case, and the transformational derivation proposed demonstrates their semantic unity clearly.

In fact, there appear to be no arguments for a lexical derivation. The only additional rule needed for these Locative Nominals is T5.10, but it would be necessary anyway to equate those sentences in the derivation above, which are all identical in meaning. As expected from a structure dominated by NP, Locative Nominals allow full expansion within the NP (cf. (34)-(37)):

- |      |   |                                    |
|------|---|------------------------------------|
| (58) | lù-karm nam mwa<br>pl                   | 'slaughtering huts'                |
| (59) | lù-karm nam kì-mwa mwa<br>of-them       | 'their slaughtering huts'          |
| (60) | lù-karm nam kì-mwa mwa pet<br>five      | 'their five slaughtering huts'     |
| (61) | lù-karm nam bijim kì-mwa mwa pet<br>big | 'their five big slaughtering huts' |

But this only confirms their nominal character and is not a lexicalist argument. I conclude, then, that a transformational analysis like the above is justified for Locative Nominals.

I do not at this point know how best to treat the third noun-plus-verb construction, so I am here simply presenting the data and summarizing the opposing arguments as I see them.

In this third construction the noun which occurs is actually object of the verb, not subject or locative; thus I will call the construction the Objective Nominal. Nevertheless, the noun appears in the same position preceding the verb and is marked for low tone as in the Agentive and Locative Nominals, and the verb appears in the verbal noun form. Note the following examples:

- |      |                  |  |           |
|------|------------------|--|-----------|
| (62) | bii-sé           |  | 'food'    |
|      | thing-eating     |  |           |
| (63) | bii-dyilp        |  | 'harvest' |
|      | thing-harvesting |  |           |
| (64) | bii-kat          |  | 'wealth'  |
|      | thing-getting    |  |           |
| (65) | bii-kop          |  | 'seed'    |
|      | thing-planting   |  |           |

Perhaps because of its nature as semantic object, the most common noun in the Objective Nominal is bii 'thing'.

The Objective Nominal in at least some instances allows full expansion within the NP. Note the following examples (cf. (34)-(37)):

- |      |                   |        |         |
|------|-------------------|--------|---------|
| (66) | bii-kop           | mwa    | 'seeds' |
|      | thing-planting pl |        |         |
|      | but: *bii-sé      | mwa    |         |
|      |                   | eating |         |

- (67) *bii-kop ki-mwa mwa* 'their seeds'  
                     of-them  
           and: *bii-sé ki-mwa* 'their food'
- (68) *bii-kop ki-mwa mwa pet* 'their five seeds'  
                                     five  
           but: \**bii-sé ki-mwa mwa pet*
- (69) *bii-kop bijim ki-mwa mwa pet* 'their five big  
                                     big                    seeds'  
           and: *bii-dyilip bijim ki-mwa* 'their big  
                                     harvesting                    harvest'

In this sense, then, to at least some extent the Objective Nominals should be treated as ordinary nouns. (It is unclear in any case how to handle the restrictions regarding the possibility of pluralization, whether a lexicalist or transformationalist approach is used. The only easy way is to put these constructions in the lexicon in their full form, blocking pluralization as required for other mass nouns (e.g., am 'water').)

Further, as in all cases of nominalization mentioned above, there is no evidence for tense in the derived construction. As mentioned above, in Angas such evidence is not conclusive, but it does complement the expansion possibilities illustrated above.

In fact, the evidence supporting an analysis deriving Objective Nominals by transformational rules is weak. Only two arguments seem relevant, and neither is convincing. First, the same rules could be used for the most part, including the rules marking the verb for its verbal noun form

and the noun for its low-tone form. Thus such an analysis is not complicating to the grammar to at least that extent.

Second, the relation between the noun and its following verb remains constant in each such construction, so that in each case the preceding noun is semantic object of the verb. Notice the following, for example:

- |      |      |       |                        |                       |
|------|------|-------|------------------------|-----------------------|
| (70) | mwa  | kop   | bii-dyiip              | 'they planted a crop' |
|      |      |       | plant thing-harvesting |                       |
| (71) | Musa | siiit | bii-se                 | 'Musa bought food'    |
|      |      |       | buy thing-eating       |                       |
| (72) | Musa | rot   | bii-kat                | 'Musa wants wealth'   |
|      |      |       | want thing-getting     |                       |

The problem in proposing a transformational analysis of the Objective Nominal is to develop a satisfactory underlying structure which can be transformed as required by rules of sufficient generality; the problem in proposing a lexicalist analysis is that of accounting for the semantic relationship in the semantic interpretation rules, especially as it compares with the other noun-verb constructions discussed above (the resulting surface structures are the same, but the underlying semantic relations differ). In a sense, then, the problem is the same whichever approach is used, viz. to account for the semantics of the construction. The third possibility, that of simply including Objective Nominals as lexical items, avoids this problem, but it is not explanatory in any sense.

An underlying structure which might be proposed from a transformationalist point of view is to have identical NP

subjects in the matrix and embedded sentences. Then the derivation would proceed as follows:

(73)

- a) [Musa<sub>i</sub>[COM siit[bii<sub>i</sub>[Musa<sub>i</sub>[NPR se bii<sub>i</sub>]<sub>VP</sub>]<sub>S</sub>]<sub>NP</sub>]<sub>VP</sub>]<sub>S</sub>
- b) [Musa[COM siit[bii<sub>i</sub>[[NPR se bii<sub>i</sub>]<sub>VP</sub>]<sub>S</sub>]<sub>NP</sub>]<sub>VP</sub>]<sub>S</sub> T5.1
- c) [Musa[COM siit[bii komeye[NPR se bii<sub>i</sub>]<sub>VP</sub>]<sub>NP</sub>]<sub>VP</sub>]<sub>S</sub> T4.1  
[+pro]

(77)c, if not further affected by rules, will become the sentence:

- d) Musa siit bii komeye kí sè nyi 'Musa bought some-  
buy thing which he eat it thing which he  
will eat'

Alternatively, T4.2 may apply optionally:

- e) [Musa[COM siit[bii komeye[NPR se]<sub>VP</sub>]<sub>NP</sub>]<sub>VP</sub>]<sub>S</sub> T4.2

(73)d, if not further affected by rules, will become the sentence:

- f) Musa siit bii komeye kí sè

with the same meaning. Alternatively, T4.3 may apply optionally:

- g) [Musa [COM siit [bii [NPR se]<sub>VP</sub>]<sub>NP</sub>]<sub>VP</sub>]<sub>S</sub> T4.3

Given this derivation, it is the case that T5.2 must be allowed to apply only optionally here, perhaps with the condition present in T5.3, because (73)g need not be further affected by rules:

- h) Musa siit bii hí sè

with the same meaning. Alternatively, however, T5.2 may apply:



- i) [Musa [COM siit [bii [se]<sub>[+VN]</sub>VP]<sub>NP</sub>VP]<sub>S</sub> T5.2
- j) [Musa [COM siit [bii [se]<sub>[+VN]</sub>VP]<sub>NP</sub>VP]<sub>S</sub> T5.8
- k) Musa siit bii-se 'Musa bought food'  
thing-eating

A problem arises, however, when the meaning is not that the food is going to be eaten by Musa himself (e.g., in the context of a narrative in which he is sent to buy food for others), because the underlying structure above is inadequate in such an instance. In such a case, if the future eater is known, it will appear as the benefactor of Musa's buying.

Note the derivation of (74):

(74)

- a) [Musa[COM siit[bii<sub>i</sub>[Bitrus[NPR se bii<sub>i</sub>]VP]<sub>S</sub>NP]VP]<sub>S</sub>
- b) [Musa[COM siit[bii komeye Bitrus[NPR se bii]<sub>[+pro]</sub>VP]<sub>NP</sub>VP]<sub>S</sub> T4.1
- c) [Musa[COM siit[bii komeye Bitrus[NPR se]VP]<sub>NP</sub>VP]<sub>S</sub> T4.2
- d) [Musa[COM siit[bii Bitrus[NPR se]VP]<sub>NP</sub>VP]<sub>S</sub> T4.3
- e) [Musa [COM siit [bii Bitrus [se]<sub>[+VN]</sub>VP]<sub>NP</sub>VP]<sub>S</sub> T5.2

If this analysis is to be accepted, a further rule is needed here to convert structures like the above into one which makes the underlying subject of the embedded sentence the benefactive of the matrix verb in the derived structure. Further, this rule will have to be ordered before T5.8 so that the noun will not be marked for low tone before it is



f) [Musa [COM siit [bi1 [se]VP]NP]VP]S T5.2  
 [+VN]

g) [Musa [COM siit [bi1 [se]VP]NP]VP]S T5.8  
 [+TL][+VN]

This analysis seems to have potential, but it is not yet clear that it is the best proposal. I leave the matter in this unsatisfactory state, but considering T5.11 to be a spurious rule.

The final type of Angas nominalization to be discussed is the Compound Noun.<sup>8</sup> In this construction two (or more) nouns are juxtaposed, all but the last being marked for obligatory low tone (as in the nominalizations above).

In that no verb is involved, the absence of any notion of tense in the derived construction is not relevant. Further, the fact that only nouns are involved makes the distribution of the Compound Noun in the fully expanded NP also of little significance. Note the following examples of the Compound Noun:

- |      |                              |                    |
|------|------------------------------|--------------------|
| (76) | lu-yin<br>hut-medicine       | 'dispensary'       |
| (77) | yin-tezu<br>medicine-termite | 'insecticide'      |
| (78) | limar-shwe<br>farm corn      | 'guinea-corn farm' |
| (79) | ngombii-limar<br>owner farm  | 'farm owner'       |

---

<sup>8</sup>This construction was briefly discussed in Jungraithmayr 1964b.

- |      |                       |                |
|------|-----------------------|----------------|
| (80) | nám-ma<br>meat-sheep  | 'mutton'       |
| (81) | tár-fwan<br>moon-rain | 'rainy season' |

In Chapter 4 I discussed Compound Nouns as the source for the inalienable possessive construction. We may suggest, then, that a more literal meaning of these is as follows: 'medicine's hut', 'termite's medicine', 'guinea-corn's farm', 'farm's owner', 'sheep's meat', and 'rain's month'. The following examples illustrate the distribution of the Compound Noun in the fully expanded NP (cf. (34)-(37)):

- |      |                                    |                               |
|------|------------------------------------|-------------------------------|
| (82) | lù-yin mwa<br>pl                   | 'dispensaries'                |
| (83) | lù-yin kì-mwa mwa<br>of-them       | 'their dispensaries'          |
| (84) | lù-yin kì-mwa mwa pet<br>five      | 'their five dispensaries'     |
| (85) | lù-yin bijim kì-mwa mwa pet<br>big | 'their five big dispensaries' |

As with the Objective Nominals, from a transformationalist point of view the problem here again is that of determining the source of such structures. Compound nouns have a fairly long history of treatment within transformational grammar, beginning with Lees (1966, but reprinted from an earlier monograph). Nevertheless, no satisfactory treatment has yet been proposed. The major argument against Lees' proposals is that he is forced to argue for underlying representations which are quite varied (and at times ad hoc), but which all result in the same constructions (e.g., see Chomsky 1970).

The same problem confronts us in Angas. Underlying representations for the above examples, for instance, would carry the following meanings:

- (76) a) 'room containing medicine' (or, 'room where  
medicine is dispensed')
- (77) a) 'medicine which kills termites'
- (78) a) 'farm in which corn is planted'
- (79) a) 'owner who has a farm'
- (80) a) 'meat from/of sheep'
- (81) a) 'moon in which rain falls'

or something similar. Obviously, a great deal of collapsing of structure is necessary; in fact, the proposal would be essentially that any two nouns within the same NP (assuming an embedded sentence under the head noun) could be optionally collapsed, all other structure being deleted. Such a rule would be formulated as follows:

T5.11 Compounding Rule (optional)

SD: [X - noun - Y - noun - Z]<sub>NP</sub>  
           1      2      3      4      5

SC: 1 - 2 - 3 - 4 - 5  $\Rightarrow$  2 - 4  
                                   [+TL]

Optionally, such a rule could be combined with T5.8 should that be desirable. Given the possibility of structures like the above, the following would be the result of the application of T5.11 (assuming previous application of T4.1, T4.2, T4.3):

- (76) b) [lu kí-yín]<sub>NP</sub>  $\Rightarrow$  lù-yín 'dispensary'  
           hut with-med

- (77) b) [yín-cwa            tezu       ]<sub>NP</sub> ⇒ yín-tezu     'insecticide'  
            med-killing termite
- (78) b) [lɪmar mwa kɔp shwe  
            farm they plant corn  
  
            n-dìn      kì-nyil]<sub>NP</sub> ⇒ lɪmàr-shwe     'corn-farm'  
            in-inside of-it
- (79) b) [ŋgombii kí-limar]<sub>NP</sub> ⇒ ŋgombii-limar   'farm owner'  
            owner with-farm
- (80) b) [nam we ma       ]<sub>NP</sub> ⇒ nam-ma          'mutton'  
            meat from sheep
- (81) b) [tar fwan te       n-dìn  
            moon rain fall in-inside  
  
            kì-nyil]<sub>NP</sub> ⇒ tar-fwan                    'rainy season'  
            of-it

of intuition. It might be possible, then, to simply have a compounding rule in the base to generate nouns in sequence in this construction. The resulting sequence of two or more nouns X-Y would then be interpreted by the semantic interpretation rules "Y is characterized by X", at least for English. Although such a semantic reading is of vast generality, it does capture in essence the semantic value of the compound. (In the same way, the compounding could be handled by lexical rule, rather than by base rule, with the same result.)

Coupled with such a treatment, however, must be the possibility for inserting compounds directly from the lexicon. This would take care of the problems Gleitman and Gleitman mention regarding the restricted use of at least some compounds. They point out that the compound horse-cart mirrors in structure both dog-sled (a sled which a dog pulls) and hay-wagon (a wagon that carries hay), but that horse-cart has the meaning only of the former. Such matters could be handled by having some compounds in the lexicon as lexical items, with reference to the parts from which they are composed.

There being no genuinely adequate account of compounding available, I adopt the proposal here to allow nouns to be generated in sequence in the base dominated by a single noun node (by rule B19), which provides the source for both the inalienable possessive construction and the "normal" compound noun construction. I assume that any specialized forms as discussed above will be found in the lexicon.

The Compound Noun construction is common in other Chadic languages as well, although there is no set way of representing the structure. In Buduma (Lukas 1939:27ff) the structure is formed simply by juxtaposition, with no change of either noun, as shown in the following example:

- (82)   ga'ibo   cū                               'sole of foot'  
         heart foot

Lukas points out that the relation is the same as in the possessive construction:

- (83)   tórbu ho mána                       'interpreter'  
         way   of conversation

This is perhaps more confirmatory evidence for my treatment of compounds and inalienable possession in the same general way. In Sura (Jungraithmayr 1964a:21) the situation is much like that in Angas, except the tonal changes differ. In Sura high tone nouns become mid or low, mid tone nouns become low, and one word ('head') becomes falling. All three languages will probably handle the data much the same, with the minor differences noted.

One final comment is necessary regarding linking. In Tera (P. Newman 1970:46) a noun occurs with a linker when followed by the plural marker, a determiner, or a modifier. I have shown in the above discussion that in Angas the linker occurs in none of these environments, but rather only when a noun is followed immediately by a second noun or a verbal noun, the linker in Angas being simply the tonal change called for by T5.8. I have no explanation for this difference between the languages but simply point it out here.



## Chapter 6

### Adverbial Constructions

I mentioned in Chapter 2 that the following adverbial constructions exist in Angas as rewrites of ADV: Accompaniment (ACC), Locative (LOC), Manner (MAN), Time (TIM), Instrument (INST), and Purpose (PUR). In this chapter I want to present the internal structure of each of these and give examples.

The Accompaniment phrase has the following form:

B.6 ACC → ki-NP

- (1) Musa ki-Bitrus mwa ji<sup>1</sup> 'Musa and Bitrus came'  
with they come
- (2) Musa ji ki-Bitrus 'Musa came with  
(=brought) Bitrus'

An interesting fact is that in a coordinate NP as in (1), a singular pronoun may never occur, although it can in a sentence like (2):

- (3) \*ɲan ki-Bitrus mu ji  
I we
- (4) mun ki-Bitrus mu ji 'Bitrus and I/we came'  
we
- (5) ɲa ji ki-Bitrus 'I came with (=brought)  
I Bitrus'

(See also the discussion in Chapter 4.) Two facts are important here. First, the two sentences are not properly to

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<sup>1</sup>In actuality (1) will appear with ɲan between the conjoined elements rather than ki-. See the discussion in Chapter 4.

be derived from the same source (contrary to the claim in Lakoff and Peters (1966) that the two have the same source in English). Rather, in each case an ACC phrase is generated, in subject position through the sequence NOM-ACC as developed by B16. Second, agreement rules are needed; one to produce a plural form of the person-aspect marker in those cases in which a coordinate NP or plural NP occurs as subject, and one to provide a plural form of the pronoun in those instances in which the pronoun occurs in a coordinate NP. The second of these rules may be formulated as follows:

#### T6.1 Pronoun Pluralization

$$\begin{array}{lcl}
 \text{SD: } X - \text{NOM} - \text{ki-NP} - Y & & \\
 \quad \quad \quad [+pro] & \underline{\hspace{1cm}} & \\
 \quad \quad \quad 1 \quad \quad 2 \quad \quad \quad 3 & & \\
 \\
 \text{SC: } 1 - 2 - 3 & \Rightarrow & 1 - 2 - 3 \\
 & & \quad [+pl]
 \end{array}$$

This adds the feature [+pl] to any pronominal form directly preceding an accompaniment phrase.

The agreement rule can be considered to be a feature-spreading rule which spreads the feature [+pl] from specific constructions (including those elements receiving the feature by T6.1). The rule may be formulated as follows:

#### T6.2 PA Pluralization

$$\begin{array}{lcl}
 \text{SD: } [X - \left\{ \begin{array}{l} \text{NOM} \\ [+pl] \\ \text{pl} \\ [\text{NOM-ACC}]_{\text{NP}} \end{array} \right\} - Y - \text{TNS} - Z]_S & & \\
 \quad \quad \quad \underline{\hspace{10cm}} & & \\
 \quad \quad \quad 1 \quad \quad \quad \quad \quad 2 \quad \quad 3 & & \\
 \\
 \text{SC: } 1 - 2 - 3 & \Rightarrow & 1 - 2 - 3 \\
 & & \quad [+pl]
 \end{array}$$

The pronominal form occurring following ki- is the independent set (see Chapter 11). The entire construction appears to be identical to that found in Logone (Lukas 1936:75), except that the ACC introducer is ka rather than the Angas ki-.

The Locative phrase has the following form:

B7. LOC → prep-NP

Here prep is the designation used to refer to the following lexical items:

n-	'in'
ka-	'at'
po-	'at' <sup>2</sup>
(lemet)(dir) <sup>3</sup>	'toward'

Note the following examples (LOC phrases are underlined):

- (6) Musa n-lu 'Musa is in the hut'  
in-hut
- (7) Musa ka-kasuwa 'Musa is at the market'  
at-market
- (8) Musa po-kasuwa 'Musa is at the market'  
at-market
- (9) Musa po-ji 'Musa is coming'  
at-coming
- (10) Musa lep Bitrus lemet Per 'Musa sent Bitrus to  
send toward Amper Amper'
- (11) Musa lep wasika lemet dir Bitrus 'Musa sent a  
letter toward letter to Bitrus'

---

<sup>2</sup>See the extended discussion regarding the construction with po- as the continuous aspect in Chapter 7.

<sup>3</sup>dir occurs only and always when the following NP is animate, at which time lemet occurs optionally.

- (12) Musa lep wasika dir Bitrus 'Musa sent a letter  
toward to Bitrus'

The Manner phrase has the following form:

$$B8. \text{ MAN} \rightarrow \begin{Bmatrix} \text{man} \\ \text{aj} \\ \text{num} \end{Bmatrix}$$

In some cases MAN is realized as a lexical manner adverbial. All of these items are ideophones, of which the following sentences present some examples:

- (13) Musa ji lele 'Musa came quickly'  
come quickly
- (14) Musa fot ŋkiinkiin 'Musa understood  
hear completely thoroughly'
- (15) Musa ne birŋ mwa aha 'Musa saw horses like  
see horse pl like-this this' (accompanied by  
gesture)

In other instances MAN is realized as a numeral:

- (16) birŋ mwa ji kvan 'the horses came "three-  
horse pl come three ly"' (=three horses  
came)
- (17) mwa met fiiir <sup>4</sup>ki-gak 'they went four together'  
they go four with-one

In still other instances MAN is an adjective (sometimes reduplicated):

- (18) mbanga son dun 'the drum is very long'  
drum long very/much
- (19) birŋ mwa ji dun-dun 'many horses came'  
horse pl come much-much

---

<sup>4</sup>ki-gak, though common, is the only ACC phrase using a numeral and not an NP and so is treated idiosyncratically rather than in the rules.

This same reduplicative process takes place in a non-verbal sentence with a plural subject. For example:

(20) birŋ da dit 'that horse is small'  
horse that small

(21) birŋ da mwa dit-dit 'those horses are small'  
pl

In the non-verbal sentences what is needed is a feature-spreading rule to spread the feature [+pl] to the accompanying adjective. Then both those adjectives and the constructions like (17) can be handled by a single rule of reduplication. The feature-spreading rule could be incorporated into T6.2, but for clarity the two are kept separate here:

#### T6.3 Feature-Spreading

$$\text{SD: } \frac{[X - \text{noun} - \text{pl} - Y - \{\text{aj}\} - Z]_S}{\begin{matrix} 1 & & 2 & & 3 \end{matrix}}$$

$$\text{SC: } 1 - 2 - 3 \Rightarrow 1 - \begin{matrix} 2 \\ [+pl] \end{matrix} - 3$$

The adjective reduplication rule can then be formulated as follows:

#### T6.4 Adjective Reduplication

$$\text{SD: } \begin{matrix} X & - & \text{aj} & - & Y \\ & & [+pl] & & \end{matrix}$$

$$\begin{matrix} 1 & & 2 & & 3 \end{matrix}$$

$$\text{SC: } 1 - 2 - 3 \Rightarrow 1 - 2-2 - 3$$

That is, any adjective which is [+pl] by T6.3 will be reduplicated with an identical copy. These rules will handle all MAN phrases.

In T6.3 it will be noted that the feature [+pl] is spread also to verbs which occur with [+pl] subjects. Verb

pluralization is a prevalent phenomenon in Chadie languages. Parsons (1960:7) notes its presence in Hausa, for example. It is common (though not in Hausa specifically) for plural verbs to be formed by some internal change involving the substitution of /a/ for a root vowel, or the addition of /a/ to the stem. Logone (Lukas 1936:20) has the same phenomenon for nouns as that mentioned here for verbs. Note the following examples:

- |      |   |                             |
|------|---|-----------------------------|
| (22) | gənem/gənam                             | 'woman/women'               |
| (23) | guli/g'ali                              | 'child/children'            |
| (24) | kəne <sup>?</sup> u/kana <sup>?</sup> u | 'father's brother/brothers' |
| (25) | kalge/kalage                            | 'mouth/mouths'              |

More to the point are the Sura verbal forms (from Jungraithmayr 1964a:31ff):

- |      |              |                           |
|------|--------------|---------------------------|
| (26) | pʊs/pwas     | 'to shoot'                |
| (27) | pʊt/pwat     | 'to go out'               |
| (28) | piin/pyan    | 'to melt'                 |
| (29) | diin/dawan   | 'to tie'                  |
| (30) | nugul/nwagal | 'to stretch out the hand' |
| (31) | fii/fyaa     | 'to blow'                 |
| (32) | sʊ/swa       | 'to run'                  |
| (33) | tʊ/twa       | 'to kill'                 |

In each of these the second form is the plural, which in Sura is used usually if a plural object is present (rather than a plural subject, as proscribed in the rule for Angas above), but sometimes with a plural subject as well; at

times the plural form is used as an iterative form. In addition to the forms above which show clearly the insertion of /a/, there are others which have a suppletive form with /a/.

Ga'anda also has such forms (R. Newman 1971:34f). Note the following examples, in which it is the plural object which is the conditioning factor:

(34) e bel-ince cinica 'I killed lions'

(35) e bebal-ince cinica 'I killed lions (many)'

Newman says about this construction (p. 35): "The intensive form usually reinforces the number of times the action is performed, particularly if the object acted upon is plural." In a footnote she elaborates on the /a/ insertion under discussion here:

The 'internal -a-' vowel change of the root is no doubt a reflex of the 'internal -a- plurals' found in other Chadic (and Afro-Asiatic) languages. In Ga'anda, however, it is not considered as a formation of a plural verb stem agreeing in number with plural objects, since a) the object may be singular, and b) a non-intensive verb stem can be used with plural objects.

Here, then, we have the same phenomenon performing a different function. More discussion of the 'internal -a- plurals' is found in Greenberg (1955) and Jungtraithmayr (1968).

This phenomenon of /a/ insertion occurs also in Angas, although it is not common. Note the following examples:

(36) tu/cwa 'to kill'

(37) fwiin/fwan 'to untie'

(38) kun/kwan 'to age'

(39) piin/pyan 'to break'

(40) ye/yak 'to seize'

I assume that the spreading of the feature [+pl] to all verbs occurring in the appropriate context will be acted upon by the phonological readjustment rules to produce a different verbal form in those cases in which a different form does in fact occur. Some cases change like the above examples; in other cases particular verbs allow an optional reduplicated form when [+pl]:

- (41) mwa cin teko mwa la nyi 'they tried to  
they do so-that they receive her marry her'
- (42) mwa cin-cin teko mwa la nyi 'they tried to  
marry her'

In some cases the presence of [+pl] will have no effect on the verbal form.

Adjective reduplication appears not to be as common in Chadic as the verb phenomenon discussed above. In Sura (Jungraithmayr 1964a:25) reduplication of the adjective denotes intensification of the quality denoted by the adjective. In Hausa, however, reduplication of the adjective denotes a lessening of the intensity of the quality denoted by the adjective:

- (43) fari/fari-fari 'white/whitish'
- (44) baki/baki-baki 'black/blackish'

In Buduma (Lukas 1939:34) and Logone (Lukas 1936:24) the same sort of adjectival agreement occurs with the plural marker occurring (or not occurring) with both the noun and the adjective, extending in Buduma even to the numerals (Lukas 1939:65).



The Angas adjective agreement is not limited to non-verbal or verbal sentences. Rather, it takes place any time an adjective occurs modifying a noun which is plural (either by being [+pl] lexically, or by occurring with ACC, or by occurring with the plural marker). Note the following examples, in which the adjective occurs within the NP:

- |      |                        |                    |
|------|------------------------|--------------------|
| (45) | birŋ warŋ<br>horse big | 'the big horse'    |
| (46) | birŋ nan-nan mwa       | 'the big horses'   |
| (47) | birŋ dit<br>small      | 'the small horse'  |
| (48) | birŋ dit-dit mwa       | 'the small horses' |

By ordering the reduplication rule and the feature-spreading rule before the rule moving the adjective to its position before the determiner (T4.4) no changes need to be made in T6.3, since at the time of its application the adjective will be in a position following the noun. Thus all occurrences of verb and adjective agreement can be handled by a single rule. As can be seen in (40) and (45)-(46) above in some cases the plural form is suppletive with the singular form, but this too can be handled by the phonological readjustment rules.

In this same context it will be of value to discuss two other instances of reduplication in Angas, although neither has anything to do with pluralization. First, it appears that Angas has the same process of intensification by reduplication for adjectives as mentioned in Sura above. Note the following examples:

- (49) birŋ nyii riit                    'this horse is good'  
       horse this    good
- (50) birŋ nyii riit-riit               'this horse is very good'
- (51) birŋ nyii riit duŋ                'this horse is very good'

Here the reduplicated adjective in (50) appears to have the same meaning as the strengthened adjective in (51), both differing in intensity from the simple adjective in (49). My proposal is to handle these by lexical rule, allowing adjective reduplication to be performed at the time of lexical insertion, with the semantic interpretation providing the proper semantic reading. It should be noted that this reduplication differs from that shown in (45)-(48), and the distinction will be available to the semantic interpretation rules because all the forms in (45)-(48) will be singular at the time the rules apply.

Second, there is a reduplicative structure in Angas which is stative in meaning and which I do not at this point know how best to handle. The following are examples:

- (52)    gi    tù-tù'                    'the goat is killed'  
       goat kill-kill
- (53)    ŋa ne gi tù-tù                'I saw the killed goat'  
       I see

The reduplication here is a result of the stative nature of the construction, having nothing to do with plurality or intensification of the quality involved. The tonal distinction is a function of the occurrence of the stative on the sentence level (as in (52)) or as a modification in the NP

(as in (53)).<sup>5</sup> These constructions can probably be handled as derived from structures like:

(54) [<sub>i</sub> [<sub>i</sub> [go ce [TNS tu <sub>i</sub>] <sub>VP</sub>] <sub>S</sub>] <sub>NP</sub>

utilizing for the most part rules developed earlier (see P. Newman 1970:58-61 for a similar treatment of a comparable construction in Tera). My data, however, are not sufficient to provide a basis for this proposal, especially as regards the legitimacy of the intervening stages of the derivation which should be acceptable because of the optional nature of some of the rules involved. I leave the matter undecided at this point, pending further investigation.

Time phrases have the following form:

B9. TIM  $\rightarrow$   $\left\{ \begin{array}{c} \text{kadaŋ} \\ \text{ko} \end{array} \right\}_{\text{tim}} + \#S\#$

That is, a TIM phrase may be a sentence introduced by either kadaŋ 'if' or ko 'when', or a simple lexical time word.

Time words include the following:

cinii	'today'
dondon	'yesterday'
dokdok	'day before yesterday'
dider	'tomorrow'
pudii	'day after tomorrow'
ahanyii	'now'

---

<sup>5</sup>This construction was mentioned briefly in Jungraithmayr 1964b.

Note the following examples of TIM phrases:

- (55) kasuwa m-Pwel cinii 'today is Pwel's market'  
market in-Pwel today
- (56) Musa ji dondon 'Musa came yesterday'  
come yesterday
- (57) Musa met ko mwa po-ji 'Musa went as they  
go when they at-coming were coming'

The fact that both types of construction are in reality TIM phrases can be shown in the allowable stylistics (see Chapter 9); in both cases an optional fronting is allowed, followed by the morpheme be, with no emphasis possible:

- (58) cinii be kasuwa m-Pwel
- (59) dondon be Musa ji
- (69) ko mwa po-ji be Musa met

P. Newman (1970:29) notes that for Tera counterfactual conditionals are handled differently from regular conditionals in that counterfactual conditionals are obligatorily moved to the front of the sentence while regular conditionals have the option of fronting. In Angas no such distinction is made, fronting being optional in every case of TIM:

- (61) Musa k<sup>i</sup> met kadaŋ mwa ji 'Musa will go if  
he they they come'
- (62) kadan mwa ji be Musa k<sup>i</sup> met

The Instrument phrase has the following form:

$$\text{B10. INST} \rightarrow \left\{ \begin{array}{l} \text{shi} \\ \text{yii} \end{array} \right\} + \text{NP}$$

The NP instrument is introduced by either the positive preposition shi 'with' or the negative preposition yii 'without'. Note the following examples:

- (63) Musa màr limar shi-cen 'Musa farms with a hoe'  
farm farm with-hoe
- (64) Musa fot shi-wasika 'Musa heard by letter'  
hear letter
- (65) Musa tep ndam shi-gik 'Musa broke the stick  
break stick rock with a rock'
- (66) Musa ye pep yii-ngak 'Musa caught an  
seize antelope without-snare antelope with-  
out a snare'
- (67) Musa tam kim yii-mbanga 'Musa danced without  
do song drum a drum'

When the object of the instrumental preposition is pronominalized, the resulting form is not one of the general pronouns (see Chapter 11), but a special form shik. Note the following examples:

- (68) Musa siit cen ðaŋ màr limar shi-shik 'Musa bought  
buy hoe and farm farm with-it a hoe and  
farmed with it'
- (69) Musa ðap mbanga ðaŋ tam kim shi-shik 'Musa picked  
pick-up drum do song up a drum  
and danced with it'

This pronominal phenomenon appears to be similar to the situation in Dera (P. Newman 1972:Chapter 2) in which the preposition gen occurs generally as the instrumental preposition but is replaced by yí when a pronominal form occurs (that is, when the object of the preposition is deleted and the form ki occurs). In Angas it is the pronoun which is a special form, while in Dera it is the preposition.

Very similar in form to INST is the "intensive" construction in Angas which emphasizes that it is the subject

himself who performs the action of the verb. Note the following examples:

- (70) Musa màr límar shi-ke kÌ-nyi 'Musa himself  
farm farm with-head of-him farmed'
- (71) Musa tep ndam shi-ke kÌ-nyi 'Musa himself  
break stick broke the stick'

This use of a phrase like the INST phrase is parallel to the same construction in Hausa, although in Hausa the phrase is most similar to ACC, there being no special instrumental preposition:

- (72) Musa ya tafi da kan-sa 'Musa himself went'  
he go and head-his
- (73) Musa ya na noma da fartanya 'Musa is farming  
at farming hoe with a hoe'

The construction is identical with that employed also in Sura (Jungraithmayr 1964a:29).

It is clear, however, that the intensive construction in Angas is not actually INST. Note the following:

- (74) Musa màr límar shi-cen shi-ke kÌ-nyi 'Musa him-  
self farmed  
with a hoe'

Here both INST and the intensive occur, thus making their identical analysis impossible (unless two instances of INST allowed, but then it must be specified that one must be the intensive). I propose no treatment of the intensive in this grammar but merely describe the structure here.

The Purpose phrase has the following form:

$$B11. \text{ PUR} \rightarrow \left\{ \begin{array}{l} \text{mpi} + \text{NP} \\ \text{teko} + \text{\#S\#} \end{array} \right\}$$

Two introductory prepositions may occur as PUR, mpii 'because (of)', and teko 'so that'. mpii may occur with either an NP object or a sentential object (embedded in this analysis under an NP node); teko occurs always with a sentence object (and always with a following subjunctive aspect, see Chapter 7). Note the following examples:

- |      |         |                      |                       |
|------|---------|----------------------|-----------------------|
| (75) | Musa ji | mpii-shitcin         | 'Musa came because of |
|      | come    | because-work         | work'                 |
| (76) | Musa ji | mpii Bitrus met      | 'Musa came because    |
|      |         | go                   | Bitrus went'          |
| (77) | Musa ji | teko nyi cin shitcin | 'Musa came to do      |
|      |         | so-that he do work   | work'                 |
| (78) | Musa ji | teko Bitrus nyi met  | 'Musa came so         |
|      |         |                      | that Bitrus           |
|      |         |                      | would go'             |

## Chapter 7

### The Aspectual System

Angas has four aspects: Completive (COM), Incompletive (INC), Non-Present (NPR), and Subjunctive (SUBJ). These aspects are differentiated by tonal phenomena on the person-aspect markers (see the extended discussion in Chapter 11).<sup>1</sup> This representation of aspect by tonal patterns is not characteristic of Chadic. Buduma (Lukas 1939:50ff) utilizes a series of prefixes; Longone (Lukas 1936:37ff) uses prefixes, a suffix, and a particle (Hilfsverb); Tera (P. Newman 1970:147) uses a series of particles; Dera (P. Newman 1972:Chapter 4) employs tense pronouns (apparently like Angas), but also overt tense markers and one suffix; Hausa uses tense pronouns, particles, and a suffix.

The form which is translated as a continuous aspect is not in Angas really an aspect at all. Rather, it is an independent pronoun or noun, followed by a Locative phrase introduced by po 'at'. Note the following examples:

- |     |             |               |
|-----|-------------|---------------|
| (1) | nan po-ji   | 'I am coming' |
|     | I at-coming |               |

---

<sup>1</sup>This is undoubtedly the reason for Foulkes' misunderstanding of the Angas aspectual system. He suggests (Foulkes 1915:31,34) that a single person-aspect marker functions for all the aspects. At various other places in his grammar he fails to note tone as well, but this is understandable given the conditions in which he was working.



- |     |             |                |
|-----|-------------|----------------|
| (2) | mun po-met  | 'we are going' |
|     | we at-going |                |

That this is a Locative expression is seen in sentences like the following:

- |     |                  |                         |
|-----|------------------|-------------------------|
| (3) | mwa po-makaranta | 'they are at school'    |
|     | they at-school   |                         |
| (4) | Musa po-kasuwa   | 'Musa is at the market' |
|     | at-market        |                         |

The evidence that this is not a verbal construction is strong. First, it is the independent pronominal set which occurs, rather than a person-aspect marker (which always occurs preceding a verb); see Chapter 11 for examples of the distribution of the independent set other than as above. Specifically, these independent pronouns commonly occur as subject of non-verbal sentences. Note the following examples:

- |     |               |                          |
|-----|---------------|--------------------------|
| (5) | Musa n-lù     | 'Musa is in the hut'     |
|     | in-hut        |                          |
| (6) | gan ka-kè-lu  | 'I am on top of the hut' |
|     | I at-head-hut |                          |

The examples in (1) and (2) pattern just like (3)-(6) above.

Further, the verbal form following po is always a verbal noun (although, as mentioned above, it is in some cases identical in form to the corresponding finite verb); I have discussed the derivation of such forms in Chapter 5. Finally, any object of the verb appears in a possessive form (as a Possessive Gerundive, see Chapter 5) rather than as a simple object. The sentences in (7)-(10) illustrate these last

two points by contrasting the Non-Present aspect with the continuous construction:

- |      |  |  |
|------|--|--|
| (7)  | <p>ḡan po-ne      kī-birḡ<br/>         I at-seeing of-horse</p> <p>ḡa ne birḡ<br/>         see</p>   | <p>'I am seeing the horse'</p> <p>'I will see the horse'</p>                 |
| (8)  | <p>mwa po-fot      f-ga<br/>         they at-hearing of-you</p> <p>mwa fot ga<br/>         they hear you</p>                                 | <p>'they are understanding you'</p> <p>'they will understand you'</p>        |
| (9)  | <p>Musa po-dyii      kī-birḡ<br/>         at-seeking of-horse</p> <p>Musa kī dyii birḡ<br/>         he seek horse</p>                        | <p>'Musa is looking for the horse'</p> <p>'Musa will look for the horse'</p> |
| (10) | <p>birḡ po-sé      kī-bii-sé<br/>         horse at-eating of-thing-eating</p> <p>birḡ kī sè      bii-sé<br/>         he eat thing-eating</p> | <p>'the horse is eating food'</p> <p>'the horse will eat food'</p>           |

Interestingly, this morpheme po is identical to the word po 'mouth'. In fact, to treat it as the same morpheme would not be without some degree of confirmatory evidence in other Chadic languages, in that Ngizim at least seems to allow for the possibility of body-part words being used within the aspectual system:<sup>2</sup>

- |      |  |  |
|------|--|--|
| (11) | <p>naa wana</p> <p>naa teka wana<br/>         body</p> | <p>'I am working/I will work'</p> <p>'I am busy working'</p> |
|------|--|--|

A possible problem for such an analysis in Angas is that other such phrases employing a body-part noun as a

---

<sup>2</sup>I have the Ngizim data from Russell Schuh.

semantic locative are introduced by what is clearly a preposition (that is, the whole is a LOC expression). Note the following examples:

- (12) Musa ka-ke      k<sup>h</sup>i-lu      'Musa is on top of the hut'  
                          at-head of-hut
- (13) Musa ka-b<sup>h</sup>wiin k<sup>h</sup>i-lu      'Musa is behind the hut'  
    back
- (14) Musa    n-shii                      'Musa is last (in order)'  
                          in-foot

In fact, the noun po 'mouth' itself occurs always preceded by a preposition:

- (15) Musa ka-po-lu                      'Musa is at the door of the  
                          at-mouth-hut                      hut'

That is, interpreting po in the continuous construction as 'mouth' makes it the only body-part noun which functions as a preposition in this sort of construction, where it is not itself introduced by a separate position, thus violating the restriction on noun distribution. Further, in a construction like (15) there would be a sequence of two prepositional constructions together if po were interpreted as having a prepositional character. The description is simplified by interpreting po here as a fortuitous similarity with po 'mouth', with the former occurring as a preposition introducing a Locative expression only (see B7 and the list of prepositions which may occur in LOC in Chapter 6).

Interestingly, Foulkes points out (1915:38) that in the "hill" dialect of Angas the form of the continuous used (at least at that time) was an Accompaniment expression, rather

than the Locative illustrated above. That is, instead of (9), (16) occurs:

- (16) Musa    ki'dyii      ki'birŋ      'Musa is looking for  
              with-seeking    of-horse      the horse'

He states (p. 39) that the po which occurs in the "plain" dialect is actually the morpheme 'mouth', an analysis I have rejected for reasons discussed above.

The "progressive" aspect in Sura is of interest here as well (Jungraithmayr 1964a:38ff). Sura utilizes four types of progressive construction, distinguished by the use of the following morphemes:

ke'  
nduŋ  
pu  
n

Obviously, pu is the most similar to Angas po. But two others seem to be prepositions, although Jungraithmayr does not say so; a form ke' occurs also as the preposition 'with', and a form n occurs also as the preposition 'in'. Further, pu itself is homophonous with a preposition meaning 'from'. There is no prepositional correlate for nduŋ that I could find. The pronominal form occurring with ke' differs from that occurring with the others, so perhaps it will not be possible to treat all these Sura forms in a unified way. Nevertheless, the fact that three of the four forms have direct prepositional correlates gives a degree of additional confirmation to the prepositional analysis of the Angas po.

It is not unusual for the continuous aspect to be treated differently from the other aspects in Chadic. The unique status of the continuous is confirmed also in Tera (P. Newman 1970:19), Dera (together with the future, P. Newman 1972:Chapter 2), Ga'anda (together with the future, R. Newman 1971:15), Buduma (Lukas 1939:50ff), and Logone (together with the subjunctive, Lukas 1936:37ff). I know of no other language, however, where its treatment as a prepositional phrase has been proposed.

We are left, then, with four aspects in Angas. The remainder of this chapter will be concerned with a discussion of their distribution and semantic domain.

The Non-Present aspect may occur with future or past meaning and is the most common in occurrence (the person-aspect marker which carries TNS information is often deleted in this aspect by T2.2, see Chapter 2). As discussed in Chapter 3, it is the aspect which occurs obligatorily with met 'go' when that verb has a sentential object (and thus is functioning in a way comparable to an auxiliary), and in that construction the Non-Present aspect always has a future value. In addition to that distribution, NPR may optionally be chosen in the base as a rewrite of TNS by B14. Note the following examples of the Non-Present aspect:

- (17) Musa k<sup>i</sup> met ji            'Musa will come'  
        he go coming

- (18) mwa ji cinii                    'they came/will come today'  
       they come today
- (19) mwa ji dondon                'they came yesterday'  
       yesterday

The Completive aspect always denotes completed action. It is not common in its occurrence, except in the third person singular (where it dominates); see the discussion of the unique status of the third person singular forms in Chapter 2 and Chapter 11. As discussed in Chapter 3, the Completive aspect occurs obligatorily before and after the verb cep 'to already do'. In addition to that distribution, COM may be optionally chosen in the base as a rewrite of TNS by B14. Note the following examples of the Completive aspect:

- (20) Musa ki ji                    'Musa has come'  
       he come
- (21) mwa<sup>^</sup> ji cinii                'they came today'  
       they come today
- (22) mwa<sup>^</sup> ji dondon              'they came yesterday'  
       yesterday

The Subjunctive aspect is used always and only in sentences which occur as the object of the PUR introducer teko (see Chapter 6), or in sentences containing both NEG and IMP (see Chapter 10). The restriction of SUBJ to this environment is performed in this grammar by not including SUBJ in the inventory of tenses allowable as freely chosen rewrites of TNS in B14, coupled with the lexical environment for SUBJ forms which specify their insertion only in these environments. Note the following examples of the Subjunctive aspect:

- (23) Musa rot teko Bitrus nyi met 'Musa wants Bitrus  
want that he go to go'
- (24) Musa ji teko nyi ne mwa di 'Musa came to see  
come he see them them'
- (25) mante gā met kat! 'don't go!  
you go

In Tera, in sentences involving a subjunctive aspect the pronoun subject is obligatorily moved to a position following the verb (P. Newman 1970:126). This does not happen in Angas.

In Sura (Jungraithmayr 1964a:41) the subjunctive aspect occurs after the particle ku (=Angas (te)ko?) or as an imperative. The use of the subjunctive as an imperative is common in Chadic, but in Angas the imperative is conveyed by the Incompletive aspect instead. In Tera (P. Newman 1970:124) imperative forms are derived from affirmative subjunctive sentences. In that the two do not have the same aspect in Angas this procedure will not be possible. Rather, the imperative (IMP) is considered here to be an optional choice in the base (see B1), the presence of which then constitutes the necessary environment for the obligatory insertion of a pronominal person-aspect marker in the INC aspect according to restrictions on insertion of these morphemes (and others). Note the following examples:

- (26) gā li nān ka-ke kī-nyi 'tell me about it!  
you tell me at-head of-it
- (27) gā met kasuwa lele 'go to the market  
go market quickly quickly!'

When IMP is present, a particle which I term here "politeness particle" may occur. This is one of a set of particles which occurs optionally at the end of a command and "softens" the command semantically to a polite request. There are three forms which occur (apparently interchangeably) with this function: ke, ḍak, ḍaŋ. The following are examples of sentences employing these particles:

- (28) gā li ḡan ke 'tell me please'  
 (29) gā ḍar ḍaŋ 'wait a minute please'  
                     stop  
 (30) gā ji kī-am m̀n ḍak 'bring us water please'  
                     come with-water us

I merely mention these facts here and provide no treatment of them.

Also under the presence of IMP the person-aspect marker may optionally be deleted. The IMP marker itself must be deleted as well, so the rule can be formulated as follows:

#### T7.1 IMP Deletion

SD: [X - INC - Y - IMP - Z]<sub>S</sub>  
                     [+II]

1      2      3      4      5

SC: 1 - 2 - 3 - 4 - 5 ⇒ 1 - (2) - 3 - 5

Deletion of IMP at this point is obligatory, but INC may remain. Note the following examples of imperatives in which INC has been deleted:

- (31) li ḡan ka-ke kī-nyi 'tell me about it!'  
 (32) met 'go!'



- (33) ji minii 'come here!'  
       come here

In addition to the above distribution of INC, it may also be chosen freely in the base by B14. When chosen freely it occurs with past meaning always, and of course no imperative character is present. Note the following examples:

- (34) Musa nyí met 'Musa went'  
       he go
- (35) birɔ mwa mwā met 'the horses went'  
       horse pl they go
- (36) wū met ka-a? 'didn't you go?'  
       you go NEG-?

In the discussion above I have shown that the Non-Present, Completive, and Incompletive aspects all have potentially a past meaning. The relation between these part forms is not yet clear and needs more investigation. The tendency seems to be to use the Completive when the completedness of the action is being stressed, with the Non-Present and Incompletive being used in a sort of non-aspectual narrative sense. The Incompletive is quite rare in its occurrence, which may make any distinction between it and the Non-Present when used with past meaning of less significance.

A common phenomenon in Chadic is the occurrence of special forms (or a restriction of occurring forms) in relative clauses, questions, and emphasized sentences. In Hausa, for example, special relative perfective and relative progressive forms occur instead of the "normal" forms in such constructions. Note the following Hausa examples:

- (37) ka na son wani abu 'you are wanting  
you are wanting a thing something'
- (38) ...abin da ka ke so... 'the thing which you  
thing which are wanting are wanting'
- (39) sun so wani abu 'they wanted some-  
they want thing'
- (40) ...abin da suka so... 'the thing which  
they want they wanted'

Other languages have similar forms: Tera (P. Newman 1970: 19, 85) has both a special sequential tense, and a relative perfective; Dera (P. Newman 1972:Chapter 7) also has a relative perfective. The situation in Ga'anda is somewhat different. R. Newman says about it (R. Newman 1971:118):

Other Chadic languages like Hausa and Tera have been analyzed as having 'relative' tenses, but Ga'anda does not have them. Rather, only a subset of the base-generated tenses occurs in relativized constructions and these obligatorily add a general rel marker.

That is, in Ga'anda in relativized constructions perfective becomes aorist (aorist is available also as a choice in the base), and the continuative/future distinction is lost.

In Angas, however, no such restrictions or special forms occur.<sup>3</sup> Rather, all aspects are free to occur in such contexts, with the obvious exception of SUBJ which is not a free choice in the base. Note the following examples:

- (41) Musa ne go komeye ki met 'Musa saw the  
see person who COM go person who went'

---

<sup>3</sup>Foulkes (1915:41-2) notes a "narrative past" in Angas formed with ka (cf. the Hausa data above). I have been unable to substantiate this construction in my investigation.

- (42) Musa ne go ye k<sup>í</sup> met 'Musa saw the person who  
NPR will go'
- (43) Musa ne go ye ny<sup>ĩ</sup> met 'Musa saw the person who  
INC went'

## Chapter 8

### Complementation

Verbs in Angas can be classified, in addition to the ways discussed earlier, by reference to the fact of whether or not they allow a following complement. The only complement construction in Angas is introduced by the morpheme tene, and the verbs which occur with it are all verbs which refer to mental process and are thus designated [+speak].

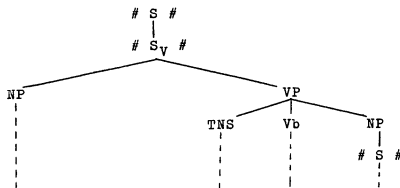
The verbs which take tene-complementation include the following:

li	'speak'
leŋ	'think'
man	'know'
fot	'hear'

Note the following examples:

- |     |      |       |      |        |     |                                 |
|-----|------|-------|------|--------|-----|---------------------------------|
| (1) | Musa | li    | tene | Bitrus | met | 'Musa said that Bitrus went'    |
|     |      | say   | that |        | go  |                                 |
| (2) | Musa | leŋ   | tene | Bitrus | met | 'Musa thought that Bitrus went' |
|     |      | think |      |        |     |                                 |
| (3) | Musa | man   | tene | Bitrus | met | 'Musa knew that Bitrus went'    |
|     |      | know  |      |        |     |                                 |
| (4) | Musa | fot   | tene | Bitrus | met | 'Musa heard that Bitrus went'   |
|     |      | hear  |      |        |     |                                 |

For sentences like the above I propose the following underlying structure:



So for (1) the deep structure would be the following:

(1) a) [Musa[COM li[[Bitrus[COM met]<sub>VP</sub>]<sub>S</sub>]<sub>NP</sub>]<sub>VP</sub>]<sub>S</sub>

All that is needed in this instance is a simple complementation rule to insert the complement introducer in the proper place. The other examples above would, of course, be the same except for the verb of the matrix sentence. The necessary rule can be formulated as follows:

#### T8.1 Complementation

SD: [X - Vb - # S # - Y]<sub>S</sub>  
           [+speak]  
           1    2            3 4 5   6

SC: 1 - 2 - 3 - 4 - 5 - 6 ⇒  
       1 - 2 - tene - 4 - 6

This is identical to a rule for Tera (P. Newman 1970:62), inserting the complementation marker and deleting the boundaries of the embedded sentence. Constructions like the above are comparable to those containing [-speak] verbs which thus do not occur with tene:

- (5) Musa ne Bitrus ki met 'Musa saw that Bitrus  
       see he go had gone'  
 (6) Musa kat Bitrus ki met 'Musa found that Bitrus  
       get had gone'

Here ne and kat are [-speak] verbs and thus never occur with tene.

A problem exists regarding the verb fot 'to hear'. fot may occur either with or without tene, but with a difference in meaning. Note the following sentences:

- (7) Musa fot tene Bitrus po-met 'Musa heard that  
       hear at-going Bitrus was going'
- (8) Musa fot Bitrus po-met 'Musa heard Bitrus  
                                   going'

The meaning of the first is that Bitrus heard a report that Bitrus was leaving, while in the second Musa heard Bitrus' departure itself. I know of no way to handle these facts other than to allow for two words fot 'to hear', one [+speak] referring to conversation and requiring tene-complementation like other [+speak] verbs, the other [-speak] referring to non-linguistic sound and thus not occurring with tene. To my knowledge fot is the only verb which occurs with this characteristic.

The base rules (B12) generate the indirect object construction in a position following the object in the VP. This same sequence occurs for [+speak] verbs in sentences like the following in which there is no embedded sentence under the NP object (and so complementation does not take place):

- (9) Musa li liidak mwà 'Musa bade them  
       say farewell to-them farewell'
- (10) Musa li ko ða mwà 'Musa told them that'  
       the that

When a sentence occurs under the NP object and is in a tene-complement construction, however, the benefactive

construction is moved to a position preceding the complement introducer:

(11) \*Musa li tene Bitrus met mwà  
say that to-them

(12) Musa li mwà tene Bitrus met 'Musa told them  
that Bitrus went'

Again, this same phenomenon takes place in Tera (P. Newman 1970:62), although Newman has set up his rules so as to accomplish both this movement and complementation in a single rule. For Angas I propose the following rule to perform the indirect object movement:

#### T8.2 Indirect Object Movement

SD: [X - tene - Y - IO - Z]<sub>S</sub>

1            2            3    4

SC: 1 - 2 - 3 - 4  $\Rightarrow$  1 - 3 - 2 - 4

It is not necessary to specify the content of the variable following the complement introducer tene, because it will always be an embedded sentence without boundaries in order for tene to have been inserted (by T8.1).

## Chapter 9

### Questions and Emphasis

The similarities between questions and emphasis in Chadic languages are by now well known (for example, see Dera (P. Newman 1972:Chapter 5), Tera (P. Newman 1970:79), Ga'anda (R. Newman 1971:103)). In both types of constructions there is often a process of fronting of the emphasized item or question word, at least optionally. The same is true also for Angas.

Emphasis is to be distinguished from what P. Newman has called topicalization (P. Newman 1972:Chapter 5); e.g.,:

corn, she pounded it

(He points out that sentences of this type are common also in Tera and Ngizim.) Newman says about topicalization:

Noun objects can also be fronted without emphasis. Whereas emphasis involves focus on a particular item in contrast to some other item, fronting without emphasis is rather a matter of prementioning the object before describing the action that affected it.

Such sentences are possible in Angas as well, although they are not common:

- (1) shwe, mwa cik nyi 'corn, they pounded it'  
corn they pound it
- (2) Musa, mwa kat nyi ka 'Musa, they didn't find  
get him NEG him'

These sentences are to be distinguished from sentences involving emphasized objects (to be discussed in detail below) like the following:



- (3) shwe do mwa cik 'they pounded corn'  
(4) Musa do mwa kat ka 'they didn't find Musa'

As opposed to Dera, however, in which topicalization of the object involves merely fronting, in Angas a pronominal trace must be left behind as can be seen in (1) and (2) above. The rule for topicalization may thus be formulated as follows:

### T9.1 Topicalization (optional)

SD: [X - NP - TNS - Vb - NP - Y]<sub>S</sub>

1                      2                      3                      4

$$\text{SC: } 1 - 2 - 3 - 4 \Rightarrow 1 - 3 - 2 - \underset{[\text{+pro}]}{3} - 4$$

The pronominalization rules (see Chapter 11) will then provide the proper form for the trace left behind, together with the lexical features of the pronominal forms themselves.

In that question words may follow the same rules of fronting as emphasized words, it will be convenient here to discuss their treatment in this grammar. Question words are identical in feature make-up to a small class of nouns (all [-def]), with the exception that the question words carry the additional feature [+wh]. The following is the inventory of the indefinite nouns and comparable question words:

- (5) a) go 'someone' we 'who?'  
person
- b) bii 'something' me 'what?'  
thing
- c) pii 'somewhere' nine 'where?'  
place

d) parpus time	'sometime'	shikodaŋ	'when?'
d) shi-bii with-thing	'by some means'	shi me	'by what means?'
		ciraŋ	'how?'

In (e) the difference in question words is whether the whole INST phrase is "questioned" (in which case the result is ciraŋ) or simply the NP object of the instrumental preposition shi (in which case the result is shi-me, cf. (b)). Insertion of a question word in a sentence is possible only when Q has been chosen by rule B1, but there is no restriction on the number of question words which may occur (except those limiting NPs generally). The restriction requiring the presence of Q is a restriction on the insertion of this class of words stated in their selectional features in the lexicon.

When occurring in a sentence, the interrogative nature of question words is shown by the obligatory presence of the question-marker -e in sentence-final position. This is comparable to the occurrence of -a in questions not involving question words (as discussed in Chapter 2). The following pairs of sentences demonstrate the occurrence of the pairs of constructions illustrated above (the [-def] determiner occurs as the manifestation of the [-def] character of the noun):

- (6) a) Musa ne go ce 'Musa saw someone'  
see person a
- b) Musa ne we-e? 'who did Musa see?'

- (7) a) Musa ne bii ce 'Musa saw something'  
 b) Musa ne me-e? 'what did Musa see?'
- (8) a) Musa ji parpus ce 'Musa came on a certain  
 come day'  
 b) Musa ji shikodaŋ-e? 'when did Musa come?'
- (9) a) Musa met pii ce 'Musa went somewhere'  
 go  
 b) Musa met nine-e? 'where did Musa go?'
- (10) a) Musa ji shi-bii ce 'Musa came by some means'  
 come  
 b) Musa ji shi-me-e? 'by what means did Musa  
 come?'
- c) ciraŋ daŋ do Musa ji-e?<sup>1</sup> 'how did Musa come?'

In Angas any element including the verb itself may be emphasized. Emphasis is shown not by stress and intonation (as in English), but rather by fronting and the insertion of the emphasis-marker do following the emphasized element. The following pairs of sentences are presented here as illustrative of this construction:

- (11) a) Musa met 'Musa went'  
 go  
 b) Musa do met 'Musa went'
- (12) a) Musa ne Bitrus 'Musa saw Bitrus'  
 see  
 b) Bitrus do Musa ne 'Musa saw Bitrus'

---

<sup>1</sup>The construction here involves the obligatory application of fronting, to be discussed below.

- (13) a) Musa met Pwel 'Musa went to Pwel'  
       b) Pwel do Musa met dii<sup>2</sup> 'Musa went to Pwel'
- (14) a) Musa met shi-shii 'Musa went on foot'  
               with-foot  
       b) shi-shii do Musa met 'Musa went on foot'

This phenomenon of emphasis, then, involves identification of the element to be emphasized, fronting of that element, and insertion of the emphasis-marker do after that element (with possible development of a pronominal trace). I know of no good way to perform the first task other than to follow P. Newman (1972:Chapter 5), making the presence of the feature [+e] as an optional choice in the lexicon, with a condition (perhaps language universal) that only one such element may be so marked in any simple sentence. I assume that some such mechanism is available; the emphasis rule itself, then, need perform only the latter two tasks. Tera (P. Newman 1970:99) allows for emphasis to take place to the right of the verb by the insertion of a bimorphemic particle in that position in the event that the direct object or locative complement of the verb is emphasized. All emphasis in Angas is, on the contrary, handled by fronting and insertion of the emphasis particle following the emphasized element.

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<sup>2</sup>dii 'there' is a pronominal trace left in the position from which the fronted element Pwel was moved. See discussion below.

To formulate the rules carrying out the formation of emphasis sentences in all their detail, it will be necessary to dig more deeply into the data. Particularly, it will be necessary to compare question words and emphasized elements and their distributions.

If the emphasized element or question word is sentence subject, it is always fronted. Note the following examples:

(15) Musa  $\dot{\text{do}}$  met Pwel                    'Musa went to Pwel'

(16) we  $\dot{\text{do}}$  met Pwel-e?                    'who went to Pwel?'

If a pronoun occurs as NP subject and is emphasized it stays in the independent form (see Chapter 11):

(17)  $\eta\text{an}$ ,  $\eta\text{a}$  met Pwel                    'I, I went to Pwel'

(18)  $\eta\text{an}$   $\dot{\text{do}}$   $\eta\text{a}$  met Pwel                    'I went to Pwel'

It should be noted that this construction is different from the process in Dera in which emphasized subjects are generally moved to a position after the verb from their non-emphasized position preceding the verb (P. Newman 1972:Chapter 5); Schuh (1971) points out that Bade, Ngizim, and Karekare emphasize subjects like Dera, rather than like Angas.

If the element involved is VP object its fronting is optional if it is a question word but obligatory if a non-questioned emphasized NP. Note the following examples:

(19) Bitrus  $\dot{\text{do}}$  Musa ne                    'Musa saw Bitrus'

(20) Musa ne    we-e?                    'who did Musa see?'

who

(21) we  $\dot{\text{do}}$  Musa ne nyi-e?                    'who did Musa see?'

him



- (25) Musa siit birq m-Bitrus 'Musa bought a horse  
for Bitrus'

As in the discussion above, the distinction between (23) and (24) is significant, paralleling the distinction between (22) and (25). Note also that a trace is left behind in the event that fronting takes place, whether the fronted item is a question word or emphasized NP.

In Angas verbs may be emphasized as well as nouns and adverbial constructions. This appears to be contrary to the situation in Dera (P. Newman 1972:Chapter 5), although it is unclear, because Newman says that verbal nouns may be emphasized, and in Angas verbs which are emphasized appear in their verbal noun form, as will be seen below. In Tera (P. Newman 1970:84) no emphasis of verbs is allowed in any case. Angas verb emphasis always involves the entire VP, and a trace in the form of the verb cin 'do' is always left behind in the original VP position. Note the following examples:

- (26) Musa siit                      'Musa bought it'  
      buy
- (27) siit     do Musa cin        'Musa bought it'  
buying                          do
- (28) Musa siit gi                      'Musa bought a goat'  
                 goat
- (29) siit ki-gi     do Musa cin    'Musa bought a goat'  
         of-goat

It might be possible for the rules developed in Chapter 5 for nominalizations to handle also the presence of the verbal noun form and the possessive marker before the object when

the VP is emphasized; the result in every case is a Possessive Gerundive. The problem, however, is to develop an NP node under which the emphasized VP can be moved to allow the rules so to apply. I know of no way to do this at present in that the transformation so designed would be structure-building. Alternatively, the emphasized verb can simply be marked as a verbal noun by the rule which fronts it. Taking this latter course, the rule for verb emphasis can be formulated as follows:

#### T9.2 VP Emphasis

$$\text{SD: } [X - \text{TNS} - \text{Vb} - (\text{NP}) - (\text{IO}) - Y]_S$$

[+e]

1      2      3      4      5

$$\text{SC: } 1 - 2 - 3 - 4 - 5 \Rightarrow$$

3 - 4 - do - 1 - cin - 5

[+VN]

I assume here that [+e] is an optional choice in the lexicon for verbs just as for nouns, and that by the rule above its effect is spread to any accompanying NP object and/or indirect object. The rule deletes TNS and adds to Vb the feature [+VN]; then T5.3 will insert the possessive marker before any object, and the proper form of the verbal noun will be provided by the phonological readjustment rules.

When the emphasized or questioned NP carries the feature [+loc], a feature inherent to certain nouns in the lexicon (all nouns carrying the semantic concept of location), the situation is identical to that noted above regarding the indirect object. Note the following examples:



- (30) Musa met Pwel  
go 'Musa went to Pwel'
- (31) Pwel do Musa met dii  
there 'Musa went to Pwel'
- (32) nine dan do Musa met dii-e? 'where did Musa go?'
- (33) Musa met nine-e? 'where did Musa go?'
- (34) \*nine dan do Musa met-e?

Note that when a question word is fronted here the morpheme  $\text{da}_n$  is inserted and a pronominal trace is left behind.

Clearly, some nouns must be analyzed as optionally referring to locations (and so being [+loc]) or objects (and so [-loc]). That is, Pwel is the name of a village and invariably denotes a location. lu 'hut', on the other hand, can denote a location or an object. Note the following examples:

- (35) a) Musa met lu [+loc] 'Musa went to the hut'  
 b) lu do Musa met dii [+loc] there 'Musa went to the hut'
- (36) a) Musa ne lu [-loc] 'Musa saw the hut'  
 b) lu do Musa ne [-loc] 'Musa saw the hut'

The interaction between allowable verb-object sequences is constrained in the lexicon, of course, certain verbs (perhaps carrying the feature [+movement] or something similar) being required with [+loc] nouns as objects. I assume that for some nouns this choice of the feature [loc] is free in the lexicon; if plus is chosen under emphasis the noun will

act as the other [+loc] nouns, while if minus is chosen under emphasis the noun will act as a simple NP object.

If the element under discussion is a TIM phrase, the situation is complex. If a question word or simple non-question TIM phrase fronting is always obligatory if emphasis is involved, following the principle demonstrated in each case above as well. No trace is ever left behind when fronting takes place. Note the following examples:

- |      |                          |  |
|------|--------------------------|--|
| (37) | Musa met pàr-Pwel<br>day | 'Musa went on Pwel's<br>market day'                |
| (38) | Musa met shikodaŋ-e?     | 'when did Musa go?'                                |
| (39) | shikodaŋ do Musa met-e?  | ' <u>when</u> did Musa go?'                        |
| (40) | pàr-Pwel do Musa met     | 'Musa went <u>on Pwel's</u><br><u>market day</u> ' |

Again, the distinction between structures like (38) and (39) is preserved. Sentences like (40) are to be distinguished from the optional fronting of time phrases which take place stylistically with no emphasis. In these cases be occurs instead of the emphasis-marker do; question words do not occur in this construction:

- |      |  |                                     |
|------|--|-------------------------------------|
| (41) | pàr-Pwel be Musa met                           | 'on Pwel's market day<br>Musa went' |
| (42) | cinii be kasuwa m-Pwel<br>today market at-Pwel | 'today is Pwel's market<br>day'     |

Sentential constructions may also occur as TIM as introduced by B9. They are obligatorily fronted. Note the following examples:

- |      |  |                                 |
|------|--|---------------------------------|
| (43) | ko Bitrus ji be Musa met<br>when come go | 'when Bitrus came<br>Musa went' |
|------|--|---------------------------------|

- (44) kadaŋ Bitrus kɨ́ ji be Musa kɨ́ met 'If Bitrus  
if he come he go comes Musa  
will go'

With kadaŋ only the non-present aspect occurs. The rule performing this optional fronting of non-emphasized TIM phrases may be formulated as follows:

### T9.3 TIM-fronting (optional)

SD: [X - TIM - Y]<sub>S</sub>

1 2 3

SC: 1 - 2 - 3  $\Rightarrow$  2 - be - 1 - 3

Condition: obligatory if TIM in 2 is

$\left\{ \begin{array}{l} \text{ko} \\ \text{kadaŋ} \end{array} \right\} + \#S \#$

P. Newman notes for Dera that fronting of time phrases does not imply emphasis, but that emphasized time phrases must be fronted. In Angas this seems to be the case as well, although the distinction between fronting for emphasis and stylistic fronting is preserved through the use of the different connecting particles (do vs be) used.

A LOC phrase may not be fronted in its entirety, but only the NP which occurs within it as the object of the preposition. Again, emphasized elements (including question words) are fronted. Note the following examples:

- (45) Musa siit n-din-lu 'Musa entered the hut'  
enter in-inside-hut
- (46) \*n-din-lu do Musa siit
- (47) Musa siit n-din-pii ce 'Musa entered a place'  
place a
- (48) Musa siit n-din-me-e? 'what did Musa enter?'

- (49) \*n-din-me do Musa siit-e?
- (50) me do Musa siit n-din ki-nyi-e? 'what did Musa  
of-it enter?'
- (51) lu do Musa siit n-din ki-nyi 'Musa entered  
the hut'
- (52) Musa siit n-lu 'Musa entered the hut'
- (53) lu do Musa siit 'Musa entered the hut'

Note (51) first. Here all that is fronted is really the second noun of the Compound Noun construction, and the pronominal trace which is left behind is obligatorily preceded by the possessive marker in this instance because third person pronouns (the only kind which are derived anaphorically) have no possessive form which does not contain the possessive marker. (50) is the same sort of situation. (46) and (49) show that the entire LOC phrase may not be fronted, and (48) shows that fronting takes place only when emphasis is involved (non-emphasized question words are not fronted). (52) and (53) show that when the noun directly following the preposition is fronted the preposition is deleted. No pronominal trace is left behind in such instances.

When INST is emphasized either the entire phrase may be fronted or only the NP object of shi. When a question word is involved the same is true, with emphasis a requirement for fronting. Note the following examples:

- (54) Musa mar limar shi-cen 'Musa farmed with a hoe'  
farm farm with-hoe
- (55) shi-cen do Musa mar limar 'Musa farmed with a hoe'



teko + S cannot be fronted or questioned. Note the following examples:

- |      |          |             |                |   |
|------|----------|-------------|----------------|---|
| (63) | Musa met | mpii-pup    | kì-nyi         | 'Musa went because<br>because-father of-him<br>of his father' |
| (64) | mpii-pup | kì-nyi      | do Musa met    | 'Musa went <u>because</u><br><u>of his father</u> '           |
| (65) | Musa met | mpii-bii    | ce             | 'Musa went because<br>thing a<br>of something'                |
| (66) | Musa met | mpii-me-e?  |                | 'why did Musa go?'  |
|      |          | what        |                |   |
| (67) | mpii-me  | dan         | do Musa met-e? | ' <u>why</u> did Musa go?'                                    |
| (68) | me       | do Musa met | mpii-nyi-e?    | ' <u>what</u> did Musa go<br>it<br>because of?'               |
|      |          |             | it             |   |

The facts are the same in cases in which it is a person, not a thing, which is the cause:

- |      |          |             |             |   |
|------|----------|-------------|-------------|---|
| (69) | Musa met | mpii-go     | ce          | 'Musa went because of<br>person a<br>someone' |
| (70) | Musa met | mpii-we-e?  |             | 'who did Musa go because<br>who<br>of?'       |
| (71) | we       | do Musa met | mpii-nyi-e? | ' <u>who</u> did Musa go<br>because of?'      |

Note that in emphasized constructions of this nature (as in (64)) the entire PUR phrase is fronted, although when question words are fronted (as in (68) and (71)) fronting may be of the entire phrase or only the question word. In the latter case a pronominal trace is left.

When ACC is the construction in question only the NP object of kì- may be fronted, not the entire ACC phrase. As always, fronting is obligatory when emphasis is in effect, whether or not a question word is involved. Note the following:

- (72) Bitrus met kasuwa kí-Musa 'Bitrus went to the  
go market and-Musa market with Musa'
- (73) Musa do Bitrus met kasuwa kí-nyi 'Bitrus went to  
him the market with  
Musa'
- (74) \*kí-Musa do Bitrus met kasuwa
- (75) Bitrus met kasuwa kí-go ce 'Bitrus went to the  
person a market with some-  
one'
- (76) Bitrus met kasuwa kí-we-e? 'who did Bitrus go  
who to the market  
with?'
- (77) we do Bitrus met kasuwa kí-nyi-e? 'who did Bitrus  
him to to the mar-  
ket with?'

MAN is the only ADV construction which may not undergo either questioning or emphasis:

- (78) Musa met kasuwa lele 'Musa went to the market  
quickly quickly'
- (79) \*lele do Musa met kasuwa

I have discussed verb emphasis above (see T9.2). As can be seen in the examples, other types of emphasis are very complex. In the rules formulated here I have attempted to make the situation clear and thus have not reduced the rules to the simplest formal statement.

First, I want to treat the peculiar situation regarding LOC constructions. The entire phrase is never fronted, but only the NP. In fact, in the examples given at times only the second part of the Compound Noun is fronted. It seems that din 'inside', although a noun, is prevented from being marked [+e] in the lexicon and thus is not emphasisable.

Thus in (51) when lu is marked [+e] and is fronted din is left behind with the pronominal trace of lu. But since anaphoric pronouns may not occur in the Compound Noun constructions the possessive marker must be introduced between the two morphemes. That is, in this case as in matters discussed in Chapter 11, these [+III] pronominal forms are treated by the language as simple nouns rather than as pronouns. Thus, while lexical pronouns marked either [+I] or [+II] may occur in the base in a Compound Noun construction and thus provide the structure for inalienable possession (see Chapter 4), [+III] pronouns may not so occur, or more accurately, they must occur with the possessive marker, there being no purely inalienable possessive form. The rule to handle these matters may be formulated as follows:

#### T9.4 Pos Insertion

$$SD: [X - \left\{ \begin{array}{cc} \text{noun} & - \text{noun} \\ [-inal] & [+pro] \end{array} \right\} - Y]_{\text{noun}}$$

$$\left\{ \begin{array}{cc} \text{noun} & - \text{noun} \\ [+inal] & [+pro] \\ & [+III] \end{array} \right\}$$

1                      2                      3                      4

$$SC: 1 - 2 - 3 - 4 \Rightarrow 1 - 2 - \text{Pos-3} - 4$$

This rule inserts the possessive marker in two environments; first, between any [-inal] noun and any pronominal form; and second, between any [+inal] noun and any [+III] pronominal form. Examples of the latter appear above, of the former in Chapter 4.

Now, the majority of emphasis/question phenomena can be handled by two major rules, one dealing with the entire



phrases and the other with only the NPs. The second of these two rules may be formulated as follows:

#### T9.5 NP Emphasis

$$\begin{array}{l}
 \text{SD: } [X - \left\{ \begin{array}{c} \text{ki-} \\ \text{shi-} \\ \text{mpi-} \\ \text{Io} \end{array} \right\} - \text{NP} - Y]_S \\
 \qquad \qquad \qquad 1 \qquad \qquad 2 \qquad \qquad 3 \qquad \qquad 4 \\
 \text{SC: } 1 - 2 - 3 - 4 \Rightarrow \\
 \qquad \qquad \qquad 3 - \underline{\text{do}} - 1 - 2 - 3 - 4 \\
 \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \left[ \begin{array}{c} -e \\ -wh \\ +pro \end{array} \right]
 \end{array}$$

That is, the NP which occurs in ACC, INST, PUR, and IO is obligatorily fronted if it is marked in the lexicon [+e], leaving a pronominal trace behind. See the examples above for illustrations.

On the other hand, the morphemes mpi-, shi-, kadan, and ko may themselves be optionally marked in the lexicon [+e] just like verbs and nouns. This means that the entire PUR, INST, and TIM phrases may be fronted if the introductory word is so marked. The rule to perform this task may be formulated as follows:

#### T9.6 Phrase Emphasis

$$\begin{array}{l}
 \text{SD: } [X - \left\{ \begin{array}{c} \text{INST} \\ \text{PUR} \\ \text{TIM} \end{array} \right\} - Y]_S \\
 \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad [+e] \\
 \qquad \qquad \qquad 1 \qquad \qquad 2 \qquad \qquad 3 \\
 \text{SC: } 1 - 2 - 3 \Rightarrow 2 - \underline{\text{do}} - 1 - 3
 \end{array}$$

When TIM is involved, of course, it is the introductory word plus the sentence with which it occurs which is fronted, but it still functions just like the other constructions. I mean by the formulation of the phrase symbol with the modifying feature that it is the introductory word itself which is carrying the feature, as discussed above. See the above examples for illustrations of the rule.

To supplement these two major rules, four rules of lesser scope are required to complete the formulation of emphasis in Angas. First, a rule is needed to deal with the matter of an emphasized NP occurring as the object of a preposition in LOC. In such a situation the NP is fronted, no pronominal trace is left, and the preposition is deleted (see (45)-(53)). The rule may be formulated as follows:

#### T9.7 LOC Emphasis

$$\text{SD: } [X - \text{prep-NP} - Y]_S$$

$$[+e]$$

$$1 \quad 2 \quad 3 \quad 4$$

$$\text{SC: } 1 - 2 - 3 - 4 \Rightarrow 3 - \underline{\text{do}} - 1 - 4$$

Second, a rule is needed to front emphasized subjects:

#### T9.8 Subject Emphasis

$$\text{SD: } [X - \text{NP} - \text{VP} - Y]_S$$

$$[+e]$$

$$1 \quad 2 \quad 3 \quad 4$$

$$\text{SC: } 1 - 2 - 3 - 4 \Rightarrow 2 - \underline{\text{do}} - 1 - 3 - 4$$

Subject-fronting is obligatory, and no pronominal trace is left behind. See the examples above for illustrations of the operation of this rule. Third, two rules regarding



T9.11 daŋ Insertion

$$SD: \left\{ \begin{array}{c} \text{nine} \\ \text{ciraŋ} \\ \text{PUR} \\ [+e] \end{array} \right\} - \text{do} - X$$

1                      2              3

$$SC: 1 - 2 - 3 \Rightarrow 1 - \text{daŋ} - 2 - 3$$

To conclude this chapter I present here a few sample derivations to illustrate the operation of the above rules.

(11)ba)  $[[\text{Musa}]_{NP} \text{ COM met}]_S$   
 $\left[ \begin{array}{c} +e \end{array} \right]$

b)  $[[\text{Musa}]_{NP} \text{ do COM met}]_S$  T9.8  
 $\left[ \begin{array}{c} +e \end{array} \right]$

(21) a)  $[\text{Musa COM ne } \left[ \begin{array}{c} \text{go} \\ -\text{def} \\ +\text{wh} \\ +e \end{array} \right]_{NP}]_S$

b)  $\left[ \begin{array}{c} \text{go} \\ -\text{def} \\ +\text{wh} \\ +e \end{array} \right] \text{ do Musa COM ne } \left[ \begin{array}{c} \text{go} \\ -\text{def} \\ -\text{wh} \\ -e \\ +\text{pro} \end{array} \right]_{NP}]_S$  T9.10

(51) a)  $[\text{Musa COM siit } [n- \left[ \begin{array}{c} [\text{din}]_N \\ [-e] \end{array} \right] \left[ \begin{array}{c} [\text{lu}]_N \\ [+e] \end{array} \right] \text{ noun}]_{LOC}]_S$

b)  $[[\text{lu}]_N \text{ do Musa COM siit } [n- \left[ \begin{array}{c} [\text{din}]_N \\ [-e] \end{array} \right] \left[ \begin{array}{c} [\text{lu}]_N \\ -e \\ -\text{wh} \\ +\text{pro} \end{array} \right] \text{ noun}]_{LOC}]_S$  T9.5

c)  $[[\text{lu}]_N \text{ do Musa COM siit } [n- \left[ \begin{array}{c} [\text{din}]_N \\ [-e] \end{array} \right] \left[ \begin{array}{c} [\text{Pos-lu}]_N \\ -e \\ -\text{wh} \\ +\text{pro} \end{array} \right] \text{ noun}]_{LOC}]_S$  T9.4

(32) a)  $[\text{Musa COM met } \left[ \begin{array}{c} \text{pii} \\ +\text{loc} \\ +e \\ +\text{wh} \end{array} \right>]_S$

b)  $\begin{bmatrix} \text{pii} \\ +\text{loc} \\ +\text{e} \\ +\text{wh} \end{bmatrix} \text{ do Musa COM met } \begin{bmatrix} \text{pii} \\ +\text{loc} \\ -\text{e} \\ -\text{wh} \\ +\text{pro} \end{bmatrix}_S \quad \text{T9.10}$

c)  $\begin{bmatrix} \text{pii} \\ +\text{loc} \\ +\text{e} \\ +\text{wh} \end{bmatrix} \text{ daŋ do Musa COM met } \begin{bmatrix} \text{pii} \\ +\text{loc} \\ -\text{e} \\ -\text{wh} \\ +\text{pro} \end{bmatrix}_S \quad \text{T9.11}$

(64) a)  $[\text{Musa COM met } \begin{bmatrix} \text{mpii-} \\ +\text{e} \end{bmatrix} \begin{bmatrix} \text{pup ki-nyil} \\ +\text{e} \end{bmatrix}_{\text{NP}}]_{\text{PUR}}]_S$

b)  $[[\text{mpii-} \begin{bmatrix} \text{pup ki-nyil} \\ +\text{e} \end{bmatrix}_{\text{NP}}]_{\text{PUR}} \text{ do Musa COM met}]_S$   
T9.6

## Chapter 10

### Negation

The negative marker NEG is generated in the base by B1 as an optional modification of the sentence. Any sentence thus can be negativized. In sentences which do not contain also the imperative marker IMP, NEG is always realized phonologically as ka occurring sentence-final (except preceding the question marker -a or -e if present). Note the following examples:

- (1) Musa met ka 'Musa didn't go'  
go NEG
- (2) Musa bijim ka 'Musa isn't big'  
big
- (3) Musa ne birɔ ka-a? 'didn't Musa see the horse?'  
see horse NEG-?

When IMP is also present, the phonological form so generated is not ka but mante kat (mantan kat in some dialects). Further, mante then occurs preceding the person-aspect marker (which is always in the subjunctive aspect in this construction), and kat appears sentence-final alone. Note the following examples:

- (4) mante gà met kat 'don't go!'  
you
- (5) mante mwà met kat 'they mustn't go!'  
they
- (6) mante nyì met kat 'he mustn't go!'  
he

My proposal is that the actual phonological form of NEG is determined in the lexicon by reference to the presence or absence of IMP in the environment. The tense will necessarily be SUBJ by the restriction on lexical insertion for SUBJ discussed in Chapter 7. What is further needed is a rule to shift mante to its proper position. This rule may be formulated as follows:

T10.1 mante Movement

SD: [X - mante kat]<sub>S</sub>  
           1          2          3

SC: 1 - 2 - 3  $\Rightarrow$  2 - 1 - 3

mante is shifted to a position preceding even an NP subject:

- (7)   mante Musa nyi met kat       'Musa mustn't go!'  
   he

An interesting phenomenon is that which takes place when both a question word and the negative marker occur in a single sentence. In such cases the question word is obligatorily fronted (and thus emphasized). Note the following examples:

- (8)   me    do Musa   rot ka-e?       'what is it that Musa  
           what                    want                    doesn't want?'
- (9)   \*Musa rot me ka-e?
- (10)   we    do Musa dyii mwa ka-e?   'who (pl) isn't Musa  
           who                    seek them                    seeking?'
- (11)   \*Musa dyii we mwa ka-e?

By formulating a rule to mark such question words as obligatorily [+e] in this context, the fronting for emphasis will take place automatically by the emphasis rules formulated in





Newman's analysis is derived from an emphasized sentence which is negated. This is not possible in Angas:

- (16) \*Musa po-ji do nyii ka 'it is not the case  
at-coming this that Musa is coming'

Rather, such concepts are expressed through simple negation of the auxiliary:

- (17) Musa po-ji ka 'Musa is not coming'

Noun negation is not possible in Angas either. A similar construction, however, is the negation of a sentence containing an emphasized subject. Note the following examples:

- (18) Musa do po-ji ka 'Musa isn't coming'  
(19) kii mwa do mwa se shwe da ka 'the hens are  
hen pl they eat corn that the ones who  
didn't eat the corn'  
(20) Bitrus do Musa ne nyi ka 'Bitrus is the one who  
him Musa didn't see'

There are no constructions which negate only a noun:

- (21) \*Musa ka po-ji  
(22) \*Bitrus ka do Musa ne nyi

Rather, negation is always on the sentence level as in the examples above.

A few comments regarding the scope of negation will conclude this chapter. Hausa also has a final negative marker ba (like Angas ka), but it is able to show the scope of negation unambiguously through the use of a second ba, with the result that the two ba's sandwich in the portion of the sentence which is being negativized. Note the following examples:

- (23) ba Musa ya zo ba ne 'it is not the case that  
he come copula Musa came'
- (24) Musa bai zo ba 'Musa didn't come'  
NEG-ne
- (25) Musa bai jefa duwatsu da yawa ba 'Musa didn't  
throw rocks with muchness throw many  
rocks'
- (26) ba duwatsu da yawa Musa ya jefa ba 'Musa didn't  
throw many  
rocks'
- (27) Musa ya jefa duwatsu amma ba da yawa ba 'Musa  
but threw  
rocks,  
but not  
many'

For Angas, however, defining the scope of negation is more complex. Note the following sentences:

- (28) birŋ mwa ji duŋ-duŋ ka 'not many horses came'  
horse pl come much-much NEG
- (29) birŋ mwa ji ɗaŋ duŋ-duŋ ka 'horses came, but not  
but many'
- (30) birŋ duŋ-duŋ ka mwa ji 'the horses which  
came were not many'
- (31) birŋ mwa duŋ-duŋ ɗo mwa ji ka 'there are many  
horses which  
didn't come'
- (32) Musa rok gik mwa duŋ-duŋ ka 'Musa didn't throw  
throw rock pl many rocks'
- (33) gik mwa duŋ-duŋ ɗo Musa rok mwa ka 'there are  
many rocks  
Musa didn't  
throw'
- (34) Musa rok gik mwa ɗaŋ duŋ-duŋ ka 'Musa threw rocks,  
but not many'

The differences in structure and scope of negation are a natural result of the underlying structure which is necessary

to explain the semantic nature of the sentences in question. The following underlying structures are proposed for the above:

(28) [birŋ mwa NPR ji [duŋ-duŋ]<sub>MAN</sub> NEG]<sub>S</sub>

(29)

[[birŋ mwa<sub>i</sub> NPR ji]<sub>S</sub> [daŋ birŋ mwa<sub>i</sub> [duŋ-duŋ]<sub>MAN</sub> NEG]<sub>S</sub>]<sub>S</sub>

(30) [birŋ mwa<sub>i</sub> [birŋ mwa<sub>i</sub> [duŋ-duŋ]<sub>MAN</sub> NEG]<sub>S</sub> NPR ji]<sub>S</sub>

(31) [birŋ mwa<sub>i</sub> [birŋ mwa<sub>i</sub> [duŋ-duŋ]<sub>MAN</sub>]<sub>S</sub> NPR ji NEG]<sub>S</sub>  
           [+e]                   [+e]

For each sentence containing NEG it is the position of NEG in underlying structure which denotes the scope, but in no case can any structure smaller than a sentence be negated. As discussed above, apparent negation of a single item (as in (31)) can result only if that item is [+e], and then the entire sentence containing it is negated. The rules which apply in the derivation of these sentences are those discussed at length in Chapter 4.

# Chapter 11

## Pronominalization

At several points in the discussion above I have mentioned the matter of pronominalization. For reasons discussed elsewhere I do not want to become involved in the theoretical discussion which is currently raging in transformational linguistic theory. Rather, here I simply want to present the facts of Angas pronominalization, facts which must be treated in whichever analysis is proposed, treating them in a manner which seems to me to be most natural.

First, there is the matter of sentence pronominalization. In Angas when a sentence contains a repetition of a sentence which occurs earlier in a discourse (matters of allowable intervening discourse are at present unknown), the repeated sentence may be pronominalized by replacing it by a 'so'. Note the following examples (discourse context not included):

- |     |      |      |     |           |    |                       |
|-----|------|------|-----|-----------|----|-----------------------|
| (1) | Musa | li   | mùn | a         |    | 'Musa told us so'     |
|     |      |      | say | to-us     | so |                       |
| (2) | Musa | fot  | a   | dondon    |    | 'Musa heard so        |
|     |      | hear |     | yesterday |    | yesterday'            |
| (3) | Musa | ne   | a   |           |    | 'Musa saw that it was |
|     |      | see  |     |           |    | so'                   |

For a sentence like (3) the context contains a sentence identical to that replaced by a. For example:

- (4) [birŋ mwa NPR ji lele ]<sub>S</sub> [Musa COM ne  
horse pl come quickly]  
[birŋ mwa NPR ji lele]<sub>S</sub>]<sub>S</sub>

I assume here that some means is available to mark such entire sentences as identical. Then sentence pronominalization may be performed by the following rule:

T11.1 Sentence Pronominalization

$$\text{SD: } \frac{S_1 - X - [Y - S_1 - Z]_S}{1 \qquad 2 \qquad 3}$$

$$\text{SC: } 1 - 2 - 3 \Rightarrow 1 - \underline{a} - 3$$

Applying T11.1 to the second sentence of (4) will result in (3).

Regarding NP anaphoric pronominalization, P. Newman (1970)<sup>1</sup> treats first and second person pronouns as being inserted lexically and third person pronouns as being derived by transformation. I depart from his proposal in that I allow third person pronouns to be inserted lexically as well for those third person pronouns which have no clear referent in the linguistic context. More common, however, is the derivation of third person pronouns by transformation, a derivation not possible for non-third person forms. Such an analysis for Angas has several factors in its favor. First, to derive first and second person pronouns by anaphoric process requires the positing of a higher performative verb of speaking, the subject and indirect object of which then are identical to the forms which ultimately result in first and second pronominal forms in the embedded

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<sup>1</sup>Newman later (p. 111, f.n.) suggests that this approach is incorrect for Tera, and that third person forms should be insertable lexically in some instances as well.

sentence respectively. This proposal has some merit to it (see especially Ross 1970), and it is characteristic of the sort of analysis proposed by Generative Semantics. I am not prepared at this point to defend such an analysis for Angas, however.

Perhaps more important, though, is the fact that in Angas the third person pronouns function differently from the first and second person forms, so that third person forms should be expected to function differently, specifically in this case in that they are insertable anaphorically as well as lexically. In fact, the evidence is strong that the third person forms are not really pronouns at all, a fact which makes the overall proposal of pronominalization here equivalent to saying that all pronominal forms are inserted lexically, none being derived by transformation.

I mentioned in Chapter 1 that one of the typically Chadic features manifested by Angas is the phonological shape of pronouns. But this applies only to the first and second person forms, not third person. The first person singular na is obviously a Chadic cognate. For example, note the following:

(5)	Hausa	naa	Completive Aspect
	Tera	na	Disjunctive
	Dera	ne	Object

The first person plural mu is also a Chadic form:

(6)	Hausa	mun	Completive Aspect
	Sura	mun	Completive Aspect
	Dera	məni	Object

Angas second person pronouns appear to manifest a weakening process from proto-Chadic forms beginning in /k/. Before a high front vowel the realization is /y/; before a high back vowel it is /w/; and otherwise it is /g/. The same is true of comparable forms in Sura, suggesting that the weakening process was in effect at the time of the Angas-Sura split.

Note the following:

(7)	Angas (NPR)	Hausa (Completive)	Sura (Imperf)	Dera (Perf)
	ga	ka	ga	kai
	yii	kin	yi	
	wu	kun	wun	ku

The third person forms, however, manifest no such cognate relationships for the most part. From a comparative point of view we would expect to find a s/t alternation in the third person singular denoting gender, with s also in the plural. The Hausa forms in (8), while not completely typical, illustrate the third person forms of a "classical" Chadic language:

(8)	possessive	independent	
	-sa	'his'	shi 'he'
	-ta	'her'	ita 'she'
	-su	'their'	su 'they'

The third person forms in Angas, however, are for the most part without cognates in other languages except for those closely related within the Plateau Cluster. There is no gender distinction at all in the singular comparable to that of Hausa, and none of the forms is cognate with the above.

A second fact that argues for a separate treatment of the third person pronominal forms is the fact that the possessive marker which occurs with them is that commonly found with nouns (ki-), not that commonly found with pronouns (f-). Note the following table of underlying possessive forms:

(9)	f-ŋa	'my'	f-mu	'our'
	f-ga	'your (m)'	f-wu	'your (pl)'
	f-yii	'your (f)'		
	ki-nyi	'his, her'	ki-mwa	'their'

The phrases in (10) exemplify these pronouns in the forms in which they actually occur:

(10)	birŋ fana mwa	'my horses'
	horse my pl	
	birŋ fa mwa	'your (m) horses'
	birŋ fii mwa	'your (f) horses'
	birŋ kinii mwa	'his/her horses'
	birŋ funu mwa	'our horses'
	birŋ fu mwa	'your (pl) horses'
	birŋ kimwa mwa	'their horses'
cf.	birŋ ki-Musa mwa	'Musa's horses'

Similarly, when occurring with an inalienably possessed noun (see the discussion in Chapter 4) the first and second person



pronouns occur with no overt possessive marker at all, while the third person forms retain ki- just like nouns. The forms which occur are the following:

(11)	pup-na	'my father'
	pup-ga	'your (m) father'
	pup-yii	'your (f) father'
	pup kinii	'his/her father'
	pup-nu	'our father'
	pup-wu	'your (pl) father'
	pup <sup>`</sup> kimwa	'their father'
cf.	pup <sup>`</sup> ki-Musa	'Musa's father'

It appears, then, that what we have in the third person in Angas is the following. The plural marker mwa has been generalized to become the marker of the third person plural.<sup>2</sup> The aspectual distinctions in the person-aspect markers, however, have been preserved by generalization of the phonological processes accompanying the aspect distinctions to the plural morpheme in these instances. Note the parallelism between the first person singular and the third person plural forms in their various aspects:

(12)	Completive	ŋáa	mwaá <sup>^</sup>
	Incompletive	ŋā	mwa <sup>ˉ</sup>
	Non-Present	ŋá	mwa <sup>ˈ</sup>
	Subjunctive	ŋà	mwa <sup>ˋ</sup>

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<sup>2</sup>Jungraithmayr (1963:278) suggests that mwa is comparable to the Ibibio respective pronoun mmo.

The third person singular forms, however, seem to call for more explanation. The form nyi which occurs in the majority of cases is apparently a "genuine" Chadic third person singular pronominal form. Note the following cognate forms:

(13)	Tera	ndi	Subjunctive Aspect
	Logone	ni	Independent (masculine)
	Dera	ni	Possessive
	Margi	nyi	Object

But in addition to the form nyi which occurs elsewhere, the Non-Present and Completive Aspects manifest a different form ki as the third person singular person-aspect marker. Interestingly, though, the Completive Aspect has as its form a low-tone form, which is virtually identical to the morpheme added in some forms in Hausa to form the relative perfective paradigm:<sup>3</sup>

(14)	na	mukà
	ka	kukà
	kikà	
	ya	sukà
	ta	

The -kà part of the Hausa relative perfective thus appears to be a possible candidate as a cognate of the third person singular kì in the Completive Aspect in Angas. Note that a similar phenomenon is true of Sura (Jungraithmayr 1964a:36);

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<sup>3</sup>This fact was pointed out to me by Russell Schuh.

in Sura the Completive Aspect contains the form kə as a particle between the person-aspect marker and the verb stem. Also, in the Relative Perfective in Sura Jungraithmayr derives the present-day forms from historically underlying forms involving kə (Jungraithmayr 1964a:37).

In the Non-Present Aspect in Angas the ki form which occurs is high in tone. This appears to be a generalization of the ki shape developed in the Completive to the Non-Present Aspect, since giving it high tone results in a perfect tonal paradigm:

(15)	ŋá	mú
	gá	wú
	yíi	
	kí	mwa'

It is not clear why the third person plural pronominal form has been lost, nor why the relative perfective marker /kV/ has replaced the more characteristic /nyi/ form in the Non-Present and Completive aspects, nor why this replacement was limited to just those environments, with /nyi/ occurring everywhere else. Two rules of contemporary Angas do, however, provide a degree of insight into the form an explanation may take.

In Chapter 2 I discussed three rules in Angas which delete person-aspect markers in the presence of an NP subject, which I recapitulate here (see that section for full discussion). First, the third person singular form is

optionally deleted when in the Completive Aspect. Note the sentences in (16):

- (16) Musa k<sup>i</sup> met  
          he go } 'Musa went'  
Musa met
- Musa k<sup>i</sup> ne bir<sup>o</sup> mwa  
          see horse pl } 'Musa saw the horses'  
Musa ne bir<sup>o</sup> mwa
- Musa k<sup>i</sup> dyiip shwe dondon  
          harvest corn yesterday } 'Musa harvested  
Musa dyiip shwe dondon } corn yesterday'

In practice, the person-aspect marker is deleted in such cases unless the fact of the completedness of the action is being stressed. This deletion applies only to third person singular forms.

Now, if we can assume the previous existence of the Chadic form nyi throughout all the third person singular pronominal system and the existence in Angas of the relative perfective marker kV in the Completive Aspect as I discussed above, historically Angas would have had forms for the Completive Aspect something like the paradigm in (17):

- (17) ɲa kà                   mu kà  
      ga kà                   wu kà  
      yii kà  
      nyi kà                  su kà

Then, if a rule something like the contemporary rule of third person singular person-aspect marker deletion were in

effect, the result of the application of the rule would be the forms in (18):

(18)	ŋa	kà	mu	kà
	ga	kà	wu	kà
	yii	kà		
	∅	kà	su	kà

This places the form kà alone in pre-verbal position, that is, in the position in which the person-aspect markers occur, in the third person singular. This provides a possible beginning of an explanation of the present-day Completive paradigm. The extension of the kV shape to the Non-Present Aspect remains unexplained, as does the loss of the relative perfective marker kà in the other forms. But regarding the latter point, note that the tone pattern and length carried by the form with ka are retained in the present-day Completive Aspect forms given in (19):

(19)	ŋaa	múu
	gaa	wúu
	yii	
	kí	mwaa

Although the consonantal component of the relative perfective marker no longer occurs, the length and low tone are retained. The corresponding absence of the same in the third person singular form, where the pronominal portion has been deleted by this hypothesis, would seem to be confirmatory of this analysis.

The second rule which may be relevant optionally deletes the third person plural (actually all but third person singular) forms in the Non-Present Aspect when preceded by an NP subject. Note the examples in (20):

- (20) 

birŋ mwa mwa met kasuwa	}	'the horses will go to the market'
horse pl they go market		
birŋ mwa met kasuwa		
- |                            |   |                         |
|----------------------------|---|-------------------------|
| go da mwa mwa met ka       | } | 'those people won't go' |
| person that pl they go NEG |   |                         |
| go da mwa met ka           |   |                         |
- |                            |   |                            |
|----------------------------|---|----------------------------|
| gurm mwa mwa ne gi mwa     | } | 'the people saw the goats' |
| person pl they see goat pl |   |                            |
| gurm mwa ne gi mwa         |   |                            |

In all the examples of (20) the plural marker is retained and the person-aspect marker is lost (see the discussion in Chapter 2). Again postulating at an earlier time in history forms like those discussed above, the paradigm in (21) would represent a possible earlier stage of the Non-Present Aspect:

- (21) 

ŋá	mú
ǵá	wú
yíi	
nyí	sú

Assuming that a deletion rule similar to the present-day one was in effect at the time of the forms in (21), deletion of su would leave in most cases the plural marker mwa directly preceding the verb, i.e. in the position of the person-aspect marker, because deletion takes place only in the presence of

an NP subject, and the vast majority of such plural subjects would have the plural marker in final position (see T6.2 and the related discussion in Chapter 6 for the total inventory of plural NP subjects; those occurring with the plural marker are the most common, and in the NP only a numeral will follow it so that it is commonly final in the NP).

The Non-Present and Completive Aspects in Angas overlap to a large extent semantically, and both can have a past meaning (see the discussion in Chapter 7). The fact that in the present-day language the most common third person singular form is the Completive Aspect and the most common third person plural form is the Non-Present Aspect (so that in the vast majority of cases third-person person-aspect markers actually do not occur today), if the situation were the same historically the result would be that the relative perfective marker ka and the plural marker mwa would most often be the representatives of the third person forms. Thus it may be the case that they became identified as the person-aspect markers themselves. One problem (among others) is that in the third person plural the shape mwa was extended to all forms, so that no su form ever occurs. I have, in short, no genuine explanation for the pronominal forms in Angas, but some sort of explanation like that I have outlined may be responsible.

It is no wonder, then, that third person pronouns are not treated really as pronouns in Angas (see the discussion

regarding the possessive constructions above); they are not actually pronouns at all. Thus a treatment which handles the third person forms differently from the first and second person forms (by allowing them to be developed anaphorically) finds historical confirmation to a certain extent in addition to synchronic factors.

The treatment proposed here, then, is to follow Postal (1966), considering that each pronominal form is composed of a feature complex just like nouns (all nouns are [+III]). Specifically, each person-gender-number complex is so marked. Thus, the first and second person forms, which are introduced lexically only, have the following feature complexes:

(22)	-pl	+I	na	+pl	+I	mu
		+II	+masc ga		+II	wu
			-masc yii			

The third person forms have the following feature complexes:

(23)	-pl	+III	ki	+pl	+III	mwa
			nyi			

The distinction between the third person singular forms is a function of the environment and is handled by selection features.

For convenience I include here a chart of all these pronominal forms. Those marked +NPR, +COM, +INC, +SUBJ, are, of course, the person-aspect markers; those marked as occurring in the environment [+Io\_\_] are the indirect object forms; those marked as occurring in the environment [+Vb\_\_] are the



object forms (if [+Vb\_\_] they cannot also be [+Io\_\_]); those marked as occurring in the environment [+Pos\_\_] are the possessive forms; those occurring with no such designation are the Independent forms, which occur as subject of non-verbal sentences or when an NP is fronted for emphasis. Of these forms only the possessive or objective forms appear in the lexicon (they are the underlying forms, the one chosen depending upon the particular pronominal form involved), with all others derived by phonological rule (with the exception that the third person singular has two underlying forms); the feature complexes are given here simply as a way to organize the surface forms which occur:

(24)

		+NPR	+COM	+INC	+SUBJ	[+Io_]	[+Vb_]	[+Pos_]	
-pl	+I	ŋá	ŋáà	ŋā	ŋà	ŋàn	ŋán	ŋá	ŋán
	+II +masc	ǵá	ǵáà	ǵā	ǵà	ǵā	ǵā	ǵà	ǵà
	-masc	yíi	yíi	yīi	yìi	yīi	yīi	yìi	yìi
	+III	kí	kì	nyī	nyì	nyī	nyī	nyì	nyì
+pl	+I	mú	múu	mū	mù	mùn	mún	mú	mún
	+II	wú	wúu	wū	wù	wùn	wún	wú	wún
	+III	mwa	mwaà	mwa	mwa	mwa	mwa	mwa	mwa

(It will be noted that the second and third person singular forms manifest a total tonal similarity as a set, as do the forms which belong to the other set. These facts result in the positing of underlying forms of differing tones for the two sets to allow derivation of the tonal manifestations by the phonological rules.)

The following examples illustrate the use of these pronominal forms. I have chosen here to use all first person plural forms, but all such forms function in the same way:

- (25) mú met kasuwa 'we will go to the  
NPR go market market'
- (26) múù met kasuwa 'we have gone to the  
COM market'
- (27) mū met kasuwa 'we went to the market'  
INC
- (28) mwá lè teko mù met kasuwa 'they made us  
they cause that SUBJ go to the  
market'
- (29) mwá síit birŋ mún 'they bought a horse  
for-us for us'
- (30) mwá ne mún 'they saw us'  
us
- (31) mwá ne birŋ f-mú 'they saw our horse'  
of-us
- (32) mún do mwá ye 'they seized us'  
we seize

The actual shapes of the possessive forms which occur are as follows:

(33)		alienable	inalienable	independent
-pl	+I	fānā	-ná	mi-ná
	+II +masc	fā	-gā	mi-gā
	-masc	fīī	-yīi	mi-yīi
	+III	kīnīi	kīnīi	mi-nyī
+pl	+I	fūnū	-nú	mi-nú
	+II	fū	-wú	mi-wú
	+III	kīmwa	kīmwa	mi-mwa

These forms are all derived by phonological rule from the sequences which are developed by the syntactic rules.

In addition to these pronominal forms, there are others which occur only in the environment of [+speak] verbs. These are marked lexically as requiring such an environment, although the pronominal forms given in (24) are not excluded from it. In addition, these forms are further marked as requiring identity of reference with either subject or indirect object of the [+speak] verb of the matrix sentence, their occurrence being limited to the embedded sentence. That is, a [+speak] verb will occur in a structure like the following:

(34)  $NP_i - TNS - Vb - [[X]_S]_{NP} - ([Io-NP_j]_{IO})$

Then, any NP in the embedded sentence may be identical in reference to either  $NP_i$  or  $NP_j$ ; if it is, a different set of third person pronominal forms occurs instead of those in (24). If the NP in question is identical in reference to  $NP_i$ , the following forms occur:

(35)            +NPR +COM +INC +SUBJ [+Io\_] [+Vb\_] [+Pos-\_  
 -pl +III +masc   dyíi dyíi dyíi   dyíi n-dyíi dyíi   dyíi dyíi  
                  -masc   dá'   dá   dá   dá   n-dá   dá'   dá'   dá'  
 +pl +IVI           dú   dù   dū   dù   n-dùn   dún   dú   dú

If the NP in question is identical in reference to  $NP_j$ , the following forms occur:

(36)            +NPR +COM +INC +SUBJ [+Io\_] [+Vb\_] [+Pos-\_  
 -pl +III +masc   gwá' gwà   gwá   gwà   ŋ-gwár gwár   gwár gwár  
                  -masc   pé'   pé   pē   pé   m-pē   pé'   pé'   pé'  
 +pl +III           nywé' nywè nywē   nywè n-nywè nywé'   nywé' nywé'

These two sets of pronominal forms are inserted always and only when the conditions described above are met, these restrictions being stated lexically. The following examples illustrate the use of these forms (cf. (25)-(32)):

- (37) Musa<sub>i</sub> li tene dyii<sub>i</sub> met kasuwa 'Musa said that he  
NPR<sub>i</sub> will go to the  
market'
- (38) Musa<sub>i</sub> li tene dyii<sub>i</sub> met kasuwa 'Musa said he had  
COM<sub>i</sub> gone to the  
market'
- (39) Musa<sub>i</sub> li tene dyii<sub>i</sub> met kasuwa 'Musa said he  
INC<sub>i</sub> went to the  
market'
- (40) Musa<sub>i</sub> li tene mwá le teko dyii<sub>i</sub> 'Musa said they  
SUBJ<sub>i</sub>  
met kasuwa made him go to  
the market'
- (41) Musa<sub>i</sub> li tene mwá siit birɔ 'Musa said they  
n-dyiii<sub>i</sub>  
for-him bought a horse  
for him'
- (42) Musa<sub>i</sub> li tene mwá ne dyii<sub>i</sub> 'Musa said they  
him<sub>i</sub> saw him'
- (43) Musa<sub>i</sub> li tene mwá ne birɔ f-dyiii<sub>i</sub> 'Musa said they  
of-him<sub>i</sub> saw his horse'
- (44) Musa<sub>i</sub> li tene dyii<sub>i</sub> do mwá ye 'Musa said they  
he<sub>i</sub> seized him'
- (45) Musa li m-Bitrus<sub>i</sub> tene gwā<sub>i</sub> ji 'Musa told Bitrus  
he<sub>i</sub> to come'
- (46) Musa li m-Bitrus<sub>i</sub> tene mwá dyik 'Musa told Bitrus  
lu ɔ-gwār<sub>i</sub>  
for-him<sub>i</sub> they should build  
a hut for him'
- (47) Musa naɔ po-Bitrus<sub>i</sub> tene mwá 'Musa asked Bitrus  
ne gwār<sub>i</sub>-a?  
him<sub>i</sub> if they had seen  
him'

The actual shapes of the possessive forms which occur are as follows:

(48)		alienable	inalienable	independent
-pl +III +subj-id +masc		fīdyīī	-dyīi	mī-dyīi
	-masc	fādā	-dā	mī-dā
	+IO-ed +masc	kīgwār	kīgwār	mī-gwār
	-masc	kīpé	kīpé	mī-pé
+pl +III +subj-id		fūdū	-dū	mī-dū
	+IO-id	kīnywé	kīnywé	mī-nywé

where the designation [+subj-id] is used here as an abbreviation for subject-identity (i.e., identical in reference to NP<sub>i</sub> in (34)) and [+IO-id] is used as an abbreviation for indirect object-identity (i.e., identical in reference to NP<sub>j</sub> in (34)). It will be noted that the subject-identity and IO-identity forms form distinct sets; the latter have no distinction between the forms used for alienable and inalienable possession, and the possessive marker generally used with nouns (kī-) appears with them rather than that generally used for pronouns (f-). Thus these forms function in an identical fashion to the third person forms in (33), and perhaps are best treated as nouns like the third person forms as a result (although that is not the analysis proposed here).

The same distinction between subject-identical and IO-identical forms in the third person is found also in Sura, at least to some extent (Jungraithmayr 1964a:27). In that

Jungraithmayr mentioned only "third person" forms for Angas also (called here subject-identical, see Jungraithmayr 1964b:20), it is possible that more forms occur in Sura, just as they do in Angas. Jungraithmayr points to these forms as another similarity with Ibibio, saying (Jungraithmayr 1963:277):

The institution of a particular set of pronouns in the 3rd P. Sing. and Plur., and sometimes even in the 2nd persons [equivalent to my subject-identical and IO-identical forms respectively], for the reported speech does not exist--as far as I know--in Hausa or other 'genuine' chado-hamitic languages, but plays quite an important part in Ibibio...

There is no question that pronominalization is not yet a settled issue in transformational theory, and in fact no single language has yet been adequately treated in terms of pronominalization. In my proposals which follow, therefore, I am merely making suggestions as to a possible treatment, my main goal being to present the facts surrounding pronominalization in Angas which must be covered in any analysis.

All lexical items marked [+noun] are also marked [+III] (i.e., third person); by pronominalization, then, what results is simply a third person pronominal form in place of the noun, a process which is carried out by the addition of the feature [+pro] to the noun's feature matrix. The complex will then result in the insertion of the proper basic phonological form in the second lexical pass. In addition

to these features, there is a lexical distinction between proper nouns ([+proper], e.g. Musa) and common nouns ([-proper], e.g. birŋ 'horse'). All [+proper] nouns are also obligatorily definite [+def], while [-proper] nouns may be either [+def] or [-def] by free choice.

I suggest, then, that pronominalization in Angas takes place as follows. The rule of pronominalization is a function of factors of ordering, repetition, and other facts which are not yet clear, and in application to a repeated noun in the proper context it adds to that noun the feature [+def]. (For Ga'anda, Newman (R. Newman 1971:94) introduces such a feature freely in the base. As I mentioned above I do the same here, introducing it obligatorily in the lexicon for proper nouns and optionally for common nouns. In addition, however, it can be introduced transformationally to common nouns in the proper environment.) So, given (49) below, after pronominalization the result will be (50), which will result ultimately in (51):

(49)	Musa	COM	ne	birŋ <sub>i</sub> .	Bitrus	COM	ne	birŋ <sub>i</sub>	ḡaŋ. <sup>4</sup>
				$\begin{bmatrix} +\text{noun}_i \\ +\text{III} \\ -\text{proper} \\ -\text{def} \end{bmatrix}$				$\begin{bmatrix} +\text{noun}_i \\ +\text{III} \\ -\text{proper} \\ -\text{def} \end{bmatrix}$	

(50)	Musa	COM	ne	birŋ <sub>i</sub> .	Bitrus	COM	ne	birŋ <sub>i</sub>	ḡaŋ.
				$\begin{bmatrix} +\text{noun}_i \\ +\text{III} \\ -\text{proper} \\ -\text{def} \end{bmatrix}$				$\begin{bmatrix} +\text{noun}_i \\ +\text{III} \\ -\text{proper} \\ +\text{def} \end{bmatrix}$	

---

<sup>4</sup>The presence of conjunctions such as ḡaŋ is discussed briefly in Chapter 12.

(51) Musa ne birŋ. Bitrus ne birŋ da baŋ.  
see horse that also

Here the realization of the [+def] noun is the same nominal form plus the definite determiner da.

The rules which produce (51) from (49) are the following (with the understanding that the conditions relevant for T11.2 are not stated):

### T11.2 Definitization

SD: X - noun<sub>1</sub> - Y - noun<sub>1</sub> - Z

1        2            3        4            5

SC: 1 - 2 - 3 - 4 - 5  $\Rightarrow$   
1 - 2 - 3 - 4 - 5  
[+def]

### T11.3 the Formation

SD: X - noun - (aj) - (Pos-NP) - Y  
[+def]

---

1                      2                      3

$$\text{SC: } 1 - 2 - 3 \Rightarrow 1 - 2 - \underline{d_a} - 3$$

Condition: optional if the noun in  
2 is [+proper]

The determiner da will occur after any noun modifier introduced by an embedded sentence in B18, and the rule will apply to nouns which are lexically [+def] as well as those which are so marked by T11.2. Proper nouns occur with da, but the occurrence is optional. Note the following example:

(52) Musa ji daɲ mwa ne Musa da ka 'a (person named)  
but Musa came, but they  
didn't see that  
(person named) Musa'





- (55) Musa ne birɔ. Bitrus ne nyi ɓaɲ. 'Musa saw a horse, Bitrus saw it too' (cf. (53))
- (56) Musa ji ɗaɲ mwa ne nyi ka. 'a (person named) Musa came, but they didn't see him' (cf. (52))

Reflexive pronouns are formed in the same way, except that the identity is restricted to that between the verb subject and another noun in the sentence. In Angas the pronominal form which occurs is always the noun ke 'head' followed by a possessive pronoun referentially identical to the verb subject. Note the following examples:

- (57) Musa ne ke ki-nyi 'Musa saw himself'  
see head of-him
- (58) jep mwa ne ke ki-mwa 'the children saw themselves'  
child pl of-them

The underlying structures which I propose for such sentences are the following:

- (57) a) [Musa<sub>i</sub> COM ne Musa<sub>i</sub>]<sub>S</sub>
- (58) a) [jep mwa<sub>i</sub> NPR ne jep mwa<sub>i</sub>]<sub>S</sub>

Then a reflexive rule replaces the repeated noun by the noun ke 'head', leaving a pronominal trace preceded by the possessive marker. The rule may be formulated as follows:

#### T11.6 Reflexivization

SD: [X - NP<sub>i</sub> - TNS - Y - NP<sub>i</sub> - Z]<sub>S</sub>

1
2
3

SC: 1 - 2 - 3  $\Rightarrow$  1 - ke - Pos-2 - 3  
[+pro]



## Chapter 12

### Discourse

I have mentioned that my main purpose in this grammar has been to elucidate Angas grammatical structure at the level of the sentence and below. Clearly, however, there is further structure to be noted. I have not been able to sort out this discourse structure to any great extent, but I present in this chapter certain facts which seem relatively clear. No rules are formulated here to cover these facts.

The major subject here is the use of certain particles which in some way show relationships between sentences. Foulkes (1915:xv) made a choice comment about these particles:

The grammar [of Angas] is very nearly as simple as a grammar can be; and the only difficulty--but it is a very real one--in the colloquial is the apparently capricious employment of a large number of particles, the use of which, though immaterial from a grammatical point of view, is, however, necessary in practice, for without them the sentence certainly loses its flavour, and seemingly some of its sense, in that an ordinary man cannot understand a phrase unless it is enunciated exactly in the way he is accustomed to hearing it, and the omission or transposition of a word bothers him considerably.

Some of his comments are a bit naive, to be sure, but the fact of the difficulty in establishing patterns of occurrence for the particles is clear, as will be seen in the discussion below.

A very common particle is di, whose usage I have been unable to predict totally at present. Two uses, however,

seem to be clear. First, di occurs commonly at the close of a PUR phrase which incorporates an embedded sentence (and so it is possibly treatable as being involved with the presence of the subjunctive aspect). Its use in FUR is apparently optional. Note the following sentences:

- (1) Musa ji teko nyi ne mwa di 'Musa came to see  
come that he see them them'
- (2) wu ji teko mu met di 'come so that we can  
go go!'
- (3) Musa met teko nyi siit biru di 'Musa went to buy a  
buy horse horse'

A second common use of di, possibly closely related to the above, is that of marking the final of a closely related series of events. In such a construction the sentences are presented in chronological order, with di occurring at the end of the last one. Note the following examples:

- (4) Musa le do, ko nin ki-nyi 'Musa shouted,  
raise voice mother of-him and his mother  
heard and came'  
fot, ko ji di  
hear come
- (5) go-lon dim, ko tu mat da 'the chief came  
chief come kill woman that and killed the  
woman, and pulled  
ko sit cuk, ko karm nyi di out his knife and  
draw knife cut-up her cut her up'
- (6) dyem ne niu mwa ka, be 'the child didn't  
child see cattle pl NEG see the cattle,  
and he picked up  
dap mbup da, kwak mwa the fish, poured  
pick-up fish that pour them them back into  
the water, and be-  
gan following the  
n-din-am, ko maq shii trail of the  
in-inside-water follow foot cattle'  
ki-niu mwa di  
of-cattle pl

Unfortunately for this analysis, however, di does not always occur in such sequences. Note the following, taken from text materials:

- (7) mwa met, mwa dim, mwa la 'they went and when  
 they go arrive take they arrived they  
 shik ki-nsulk took the body of  
 body of-(particular bird) nsulk'
- (8) be mwa sit birŋ, be mwa 'and they untied the  
 and they untie horse and they horse and "hit the  
 te yit-ar road"  
 fall road
- (9) mwa be mwa tum 'they returned and  
 they return descend descended'

It may well be that the two usages defined represent a single generalization, namely that of sequential events. Certainly in PUR phrases the event in the ADV phrase follows the event in the main verb chronologically (note the examples in Chapter 6). This may need to be the generalization to be captured, but then the examples above are exceptions to it. More work is needed on the subject, and I leave the matter in this unsatisfactory state.<sup>1</sup>

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<sup>1</sup>There are a number of occurrences of di in Angas text collections (e.g., Foulkes 1915, Jungraithmayr 1964b) which appear to be an incorrect analysis of a phonological process. Angas has a phonological rule which adds a final [ɿ] to closed stressed syllables in pre-pause position. For example:

- (10) mwa met zhwal-ɿ# 'they went to the hills'  
 (11) mwa po-met-ɿ# 'they are going'

In cases like (11), where the consonant closing the syllable is [t], it is possible to mistakenly analyze the [ɿ] in final position as [di], since the implosive nature of the implosive stops in that position is often lost. I have not included such examples in my data above, preferring to treat the phenomenon as the phonological process which it appears to me to be.

The second particle to discuss here also has been mentioned briefly above, viz. be (see Chapter 9). In the above discussion be was described as the particle which occurs following a TIM phrase which is fronted for stylistic reasons (see the discussion there for examples).

A second use of be is simply that of conjoining sentences. Again, the use seems to show a sequential relationship of events. For example, see (6) and (8) above and the following:

- (12) mu cin wap lele ka, 'if we don't collect  
we do taxes quickly NEG the taxes quickly, the  
chief will arrest us'  
be gò-lon yak mun  
chief seize us
- (13) ko wap kí kit, be 'when tax-collecting is  
when taxes it finish finished there is  
other work'  
shitcin ce mwa díi  
work a pl there-is
- (14) bii ce kí kat go ce, 'if something happens  
thing a it get person a to someone, they come  
and get us up'  
be mwa ji mwa yal kí-mun  
they come they raise with-us

Here be would seem to be equivalent to a conjunction 'then'. Again, it seems that a single generalization would cover both of these uses, namely that its use introducing a sentence places that sentence as necessarily chronologically subsequent to the events of the sentences preceding the be. This would seem to be confirmed by the use when TIM phrases are fronted (see Chapter 9) although an exception would be time words which always have a simultaneous relationship with the rest of the sentence.

The third particle to be discussed here is daka. daka shows that the preceding sentence "sets the stage" for what follows; it is roughly translated temporally as "as...".

Note the following examples:

- (15) mwa dim mwa ru n-wòk. Te 'they came and  
 they come they arrive in-compound reached home.  
 As they arrived  
 mwa ru n-wòk daka be mwa li home they  
 they say said...'  
 tene...  
 that
- (16) màt-ek ce po-yak 'a pregnant woman  
 woman-pregnancy a at-catching was catching fish.  
 As she was catch-  
 kì-mbup mwa. Ko nyì po-yak ing fish a shepherd  
 of-fish pl she boy came and found  
 her'  
 kì-mbup mwa daka be dyèm-lep  
 child-shepherd  
 ce ji kat nyi.  
 a come find her

It will be noted that daka and be co-occur in the above examples.

Regarding simple sentence connectives, in addition to be (as noted above) two others occur. These are ko and dan. Both are simple conjunctions, although at times dan has an adversative character. Note the following examples of these conjunctions:

- (17) mwa kat pii-del ka, 'they found no place  
 they get place-crossing to cross, so they  
 returned home'  
 ko be we gak  
 return home only



- (18) ko dyèm-mat      ða met      'the girl went on with  
                          child-woman that go      her cattle, and she  
                          kǐ-niŋ      kǐ-nyi, ko      came and found a large  
                          with-cattle of-her      flat rock'
- ðim kat lèr-pye ce  
                          come find rock-white a
- (19) ðaŋ ko gak po-cik      'now one was pounding'  
                          one one at-pounding
- kǐ-shiŋ  
                          of-mortar
- (20) ðaŋ we mwa naŋ ŋan-e?      'but who will call me?'  
                          who pl call me

ðaŋ appears to occur only sentence-initially in such constructions. In conjoined NPs however (see Chapter 4), its use denotes the last of a series:

- (21) mu kat Musa kǐ-Bitrus ðaŋ Luka      'we found Musa  
                          we get      with-      and Bitrus with  
                                         Luka'

No adversative character is present in such instances.

Actually, it is not necessary to have any conjunction between sentences which are conjoined. Note (7) above, and the following:

- (22) taŋ sim kǐ-niŋ mwa, mwa      'he enumerated the  
                          count name of-cattle pl they      names of the cattle,  
                                         they were many,  
                          duŋ, mwa ðim      they were completed'  
                          much they finish

Finally, there are two sentence-final conjunctions which denote the fact that the activity denoted by the sentence in which they occur is being repeated. The form kwat appears when the same subject is repeating the activity, the form baŋ occurs when a different subject is involved. Note the following:

(23) ko Musa ru n-wòk  
       reach in-compound  
       be be met kasuwa kwat  
       return go market again

'when Musa reached  
 home, he returned  
 to the market  
 again'

(24) ko Musa be n-wòk be  
       return in-compound  
       Bitrus be n-wòk be  
                   also

'when Musa returned  
 home, Bitrus re-  
 turned home also'

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# APPENDIX

## Base Rules

- B1.  $\#S\# \rightarrow \left\{ \begin{array}{l} S_V \\ S_N \end{array} \right\} \left\{ \begin{array}{l} \{(IMP)\} \\ \{(Q)(E)\} \\ \{(Q)(E)\} \end{array} \right\} (NEG)\#$  p. 34
- B2.  $S_V \rightarrow NP - VP - (ADV)$  p. 25
- B3.  $S_N \rightarrow NP - \left\{ \begin{array}{l} NP \\ ADV \\ POS \\ aj \\ num \end{array} \right\} - (ADV)$  p. 29
- B4.  $POS \rightarrow \underline{mi}\text{-}NP$  p. 29
- B5.  $ADV \rightarrow (MAN)(ACC)(LOC)*(TIM)(INST)(PUR)$  p. 31
- B6.  $ACC \rightarrow \underline{ki}'\text{-}NP$  p.121
- B7.  $LOC \rightarrow \text{prep-}NP$  p.123
- B8.  $MAN \rightarrow \left\{ \begin{array}{l} man \\ aj \\ num \end{array} \right\}$  p.124
- B9.  $TIM \rightarrow \left\{ \left\{ \begin{array}{l} \underline{kada\eta} \\ \underline{ko} \end{array} \right\} + \#S\# \right\}_{tim}$  p.131
- B10.  $INST \rightarrow \left\{ \begin{array}{l} \underline{shi} \\ \underline{yii} \end{array} \right\} + NP$  p.132
- B11.  $PUR \rightarrow \left\{ \begin{array}{l} \underline{mpi} + NP \\ \underline{teko} + \#S\# \end{array} \right\}$  p.134
- B12.  $VP \rightarrow TNS - Vb - \left( \begin{array}{l} \{NP\} \\ \{PO\} \end{array} \right) - (IO)$  p. 45

B13.	IO	→	Io-NP	p.	45
B14.	TNS	→	$\begin{Bmatrix} \text{NPR} \\ \text{COM} \\ \text{INC} \end{Bmatrix}$	p.	41
B15.	PO	→	<u>po</u> -NP	p.	45
B16.	NP	→	$\begin{Bmatrix} \text{NOM(ACC)*} \\ \text{\#S\#} \end{Bmatrix}$	p.	53
B17.	NOM	→	$\begin{Bmatrix} \text{NOUN} \\ \text{pn} \end{Bmatrix}$	p.	53
B18.	NOUN	→	noun (\#S\#)(det)	p.	53
B19.	noun	→	N* (pl)	p.	62

### Transformational Rules

T2.1	COM-Deletion (optional)	p.	21
$  \begin{array}{ccccccc}  \text{SD: } [X - \text{NP} - & \text{COM} & - Y]_S \\  & & \begin{Bmatrix} +III \\ -pl \end{Bmatrix} \\  \hline  & 1 & 2 & 3  \end{array}  $			
SC: 1 - 2 - 3 $\Rightarrow$ 1 - 3			
Condition: 3 $\neq$ <u>cep</u>			
T2.2	NPR-Deletion (optional)	p.	21
$  \begin{array}{ccccccc}  \text{SD: } [X - \text{NP} - & \text{NPR} & - Y]_S \\  & & \begin{Bmatrix} \begin{Bmatrix} -III \\ +III \end{Bmatrix} \\ +pl \end{Bmatrix} \\  \hline  & 1 & 2 & 3  \end{array}  $			
SC: 1 - 2 - 3 $\Rightarrow$ 1 - 3			



T2.3 SUBJ-Deletion p. 21

SD: [X - NP - SUBJ - Y]<sub>S</sub>

1 2 3

SC: 1 - 2 - 3  $\Rightarrow$  1 - 3

T2.4 Sentence Emphasis p. 34

SD:  $\left\{ \begin{matrix} S_V \\ S_N \end{matrix} \right\} - E - X$

1 2 3

SC: 1 - 2 - ?  $\Rightarrow$  1 - do  $\left\{ \begin{matrix} da \\ nyii \end{matrix} \right\} - 3$

T4.1 Relativization p. 58

SD: W - NP - X - # - Y - NP - Z - #

1 2 3 4 5 6 7 8

SC: 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8  $\Rightarrow$

1 - 2 - 3 - 5 - komeye - 6 - 7  
[+pro]

Condition: 2 and 6 are identical in reference

T4.2 Pro-Deletion (optional) p. 59

SD: X - komeye - NP - Y  
[+pro]

1 2 3

SC: 1 - 2 - 3  $\Rightarrow$  1 - 3

T4.3 Rel-Deletion (optional) p. 60

SD: X - komeye -  $\left\{ \begin{matrix} aj \\ num \\ THS \end{matrix} \right\} - Y$

1 2 3 4

SC: 1 - 2 - 3 - 4  $\Rightarrow$  1 - 3 - 4

Condition: obligatory if 3 is [+pl]

T4.4 Adjective Movement p. 64

SD:  $[X - (\text{det}) - \text{pl} - \text{aj} - Y]_{\text{NP}}$

1 2 3 4

SC: 1 - 2 - 3 - 4  $\Rightarrow$  1 - 3 - 2 - 4

T4.5 Possessive Formation (optional) p. 69

SD:  $X - \text{NP} - \text{komeye} - \text{noun} - \text{ACC} - Y$

1 2 3 4 5

SC: 1 - 2 - 3 - 4 - 5  $\Rightarrow$  1 - Pos-3 - 5

T4.6 Possessive Movement p. 69

SD:  $[X - (\text{det}) - \text{pl} - \text{Pos-NP} - Y]_{\text{NP}}$

1 2 3 4

SC: 1 - 2 - 3 - 4  $\Rightarrow$  1 - 3 - 2 - 4

T5.1 Object Equi-NP Deletion p. 82

SD:  $X - \text{NP} - \left\{ \begin{array}{l} \text{prep} \\ \text{TNS} - \text{Vb} \end{array} \right\} - [\text{NP} - \text{VP} - (\text{ADV})]_{\text{S}} - Y$

1 2 3 4 5

SC: 1 - 2 - 3 - 4 - 5  $\Rightarrow$  1 - 2 - 3 - 5

Condition: 2 and 4 are identical in reference

T5.2 Verbal Nominalization p. 82

SD:  $X - [(\text{noun}) - [\text{TNS} - \text{Vb} - (\text{NP})]_{\text{VP}} \left( \left\{ \begin{array}{l} \text{pl} \\ \text{LOC} \\ \text{Pos-noun} \end{array} \right\} \right)]_{\text{NP}} - Y$

1 2 3 4

SC: 1 - 2 - 3 - 4  $\Rightarrow$  1 - 3 - 4  
[+VN]

## T5.3 Pos-Insertion

p. 83

$$\text{SD: } [W - [X - Vb - NP - Y]_{NP} - Z]_S$$

$$\begin{array}{ccc} & \text{[+VN]} & \\ \hline & 1 & 2 \end{array}$$
SC: 1 - 2  $\Rightarrow$  1 - Pos-2

Condition: optional if X in 1 is noun

## T5.4 Subject Equi-NP Deletion

p. 86

$$\text{SD: } [[[NP - VP - (ADV)]_S]_{NP} - X - Vb - NP - Y]_S$$

$$\begin{array}{ccccccc} & & & & & & \\ \hline & 1 & & 2 & & 3 & 4 \end{array}$$
SC: 1 - 2 - 3 - 4  $\Rightarrow$  2 - 3 - 4

Condition: 1 and 3 are identical in reference

## T5.5 Unspecified Subject Deletion

p. 87

$$\text{SD: } [[[X - \underline{\text{go ce}} - Y]_S]_{NP} - VP - Z]_S$$

$$\begin{array}{ccccc} & 1 & 2 & & 3 \\ \hline & & & & \end{array}$$
SC: 1 - 2 - 3  $\Rightarrow$  1 - 3

## T5.6 Subject Movement

p. 93

$$\text{SD: } X - [[NP - VP - (ADV)]_S]_{NP} - Y$$

$$\begin{array}{ccccc} & 1 & 2 & 3 & 4 & 5 \\ \hline & & & & & \end{array}$$
SC: 1 - 2 - 3 - 4 - 5  $\Rightarrow$  1 - 3 - Pos-2 - 5Condition: 1  $\neq$  teko or tene

## T5.7 Plural Deletion (optional)

p. 100

$$\text{SD: } X - \text{pl} - \underline{\text{komeye}} - Y$$

$$\begin{array}{ccc} & 1 & 2 & 3 \\ \hline & & & \end{array}$$
SC: 1 - 2 - 3  $\Rightarrow$  1 - 3

### T5.8 Compound Rule

p.101

SD: [X - noun - Vb - Y]<sub>NP</sub>  
          [+VN]

$$\text{SC: } 1 - 2 - 3 \Rightarrow 1 - 2 - 3$$

$$[+TL]$$

T5.9      Rel Movement (optional)

p. 101

SD: [noun - (det) - pl - komeye - VP - Y]<sub>NP</sub>

1                      2                      3                      4

SC: 1 - 2 - 3 - 4  $\Rightarrow$  1 - 3 - 2 - 4

T5.10 [+pro] LOC Deletion

p. 107

$$\text{SD: } \frac{[X - [Vb - Y]_{VP} - \text{LOC}]_{NP}}{[+VN]} \quad \frac{[+pro]}{[+pro]_{NP}}$$

SC:  $1 - 2 \Rightarrow 1$

T5.12     Compounding Rule (optional)<sup>1</sup>

p. 117

SD: [X - noun - Y - noun - Z]<sub>NP</sub>  
       1      2      3      4      5

$$\text{SC: } 1 - 2 - 3 - 4 - 5 \Rightarrow \begin{matrix} 2 - 4 \\ [+TL] \end{matrix}$$

## T6.1 Pronoun Pluralization

p. 122

SD: X - NOM -  $\bar{k}i$ -NP - Y  
[+pro]                  3

$$\text{SC: } 1 - 2 - 3 \Rightarrow 1 - \underset{[+p1]}{2} - 3$$

## T6.2 PA Fluralization

p. 122

$$SD: [X - \underbrace{\left\{ \begin{array}{l} \text{NOM} \\ [+pl] \\ \text{pl} \\ \text{[NOM - ACC]}_{NP} \end{array} \right\}}_1 - Y - \text{TNS} - Z]_S$$

$$SC: 1 - 2 - 3 \Rightarrow 1 - \underbrace{2}_{[+pl]} - 3$$

## T6.3 Feature-Spreading

p. 125

$$SD: [X - \underbrace{\text{noun} - \text{pl}}_1 - Y - \underbrace{\left\{ \begin{array}{l} \text{aj} \\ \text{Vb} \end{array} \right\}}_2 - Z]_S$$

$$SC: 1 - 2 - 3 \Rightarrow 1 - \underbrace{2}_{[+pl]} - 3$$

## T6.4 Adjective Reduplication

p. 125

$$SD: X - \underbrace{\text{aj}}_{[+pl]} - Y$$

$$SC: 1 - 2 - 3 \Rightarrow 1 - 2 - 2 - 3$$

## T7.1 IMP Deletion

p. 144

$$SD: [X - \underbrace{\text{INC}}_{[+II]} - Y - \text{IMP} - Z]_S$$

$$SC: 1 - 2 - 3 - 4 - 5 \Rightarrow 1 - (2) - 3 - 5$$

## T8.1 Complementation

p. 149

$$SD: [X - \underbrace{\text{Vb}}_{[+speak]} - \# S \# - Y]_S$$

$$SC: 1 - 2 - 3 - 4 - 5 - 6 \Rightarrow 1 - 2 - \underline{\text{tene}} - 4 - 6$$

## T8.2 Indirect Object Movement p. 151

SD: X - tene - Y - IO - Z

1                      2                      3                      4

SC: 1 - 2 - 3 - 4  $\Rightarrow$  1 - 3 - 2 - 4

T9.1      Topicalization (optional)      p. 153

SD: [X - NP - TNS - Vb - NP - Y]<sub>S</sub>

1	2	3	4
---	---	---	---

$$\text{SC: } 1 - 2 - 3 - 4 \Rightarrow 1 - 3 - 2 - \underset{[\text{tpro}]}{3} - 4$$

T9.2 VP Emphasis p. 160

$$\text{SD: } [X - \text{TNS} - \text{Vb} - (\text{NP}) - (\text{IO}) - Y]_S$$

1
2
3
4
5

SC: 1 - 2 - 3 - 4 - 5  $\Rightarrow$  3 - 4 - do - 1 - cin - 5  
[+VN]

T9.3 TIM-fronting (optional) p. 163

$$SD: [X - TIM - Y]_S$$

1            2            3

$$\text{SC: } 1 - 2 - 3 \Rightarrow 2 - 6e - 1 - 3$$

Condition: obligatory if TIM is  $\left\{ \frac{\text{ko}}{\text{kadan}} \right\} + \#S\#$

T9.4      Pos Insertion      p. 168

SD: [X - noun - noun - Y]<sub>noun</sub>  
 [-inal] [+pro]  
 noun - noun  
 [+inal] [+pro]  
 +III

1                  2                  3                  4

SC: 1 - 2 - 3 - 4  $\Rightarrow$  1 - 2 - Pos-3 - 4

## T9.5 NP Emphasis

p. 169

$$\text{SD: } [X - \left\{ \begin{array}{c} \text{ki-} \\ \text{shi-} \\ \text{mpii-} \\ \text{Io} \end{array} \right\} - \text{NP} - Y]_S$$

$$1 \quad 2 \quad 3 \quad 4$$

$$\text{SC: } 1 - 2 - 3 - 4 \Rightarrow 3 - \underline{\text{do}} - 1 - 2 - 3 - 4$$

$$\left[ \begin{array}{l} -e \\ -wh \\ +pro \end{array} \right]$$

## T9.6 Phrase Emphasis

p. 169

$$\text{SD: } [X - \left\{ \begin{array}{c} \text{INST} \\ \text{PUR} \\ \text{TIM} \end{array} \right\} - Y]_S$$

$$1 \quad 2 \quad 3$$

$$\text{SC: } 1 - 2 - 3 \Rightarrow 2 - \underline{\text{do}} - 1 - 3$$

## T9.7 LOC Emphasis

p. 170

$$\text{SD: } [X - \text{prep-NP} - Y]_S$$

$$1 \quad 2 \quad 3 \quad 4$$

$$\text{SC: } 1 - 2 - 3 - 4 \Rightarrow 3 - \underline{\text{do}} - 1 - 4$$

## T9.8 Subject Emphasis

p. 170

$$\text{SD: } [X - \text{NP} - \text{VP} - Y]_S$$

$$1 \quad 2 \quad 3 \quad 4$$

$$\text{SC: } 1 - 2 - 3 - 4 \Rightarrow 2 - \underline{\text{do}} - 1 - 3 - 4$$

## T9.9 Object Emphasis I

p. 171

$$\text{SD: } [X - \text{Vb} - \text{NP} - Y]_S$$

$$1 \quad 2 \quad 3 \quad 4$$

$$\text{SC: } 1 - 2 - 3 - 4 \Rightarrow 3 - \underline{\text{do}} - 1 - 2 - 4$$

T9.10 Object Emphasis II

p. 171

SD: [X - Vb - noun - Y]<sub>S</sub>  

$$\begin{matrix} & & [+loc] \\ & & [+e] \end{matrix}$$

$$\begin{matrix} 1 & 2 & 3 & 4 \end{matrix}$$

SC: 1 - 2 - 3 - 4  $\Rightarrow$  3 - do - 1 - 2 - 3 - 4  

$$\begin{bmatrix} -e \\ -wh \\ +pro \end{bmatrix}$$

T9.11 dan Insertion

p. 172

SD:  $\left\{ \begin{matrix} \underline{nine} \\ \underline{cira\eta} \\ PUR \\ [+e] \end{matrix} \right\} - \underline{do} - X$   

$$\begin{matrix} 1 & 2 & 3 \end{matrix}$$

SC: 1 - 2 - 3  $\Rightarrow$  1 - dan - 2 - 3

T10.1 mante Movement

p. 175

SD: [X - mante kat]<sub>S</sub>  

$$\begin{matrix} 1 & 2 & 3 \end{matrix}$$

SC: 1 - 2 - 3  $\Rightarrow$  2 - 1 - 3

T10.2 wh Emphasis

p. 176

SD: [X - NP - Y - NEG]<sub>S</sub>  

$$\begin{matrix} & & [+wh] & \\ & & \underline{\hspace{1cm}} & \end{matrix}$$

$$\begin{matrix} 1 & 2 & 3 \end{matrix}$$

SC: 1 - 2 - 3  $\Rightarrow$  1 - ? - 3  

$$\begin{bmatrix} +e \end{bmatrix}$$

T11.1 Sentence Pronominalization

p. 181

SD: S<sub>i</sub> - X - [Y - S<sub>i</sub> - Z]<sub>S</sub>  

$$\begin{matrix} 1 & 2 & 3 \end{matrix}$$

SC: 1 - 2 - 3  $\Rightarrow$  1 - a - 3



### T11.2 Definitization

p. 200

SD: X - noun<sub>1</sub> - Y - noun<sub>1</sub> - Z  
           2          3          4          5

SC: 1 - 2 - 3 - 4 - 5  $\Rightarrow$  1 - 2 - 3 - 4 - 5  
[+def]

### T11.3 the Formation

p. 200

SD: X - noun - (aj) - (Pos-NP) - Y  
[+def]

---

1                      2                      3

$$\text{SC: } 1 - 2 - 3 \Rightarrow 1 - 2 - \underline{d_a} - 3$$

Condition: optional if the noun in 2 is [+proper]

## T11.4 One Formation (optional)

p. 201

SD: X - noun - Y - da - Z

          [+def]  
          [-proper]

          1          2                  3

SC:  $1 - 2 = 3 \Rightarrow 1 - \underline{ko} - 3$

## T11.5 Pronominalization (optional)

p. 201

$$\text{SD: } \underset{1}{X} - \left\{ \begin{array}{c} \text{oun} \\ \text{+def} \\ \text{ko} \end{array} \right\} - \underset{2}{Y} - (\text{da}) - \underset{3}{Z}$$
$$EC: 1 - 2 - 3 - 4 \Rightarrow 1 - \underset{[+pre]}{2} - 4$$

## T11.6 Reflexivization

p. 202

SD: [X - NP<sub>i</sub> - TNS - Y - NP<sub>i</sub> - Z]<sub>S</sub>

1                      2            3

SC: 1 - 2 - 3  $\Rightarrow$  1 - ke - Pos-2 - 3  
[+pro]

SD: [X - NP - TNS - Y]<sub>S</sub>

$$\begin{bmatrix} \alpha I \\ \beta II \\ \gamma III \\ \delta \text{ masc} \end{bmatrix}$$

1

2

3

4

SC: 1 - 2 - 3 - 4  $\Rightarrow$  1 - 2 - 3 - 4

$$\begin{bmatrix} \alpha I \\ \beta II \\ \gamma III \\ \delta \text{ masc} \end{bmatrix}$$