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A Grammar of Angas
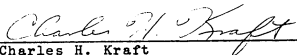
A dissertation submitted in partial satisfaction of the

requirements for the degree Doctor of Philosophy

in Linguistics

by

Donald Arden Burquest

1973

The dissertation of Donald Arden Burquest is approved,

and it is acceptable in quality for publication on microfilm.

Charles H. Kraft

Michael   Moerman

Barbara H. Partee, Committee Chairman

University of California, Los Angeles

1973

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VITA

January 28, 1939--Born, Sarasota, Florida

1961--B.A., Wheaton College, Illinois

1963-1965--M.A., University of California, Los Angeles

1965--Research Assistant, Department of Linguistics,
      University of California, Los Angeles

1967-1970--Field Work, Nigeria, under auspices of the
           Summer Institute of Linguistics, Inc.

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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 resi-
dency 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 de-
veloped in Chomsky's Aspects of the Theory of Syntax is
used, with discussions of nominalization and pronominaliza-
tion 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 m- 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.

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 classifi-
cation, but because of its somewhat non-typical character-
istics as a Chadic language some comments are necessary.

In his pioneering work in African language classifica-
tion, 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 sug-
gested seven Afroasiatic features pertaining to grammatical
formatives which are commonly found in Chadic languages.
These characteristics are summarized in (1):

(1) 1. feminine formative t

    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 <u>a</u>, suffix of -<u>en</u>, internal change
of vowel to <u>a</u> plus suffix of -<u>en</u>)

5. phonological correspondences in pronouns

6. verbs with <u>w</u>- in perfective but lacking it
in other forms

7. <u>m</u>- 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 <u>a</u> 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 <u>m</u>- 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 <u>go</u> 'person' and <u>bii</u> '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):

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(3) ŋgò-karm   nam   'butcher'
     person-killing   animal

     ᵐbìi-karm   nam   'butchering tool'
     thing

Compare these forms with those of (4), where <u>go</u> and <u>bii</u> oc-
cur 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

     tàr-fwan   'rainy season'
     moon-rain

Possibly, the prenasalization with these two morphemes can
be interpreted as a remnant of the historical <u>m</u>- prefix of
agent and instrument; there is a large degree of form-meaning
correspondence. Also, there is in Angas a preposition <u>n</u>-
which denotes location which may be a remnant of the loca-
tive 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 pro-
nominal 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

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at least five of the seven features and in fairly full mani-
festation (characteristic plural formation and the <u>w</u>- per-
fective 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 Afro-
asiatic 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 lan-
guage). He finds several similarities between Angas and
Sura on the one hand and Ibibio on the other, which include
the following:

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(6) plural verb stems

   characteristic tone pattern for the genitive rela-
      tion (treated in this dissertation as Compound
      Nouns), with one noun having low tone (the modi-
      fied (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 (mɔ in Sura),
      which bears close similarity with the respective
      pronoun mmɔ in Ibibio

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

Jungraithmayr suggests that these similarities might be ex-
plained by the possibility of a non-genetic underlying stra-
tum 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.

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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 cer-
tain sound changes within Chadic and its subgroups and recon-
structed 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 ba-
ses of traditional historical linguistics. Greenberg's re-
maining groups were not classified. (7) contains a list of
Platel Clusters and their member languages as compiled by
Newman and Ma:

(7)

Hausa Cl	Ngizim Cl	Bolewa Cl	Plateau Cl	"Subgroup 9"
*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 in-
formation from these six groups of Chadic is simply to com-
pare Angas phenomena with those of other related languages,

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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.[1] 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).[2]

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.

_____

[1] 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.

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

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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 Jungraithmayr's description of Sura (Jungraithmayr 1964a). Angas and Sura both belong to the same Cluster of Plate1, 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

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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

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and clarity so as to allow the theoretical ramifications of
the facts of the language to be traced by others. Specifi-
cally, in this grammar I discuss nominalization (Chapter 5)
and pronominalization (Chapter 11), two major issues in cur-
rent 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.[3] 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 pa-
tience 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.[4]

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[3]The Institute of Linguistics (Nigeria) is an affiliate
of the International Summer Institute of Linguistics, Inc.

[4]For a more complete statement of Angas phonology
(from a Structuralist point of view) see Burquest 1971.

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The following is a chart of Angas phonemes:

		LABIAL	ALVEOLAR		VELAR
STOP	vl	p	t		k
	vd	b	d		g
	gl	ɓ	ɗ		'
FRIC	vl	f	s		h
	vd	v	z		ɣ
RES	nas	m	n		ŋ
	lat		l		
	trill		r		
SEMI			y		w
VOWEL			i	ə	u
			e		o
			a		

Prenasalization, labialization, and palatalization occur fre-
quently in sequences which make their appearance unpredict-
able. I treat such complex segments as sequences which con-
form to the following basic syllable structure pattern:

$$(N)C(\left\{ {Y \atop W} \right\})V(C)$$

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
ɓ		
	s	
	z	

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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
ɓ		'
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 [ɨ] vs. [ɨ:] and [a] vs. [a:]. These contrasts carry only a very low functional load and are not included in the chart.

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The phoneme written as /'/ on the chart has the two manifestations of [ʔ] in initial position before vowels and [g̈] when palatalized. The former manifestation is not written in the examples, the latter together with its palatalization is written as <u>dy</u> as in the Angas orthography. The two vowels /i/ and /ə/ are written in the examples as <u>ii</u> and <u>i</u> 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:[5]

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

---

[5]The phone [š], 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.

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the second is a labial or velar voiceless stop or nasal.[6]
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 contain-
ing 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 analy-
sis 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.:[7]

---

[6]An analysis of underlying voiced stops in final posi-
tion 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 for-
mer if silence is considered [-voice]). The same devoicing
rule would apply as in the singular cases.

[7]The Sura data is from Jungraithmayr 1964a.

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Angas	Sura	
birŋ	bəriŋ	'horse'
warŋ	wuran	'big'
mwɛlm	məlɔm	'coco-yam'
melp	məlɛp	'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:

$$\acute{V} \qquad \text{high}$$

$$\bar{V} \qquad \text{mid}$$

$$\grave{V} \qquad \text{low}$$

Angas morphemes are commonly monosyllabic. No verbs of more than one syllable occur,[8] and nouns of more than one

---

[8]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).

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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 pre-
sent in proto-Chadic. Note the following comparisons with
Hausa, for example:

Angas	Hausa	
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

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(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 subcate-
gorization and selection features; transitive verbs are
specified as requiring objects, intransitive verbs as dis-
allowing 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 <u>mwa</u>. 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 fol-
lowing sentences are identical in meaning and both are gram-
matical, 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.

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First, following _teko_ the person-aspect marker is obliga-
torily low in tone (that is, it is obligatorily in the sub-
junctive aspect, see Chapter 7; the person-aspect markers
themselves are in Chapter 11). This can be seen in sen-
tences like (5) which contain no NP subject following _teko_:

> (5) mwa le   teko mwà 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 mwà ji

Rather, such sentences containing NP subjects undergo dele-
tion 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 dele-
tion 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   kì 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

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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:

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T2.1 COM-Deletion (optional)

$$SD: \quad [X - NP - \begin{matrix} COM \\ \begin{bmatrix} +III \\ -pl \end{bmatrix} \end{matrix} - Y]_S$$

$$\underline{}$$
$$\qquad\quad 1 \qquad\quad 2 \qquad 3$$

$$SC: \quad 1 - 2 - 3 \implies 1 - 3$$

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

T2.2 NPR-Deletion (optional)

$$SD: \quad [X - NP - \begin{matrix} NPR \\ \left\{ \begin{matrix} [-III] \\ \begin{bmatrix} +III \\ +pl \end{bmatrix} \end{matrix} \right\} \end{matrix} - Y]_S$$

$$\underline{}$$
$$\qquad\quad 1 \qquad\quad 2 \qquad 3$$

$$SC: \quad 1 - 2 - 3 \implies 1 - 3$$

T2.3 SUBJ-Deletion[1]

$$SD: \quad [X - NP - SUBJ - Y]_S$$

$$\underline{}$$
$$\qquad\quad 1 \qquad\quad 2 \qquad 3$$

$$SC: \quad 1 - 2 - 3 \implies 1 - 3$$

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.

---

[1] 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
                                        people didn't buy
      daŋ gurm mwa mwa síit bɟi        anything'
      but                 buy thing

      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
                                        the market, but they
      daŋ mwa síit bii ce ka          didn't buy anything'
```

Rule T2.2 may optionally apply to delete the person-aspect marker of the first clause. But it is clear from the second clause that the Equi rule deleting a repeated NP subject must apply first, since if T2.2 had applied to it there would be no person-aspect marker, but if Equi applies first the structural description of T2.2 is no longer met and so the rule cannot apply.

A sentence like (1), then, has two possible derivations but a single source. The underlying source and possible derivations appear in (12):

```
(12) a)  mwa  TNS  ne  gi  mwa

              TNS  ne  gi  mwa   Equi-NP Deletion

                                 PA deletion does not
                                  apply

     b)  mwa  TNS  ne  gi  mwa   Equi-NP Deletion does
                                 not apply

         mwa       ne  gi  mwa   PA deletion
```

In the first derivation the NP subject (here a pronoun) is deleted by reference to another NP in the context with identical reference. If such a second NP is not present the second derivation occurs. Assuming that TNS is NPR, the two resulting sentences are phonologically identical (although the contexts would not be, of course). But they would not be identical if the subjects were expanded NPs:

```
(13) a) gurm  mwa  TNS  ne  gi  mwa

                   TNS  ne  gi  mwa   Equi-NP Deletion

                                      PA deletion does
                                       not apply
```

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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 assum-
ing 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 con-
structions denoting manner, accompaniment, location, instru-
ment, time, and purpose. I have not exhaustively investi-
gated 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

                            24

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 with-peanuts in-market   peanuts to
                 ACC   LOC   the market'

(15) mwa ji   ki-kaya mwa duŋ-duŋ   'they bring
                with-load pl much-much   many loads'
                         ACC

(16) mwa ji   n-kasuwa duŋ-duŋ   'many people
                in-market much-much   come to the
                LOC   MAN   market'

(17) mwa cin kasuwa m-Pwel   cinii   'they hold the
      do   market in-Dawaki today   Dawaki market
                    LOC   TIM   today'

(18) mwa ji   n-kasuwa mpii malar   'they come to
      come in-market for peanuts   the market for
                LOC   PUR   peanuts'

(19) mwa mar mar shi-cen ahanyii   'they farm with
      hoe farm with-hoe now   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, be-
cause 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 pro-
posed as the structure of the verbal sentence:

          B2. S_V → 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 ŋan   'they seized me'
          they seize me

    (22) ŋan 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.

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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 ki-nyi bijim[2]   'his dog is big'
      dog of-him big
                   aj

(24) mazep ki-nyi dii   'his bride is there'[3]
      bride of-him there
                    LOC

(25) mwa ki-pas   mwa   'they have arrows'
      they with-arrow pl
              ACC

(26) mat ki-nyi n-lu   '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 bijim 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

_____

[2]The sequence ki-nyi will be converted by phonological rules into the actual occurring form ki-nii.

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

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I mentioned above that the same adverbial constructions may occur in both verbal and non-verbal sentences (with some restrictions to be noted). The difference, however, is that in the non-verbal sentence an adverbial construction may occur in the predicate, in addition to those on the sentence-level. So, in both S_V and S_N the resulting structure may be ADV-ADV, but in the latter case the first ADV is in the predicate. In the above examples (24)-(27) the structure is simply NP-ADV. Note the following examples of non-verbal sentences in which more than a single adverbial construction occurs:

(31) mat ki-nyi   n-lù   ahanyii   'his wife is in the
      wife of-him in-hut   now   hut now'
                   ‾‾‾‾‾‾ ‾‾‾‾‾‾
                    LOC   TIM

(32) mwa ki-pas   mwa n-sar   'they have arrows in
      they with-arrow pl in-hand   their hands'
           ‾‾‾‾‾‾‾‾‾‾   ‾‾‾‾‾‾‾
              ACC   LOC

(33) jolii mwa minii duŋ-duŋ   'there are many
      monkey pl   here much-much   monkeys here'
                  ‾‾‾‾ ‾‾‾‾‾‾‾‾‾
                  LOC   MAN

(34) mwa dii ki-sher   ki-mwa   'they are there with
      they there with-friend of-them   their friend'
           ‾‾‾‾‾ ‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾
            LOC   ACC

Instrument and Purpose do not occur as possible rewrites of ADV in non-verbal sentences. This may be an argument for treating them differently from the other adverbial constructions, but for the present I am treating them all the same with the assumption that the improper generation of INST and PUR with non-verbal sentences can be blocked appropriately.

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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:

$$B3. \quad S_{\underline{N}} \; \rightarrow \; NP - \begin{Bmatrix} NP \\ ADV \\ POS \\ aj \\ num \end{Bmatrix} - (ADV)$$

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

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

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.

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The structure of ADV has been hinted at above but not yet formulated. The following combinations of adverbial constructions occur in the examples above:

        ACC - LOC   14, 32
        LOC - MAN   16, 33
        LOC - TIM   17, 31
        LOC - PUR   18
        INST - TIM   19
        LOC - ACC   34

There are no apparent restrictions upon the types which may occur together, although as I mentioned my study is not yet complete. Further, it is clear that at least three types may occur in the same sentence. Note the following:

    (38) mwa kat gi mwa ka-kasuwa   'they found many goats
          they get goat pl <u>at-market</u>   at the market today'
                              LOC

          duŋ-duŋ cinii
          <u>much-much</u> <u>today</u>
            MAN   TIM

    (39) mwa tum   ki-mwa   minii   'they brought them
              descend <u>with-them</u> <u>here</u>   down here yesterday'
                        ACC   LOC

          dondon
          <u>yesterday</u>
            TIM

In fact, four can probably occur, although the effect is somewhat "heavy":

    (40) mwa tum ki-mwa minii duŋ-duŋ 'they brought many
          dondon   of them down here
                                           yesterday'

Also, LOC may occur at least twice in a single sentence, as in the following:

    (41) kii m-buhu n-wok   'the hen is in a bag in
          hen <u>in-bag</u> <u>in-compound</u>   the compound'
              LOC   LOC

                        30

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

B5. ADV → (MAN)(ACC)(LOC)*(TIM)(INST)(PUR)[4]

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 síit gi   'Musa bought a goat'
            buy goat

(43) Musa ɗo siit gi   '<u>Musa</u> bought a goat'

(44) gi ɗo Musa síit   'Musa bought <u>a goat</u>'

(45) síit ɗo Musa cin   'Musa <u>bought it</u>'[5]

(46) mwa kí-pas   mwa n-sàr   'they have arrows in
          they with-arrow pl in-hand   their hands'

(47) mwa ɗo mwa kí-pas mwa n-sàr   '<u>they</u> have arrows in
                                                      their hands'

(48) pas mwa ɗo mwa kí-mwa n-sàr   'they have <u>arrows</u> in[6]
                                                      their hands'

---

[4]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.

[5]If the object is included in the emphasized element, the whole VP is fronted:
    (45) a) síit ki-gi   ɗo Musa cin 'Musa <u>bought a goat</u>'
              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.

[6]Note that the move nt (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.

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(49) n-sàr ɗo mwa kí-pas mwa   'they have arrows <u>in</u>
                                        <u>their hands</u>'

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

(50) Musa siít gi ɗo ɗa
         buy goat   that   } 7 'it is the case that
                                         Musa bought a goat'

(51) Musa siít gi ɗo nyii
                this

(52) mwa kí-pas   mwa n-sàr ɗo ɗa   'it is the
     they with-arrow pl in-hand   that case that
                                      they have

(53) mwa kí-pas mwa n-sàr ɗo nyii   arrows in
                         this   their hands'

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)[8]; 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 <u>ka</u> in final position. Note the following examples:

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

---

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

[8] 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.

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```
(55)  malam met ka        (cf 9)   'the teacher didn't go'

(56)  mwa ye ŋan 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)  mat ki-nyi n-lu 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 -$\underline{a}$ 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):[9]

---

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

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$$B1. \quad \#S\# \quad \rightarrow \quad \#\begin{Bmatrix} S_V & \begin{Bmatrix} (IMP) \\ (Q)(E) \end{Bmatrix} \\ S_N & (Q)(E) \end{Bmatrix} (NEG)\#$$

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.[10]

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

T2.4 Sentence Emphasis

$$SD: \begin{Bmatrix} S_V \\ S_N \end{Bmatrix} - E - X$$

$$\qquad\qquad 1 \qquad 2 \quad 3$$

$$SC: \quad 1 - 2 - 3 \quad == \quad 1 - \underline{do} \begin{Bmatrix} \underline{da} \\ \underline{nyii} \end{Bmatrix} - 3$$

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

---

[10]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.

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

```
                          # S #
                           |
                          # S_V #
                  _____/      _____
                 NP                        VP
                 |                          |
(3)           gurm mwa              mwa ne gi mwa
```

```
                          # S #
                           |
                          # S_V #
                  _____/      _____
                 NP                        VP
                 |                          |
(9)            malam                       met
```

```
                          # S #
                           |
                          # S_N #
                  _____/      _____
                 NP                        aj
                 |\                         |
(23)^11      as ki-nyi                   bijim
```
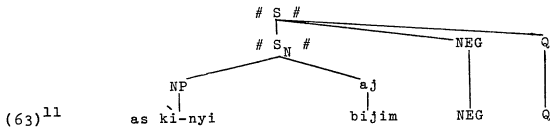
```
                          # S #
                           |
                          # S_N #
                  _____/     |     \_____
                 NP          ADV          ADV
                 |           |            |
                 |          LOC          TIM
                 |           |            |
(31)^11     màt ki-nyi     n-lù        ahanyii
```

_____
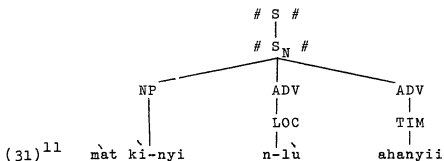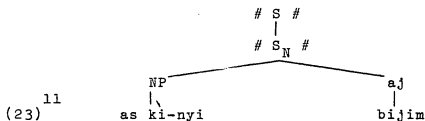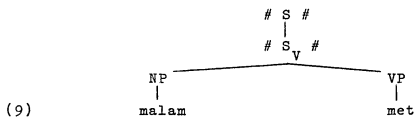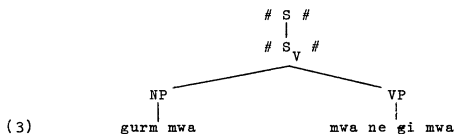
[11]The underlying structure of NPs containing possessives is discussed at length in Chapter 4.

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```
                    # S #
                # S_N #              NEG
          NP              ADV
                          LOC
(59)^11   mȁt ki-nyi      n-lȕ      NEG
```

```
                    # S #
                # S_N #          NEG        Q
          NP            aj
(63)^11   ȁs ki-nyi     bijim      NEG      Q
```

Chapter 3

The Verb Phrase

The Angas verb phrase consists of four parts in under-
lying structure: an obligatory tense marker, an obligatory
finite verb, an optional object (either an NP or a particu-
lar 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 ob-
ject rather than following it, an ordering which is charac-
teristic of Hausa as well; this alternate ordering occurs in
restricted environments in Angas (and some other Chadic lan-
guages) as well, as will be seen in a later chapter.

Angas verbs may be subcategorized into five groups ac-
cording 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'

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(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., <u>tap</u> '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., <u>síit</u> 'buy'

(e) verbs which may or may not occur with an object
in the VP--e.g., <u>met</u> 'go'[1]

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

---

[1] Some verbs are, of course, further constrained in their
distributions, as is undoubtedly true of various lexical items
in all languages. For example, if <u>tok</u> '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 síit birŋ   'Musa bought a horse'
          buy horse

(13) Musa síit birŋ mwà   'Musa bought them a horse'
                    for-them

(14) Musa síit mwà   'Musa bought it for them'

That <u>wok</u> 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 <u>wok</u> is preceded
by the possessive marker <u>kì-</u> (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 up 1 a case grammar approach, it is not clear the

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extent to which the Angas and Ga'anda classifications are comparable.

P. Newman (1972:Chapter 2) notes that in Dera intransitive verbs are obligatorily suffixed by what he calls "intransitive copy pronouns". These icp's repeat the person, number, and gender information carried also by the tense pronouns (person-aspect markers in my terminology) which occur as prefixes to the verb, and thus they are totally redundant. Angas has no such feature on intransitive verbs.

Angas has four aspects, which are realized ultimately as tonal patterns on the person-aspect markers for the most part (see the charts of the person-aspect markers in the tables in Chapter 11). These aspects are: non-present (NPR), completive (COM), incompletive (INC), and subjunctive (SUBJ).[2] The following examples illustrate these alternatives (the actual resulting form is given below the underlying form):

(15) Musa NPR met   wok   'Musa will go home'
              go compound

     Musa kí met wok

_____

[2] The semantic character of each of these aspects is apparently quite broad. For example, in narratives, even the future aspect (here termed "non-present") may occur with a "past" meaning (except in the third person singular, which is always future), and in such contexts the completive aspect is rarely used. The aspect referred to as incompletive also has a basically past meaning, although in the second person it is the form used also for imperatives (accompanied by distinctive intonation, to be sure). The aspectual system of Angas is discussed in detail in Chapter 7.

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```
(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:

$$\text{B14.} \quad \text{TNS} \;\rightarrow\; \begin{Bmatrix} \text{NPR} \\ \text{COM} \\ \text{INC} \end{Bmatrix}$$

There are no deep structure auxiliaries in Angas.

Transitive verbs may, however, take sentential objects in-

stead of simple NP objects. The final result of such con-

structions 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'
```

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b) Musa cam ne kì-wok   'Musa has seen the
                                          compound'[3]

(21) a) Musa ne wok   'Musa saw the compound'
             see

     b) Musa ne met kì-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 kì-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 lexi-

con, 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 ac-

companying object (T5.3); these rules are discussed in de-

tail in Chapter 5. So, proposed underlying structures for

the sentences above are the following:

     (19)b' [Musa [NPR met [[Musa NPR ne wok]$_S$]$_{NP}$]$_{VP}$]$_S$

---

     [3]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.

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(20)b' [Musa [COM cam [[Musa COM ne wok]$_S$]$_{NP}$]$_{VP}$]$_S$

(21)b' [Musa [COM ne [[birŋ mwa COM met]$_S$]$_{NP}$]$_{VP}$]$_S$

(22)b' [Musa [COM man [[Musa COM laŋ birŋ]$_S$]$_{NP}$]$_{VP}$]$_S$

There are two verbs in Angas which occur <u>only</u> when an embedded verbal sentence follows; they are ɓok 'to do again' and cep 'to have already done'. Further, the two verbs have restrictions on possible accompanying aspects. The aspect occurring with <u>cep</u> is obligatorily COM, that occurring with ɓok is any of the three available in the base of SUBJ; in either case, however, the same aspect which occurs with the verb in question must occur also in the embedded sentence (with <u>cep</u>, of course, the aspect of the mebedded sentence will always be COM). These restrictions are formulated in the selectional features occurring with the verbs in the lexicon, specifying the necessary conditions which must be met before they may be inserted into a string. Note the following examples, in which the underlying form is followed by the surface form:

    (23) [birŋ mwa [COM cep [[birŋ mwa COM su]$_S$]$_{NP}$]$_{VP}$]$_S$

          birŋ mwa mwaà cep mwaà su   'the horses have
                                        already run'
    (24) [birŋ mwa [NPR ɓok [[birŋ mwa NPR su]$_S$]$_{NP}$]$_{VP}$]$_S$

          birŋ mwa ɓok mwa su   "'the horses ran again'

Several further facts need to be mentioned here. First, the restriction regarding the distribution of <u>cep</u> can be handled by marking it with a lexical feature calling for the presence of COM before it may be inserted, similar to the

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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 occur-
ring with an embedded sentence under its NP object must al-
ways be preceded by NPR. This too can be specified by lexi-
cal 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 siit birŋ Io-sher]$_S$

     Musa siit birŋ   n-sher   'Musa bought a horse
        buy horse for-friend   for a friend'

(26) [Musa COM siit birŋ Io-mwa]$_S$

     Musa siit birŋ   mwà   'Musa bought a horse
             for-them   for them'

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

B13. IO → Io-NP

The phonological readjustment rules will replace the symbol Io by n̲- 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 n̲- 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 n̲- 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 → TNS - Vb - $\left(\left\{ {NP \atop PO} \right\} \right)$ - (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 → p̲o̲ - NP

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There are not many verbs which occur with PO, but it is nevertheless one of the defining environments for verb subclasses 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-kwói-re   'I drive back'
    I-return-causative

3. -he   'causative'

    ke-hé   'to teach'
    know-causative

4. -hi   'passive'

    na-ga-hí   'it is broken'
    it-break-passive

5. -lgu

    wu-ta-lgú   'I add to'
    I-putaway-?

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6. -ge

       behá-ge   'to pay'
       count-?

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

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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:

```
                        # S #
                          |
                        # S_V #
              _____/      _____
             NP                             VP
             |                    _____/ | _____
             |                  TNS         Vb           NP
             |                   |           |            |
(3)        Musa                 COM          ne          birŋ
```

```
                        # S #
                          |
                        # S_V #
              _____/  |  _____
             NP            VP              ADV
             |          __/  \__            |
             |        TNS      Vb          LOC
             |         |        |           |
(7)        Musa       COM       ji         n-wok
```

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Tree (19)b:

```
                              # S #
                              # S_V #
          NP                            VP
                         TNS     Vb            NP
                                           # S #
                                           # S_V #
                                        NP        VP
                                              TNS   Vb    NP
 (19)b Musa              NPR     met      Musa   NPR   ne   wok
```

Tree (23):

```
                              # S #
                              # S_V #
          NP                            VP
                         TNS     Vb            NP
                                           # S #
                                           # S_V #
                                        NP        VP
                                               TNS      Vb
 (23) biraŋ mwa          COM     cep     biraŋ mwa  COM     su
```

Tree (25):

```
                              # S #
                              # S_V #
          NP                            VP
                         TNS     Vb     NP      IO
                                              Io-NP
 (25)   Musa             COM     siit   biraŋ  Io-sher
```

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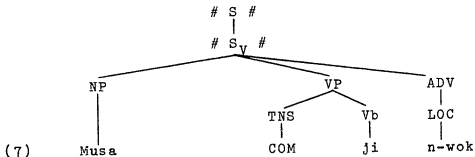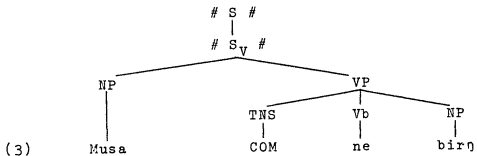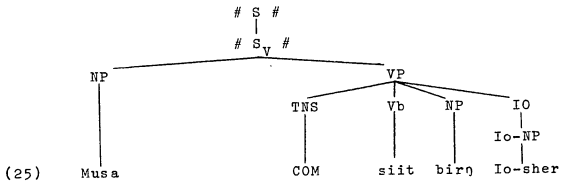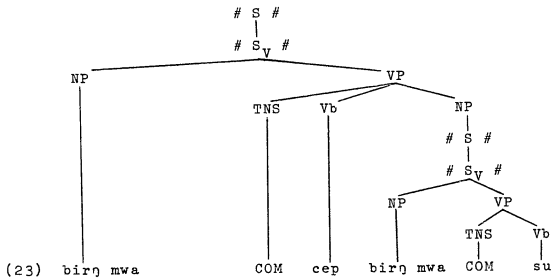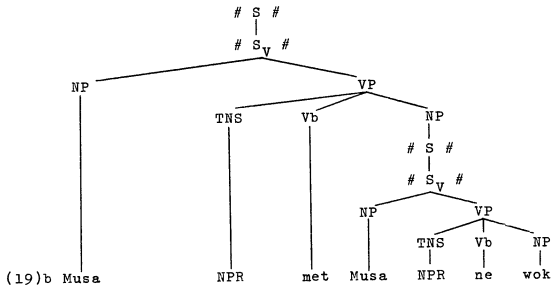
The Noun Phrase

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),[1] 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'
     <u>dog</u>
     noun

(2) as bijim[2]   'big dog'
     <u>big</u>
     aj

---

[1] See especially the discussion on pages 134ff.

[2] 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 kì-nyi   'his big dog'
         ǒf-him
         ‾‾‾‾‾
         POS

(4) as bijim kì-nyi ɗa   'that big dog of his'
                     that
                     ‾‾‾‾
                     det

(5) as bijim kì-nyi ɗa mwa 'those big dogs of his'
                        pl

(6) as bijim kì-nyi ɗa 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) gùrùm   'man'

     gùrùm mó   'men'
           pl

     lú dîsə mó   'these huts'
     hut this ə pl

     yèm dî rét mó   'good people'
     son(?) a(?) good pl

     kəróm kə 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 regard-

ing the scope of the plural marker in Angas.

     The analysis proposed here is to treat adjectives, pos-

sessive 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

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the earliest days of transformational grammar;[3] I have ex-
tended the notion here to cover the other areas mentioned,
I think with adequate independent motivation.

Postulating a sentential source for adjectives corre-
lates 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 <u>riit-riit ka mwa</u>
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 under-
lying structure consists of three parts: a head noun, an
optional modifying construction, and an optional determiner;

---

[3]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 lexi-
cally 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:[4]

$$B16. \quad NP \rightarrow \begin{Bmatrix} NOM \ (ACC)* \\ \#S\# \end{Bmatrix}$$

$$B17. \quad NOM \rightarrow \begin{Bmatrix} NOUN \\ pn \end{Bmatrix}$$

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

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 kí-NP (see B6), but kí- is
replaced by ɗaŋ between the last two nouns of a conjoined
series. Note the following examples:

[4] Rosenbaum (1967:12) notes that in English all construc-
tions for which I am here (for Angas) proposing the structure
of embedded sentence dominated by NP in English have an alter-
native 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 desir-
able. The structure of the NP as proposed here is similar to
that proposed by Newman for Tera (P. Newman 1970:179-180).

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

(12) Musa kí-Bitrus ɗaŋ 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 <u>pronominal</u> elements have several
additional factors which must be kept in mind. First, in all
such constructions <u>kí-</u> always appears, even where ɗaŋ would
be expected by the above statement. Then, if a pronominal
form and a noun are conjoined, the pronominal form must oc-
cur first:

    (13) *Musa kí-mun mu ji
               we   we

    (14) mun kí-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 kí-ga mu ji   'you and I/we came'
          we   you we

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

    (17) wun   kí-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

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member of the conjoined NP. Third, the pronominal form oc-
curring before kí- 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
kí- and daŋ can be completely handled in the lexicon, follow-
ing the pattern of restricting morpheme distributions dis-
cussed at various places above. Then, the ordering of con-
joined elements within a single NP which must be accounted
for is as follows:

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

I shall simply suggest here that ordering of conjoined ele-
ments 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.[5]
Rules producing the plural forms as required are discussed
in Chapter 6.

---

[5]P. Newman (1970:44) for Tera suggests the following
formulation to handle the same facts:

SD: $X - NOM_1 - and - NOM_2 - Y$

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

Condition: NOM_2 ranks above NOM_1 in the following
scale:

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

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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 kí-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 ɗaŋ Bitrus mwa ji } 'Musa and Bitrus came'
      *Musa ji kí-Bitrus   }

      Musa ji kí-Bitrus   'Musa came with
                                  (=brought) Bitrus'

      Musa ɗaŋ Bitrus mwa se bii   }
                             eat thing }'Musa and Bitrus ate'
      *Musa se bii kí-Bitrus   }

      Musa se bii kí-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 kí-Bitrus mu ji

      mun kí-Bitrus mu ji   'I/we and Bitrus came'

      ŋa ji kí-Bitrus   'I came with (=brought) Bitrus'

      mu ji kí-Bitrus   'we came with (=brought)
                               Bitrus'

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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.

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First, I suggest that we have a Relativization rule which inserts the relative clause introducer komeye at the beginning of the embedded sentence, pronominalizes the embedded NP of identical reference, and deletes the embedded sentence boundaries. The condition for application of the rule is that the NPs in question indeed be identical in reference. The rule of Relativization may then be formulated as follows:

T4.1 Relativization

$$SD: W - NP - X - \# - Y - NP - Z - \#$$
$$1 \quad 2 \quad 3 \quad 4 \quad 5 \quad 6 \quad 7 \quad 8$$

$$SC: 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 \Rightarrow$$
$$1 - 2 - 3 - 5 - \underline{komeye} - \underset{[+pro]}{6} - 7$$

Condition: 2 and 6 are identical in
reference

In the example under discussion, application of T4.1 will result in the following:

(2) b) [as kōmeye as bijim]$_{NP}$
    [+pro]

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

(2) c) as komeye nyi bijim   'the dog which is big'
       dog which he big

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

(21) Musa ne as komeye nyi bijim   'Musa saw the dog
          see   which is big'

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(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 di-
rectly following _komeye_ (i.e., when the [+pro] NP was ini-
tial 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]$_{NP}$

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

    (2) e) as komeye bijim   '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 op-
tional rule deleting the relative clause introducer _komeye_
in certain specified environments:

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T4.3 Rel-Deletion (optional)

$$\text{SD:} \quad X - \underline{\text{komeye}} - \left\{ \begin{array}{l} \text{aJ} \\ \text{num} \\ \text{TNS} \end{array} \right\} - Y$$

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

$$\text{SC:} \quad 1 - 2 - 3 - 4 \implies 1 - 3 - 4$$

Condition: obligatory if 3 is [+pl]

The rule applies only when the element following the rela-
tive clause introducer is an adjective, a numeral (see be-
low), 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 oc-
curring with a plural NP will be marked [+pl] by T6.3 and

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TNS occurring with a plural NP subject will be marked [+pl] by T6.2 (see Chapter 6 for a discussion of these rules). Then, when T4.2 applies the [+pl] feature remains if one of these elements is in the Y variable of the rule. By making application of T4.3 obligatory in this environment the grammatically correct strings are produced.

Application of T4.3 to (2)d has the following result:

(2)f [as bijim]$_{NP}$

which is the structure directly underlying the surface NP:

(2)g as bijim   'big dog'
      dog big

The following derivation illustrates the application of the above rules in a case in which the NP in question is plural and the embedded sentence contains a numeral:

(25) a) [as mwa$_i$[[as mwa$_i$]$_{NP}$ tek bap]$_S$]$_{NP}$ underlying

     b) [as mwa komeye as mwa tek bap]$_{NP}$ T4.1
                        [+pro]

     c) [as mwa komeye tek bap]$_{NP}$ T4.2

     d) [as mwa tek bap]$_{NP}$ T4.3

(25)b and d underlie the following surface NPs respectively:

     b') as mwa komeye mwa tek bap 'the dogs which
          dog pl which they twenty   are twenty'

     d') as mwa tek bap   'twenty dogs'

Angas numerals to 100 are as follows:

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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	ɗari (Hausa)[6]

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 → N* (pl)

---

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

Plurality is thus an optional choice in the base, and the symbol pl will be replaced at the time of lexical insertion by the morpheme _mwa_. The derivation of NPs containing numerals, then, follows basically the same pattern as that discussed above for adjectives, as illustrated in (26):

(26) a) [as mwa$_i$ [as mwa$_i$ pet]$_S$]$_{NP}$ underlying

b) [as mwa komeye as mwa pet]$_{NP}$ T4.1
   [+pro]

c) [as mwa komeye pet]$_{NP}$ T4.2

d) [as mwa pet]$_{NP}$ T4.3

e) as mwa pet   'five dogs'
    dog pl five

For NPs involving both adjectives and numerals, the principle of the transformational cycle comes into play. All rules apply to the most deeply embedded sentence first, then to the next most deeply embedded, and so on until the "top" sentence is reached. In Angas it appears to make no difference in surface structure as to whether the adjective is higher in the tree in underlying structure; any distinction which might be present here by universal principles of semantic interpretation is lost in the surface through the obligatory order of constituents which is imposed within the NP. Note the following sample derivation:

(27) a) [as mwa$_i$ [as mwa$_i$ [as mwa$_i$ pet]$_S$ bijim]$_S$]$_{NP}$

                          underlying

b) [as mwa [as mwa komeye as mwa pet bijim]$_S$]$_{NP}$
                 [+pro]

                          1st cycle
                          T4.1

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c) [as mwa [as mwa komeye pet bijim]$_S$]$_{NP}$ T4.2

d) [as mwa [as mwa pet bijim]$_S$]$_{NP}$ T4.3

e) [as mwa komeye as mwa pet bijim]$_{NP}$ 2nd cycle
            [+pro]   T4.1

f) [as mwa komeye pet bijim]$_{NP}$ T4.2

g) [as mwa pet bijim]$_{NP}$ 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 pre-
ceding the determiner) within the NP:

        T4.4   Adjective Movement

$$\text{SD:} \quad [X - (det) - pl - aj - Y]_{NP}$$

$$1 \quad\quad \overline{\quad 2 \quad\quad\quad} \quad 3 \quad 4$$

$$\text{SC:} \quad 1 - 2 - 3 - 4 \implies 1 - 3 - 2 - 4$$

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]$_{NP}$ 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 follow-
ing sentences:

(28) as bijim mwa pet mwa ji   'five big dogs came'
                        they come

(29) Musa siit as bijim mwa pet   'Musa bought five
           buy   big dogs'

The situation is further complicated in cases in which
the referentially identical NP is object in the embedded
sentence, not subject as above. Note the following under-
lying structure:

(30) a) [as mwa$_i$ [Musa COM ne as mwa$_i$]$_S$]$_{NP}$

The derivation will precede as above:

b) [as mwa komeye Musa COM ne as mwa]$_{NP}$ T4.1
                              [+pro]

c) [as mwa komeye Musa COM ne]$_{NP}$ T4.2

d) [as mwa Musa COM ne]$_{NP}$ T4.3

As in the examples above, in (30) the stages of derivation
shown in b, c, and d all underlie legitimate NPs:

b') as mwa komeye Musa ne mwa   'the dogs which
      dog pl which   see them Musa saw'

c') as mwa komeye Musa ne   'the dogs which
                                   Musa saw'

d') as mwa Musa ne   'the dogs Musa
                                   saw'

Note the following sentences which illustrate their use:

b") Bitrus siit as mwa komeye   'Bitrus bought
            buy   the dogs which
                                  Musa saw'
    Musa ne mwa

c") Bitrus siit as mwa komeye   'Bitrus bought
    Musa ne   the dogs which
                                 Musa saw'

d") Bitrus siit as mwa Musa ne   'Bitrus bought
                                  the dogs Musa
                                  saw'

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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 $\underline{\math6a}$ Y 'X of Y' (alienable)

  'X is connected to Y' $\Rightarrow$ X-Y 'Y's X' (inalienable)

Note that the possessive marker $\underline{6a}$ 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,

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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):

$$(32) \quad X - Y_{\langle B \rangle} \implies X \; \underline{i}\text{-}Y \qquad \text{'X of Y' (alienable)}$$

$$X - Y_{\langle D \rangle} \implies X\text{-}Y \qquad \text{'Y's X' (inalienable)}$$

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

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

(33) birŋ kì-Musa mwa   'Musa's horses'
      horse of-Musa pl

      pup kì-Musa mwa   'Musa's "fathers"'
      father

      aas kì-Musa mwa   'Musa's teeth' (which
      tooth   he found)

      aas-Musa mwa   'Musa's teeth' (in his
                                            mouth)

Indeed, pronominal possessors differ in form depending on just this distinction.[7] Notice the examples in (34):

_____

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

(34) birŋ f-ga   mwa   'your (m) horses'
            of-you

      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 pos-

sessive marker, while inalienable possession is by juxta-

position 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 struc-

ture 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 <u>John's dog</u> is <u>dog</u> with the sentence

<u>John is with a dog</u> = <u>John has a dog</u> (there is no verb <u>have</u>

in Angas). Given such an underlying structure, the deriva-

tion is very similar to that discussed above:[8]

      (35) a) [as mwa$_i$ [Musa ki-as mwa$_i$]$_S$]$_{NP}$ underlying

           b) [as mwa komeye Musa ki-as mwa]$_{NP}$ T4.1
                                              [+pro]
      _____

      [8]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.

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(35)b may then become the surface sentence:

    c) as mwa komeye Musa ki-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 - <u>komeye</u> - noun - ACC - Y

                     $\overline{1}$ 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]$_{NP}$ T4.5

Like the adjective construction discussed above, the posses-

sive phrase must be moved into position preceding the deter-

miner (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]$_{NP}$

              1    $\overline{2}$ $\overline{3}$ 4

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

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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]$_{NP}$ T4.6

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

f) as kì-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 dis-
cussion in Chapter 5), in which the first noun is [+inal].
So, the fourth sentence in (33) is in underlying structure:

[aas-Musa]$_{noun}$
[+inal]

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

àas-Musa   'Musa's tooth'
[+inal]

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

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(36) [birŋ-Musa]$_{noun}$
     [-inal]

        birŋ-Musa   'Musa's horse'
        [-inal]

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

(37) [birŋ$_i$ [Musa ki-birŋ$_i$]$_S$]$_{NP}$

        birŋ ki-Musa   'Musa's horse'

Both (36) and (37) are possessive constructions, the distinc-
tion 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]$_{noun}$
     [+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]$_{noun}$
     [-inal]

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

        [birŋ f-ŋa]$_{noun}$ T9.4
     [-inal]

        birŋ fana   'my horse'

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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) $[birŋ_i[\text{Musa kí-birŋ}_i]_S]_{NP}$ b) $[aas_i[\text{Musa kí-aas}_i]_S]_{NP}$
  [-inal]   [+inal]

  [birŋ komeye Musa kí-birŋ]$_{NP}$ [aas komeye M ki-áas]$_{NP}$ T4.1
  [-inal]   [+pro]   [+inal]   [+pro]

  [birŋ Pos-Musa]$_{NP}$ [aas Pos-Musa]$_{NP}$ T4.5
  [-inal]   [+inal]

  birŋ ki-Musa 'Musa's horse'   aas ki-Musa   'Musa's tooth'

c) [birŋ-Musa]$_{noun}$ d) [aas-Musa]$_{noun}$
  [-inal]   [+inal]

  birŋ-Musa   'Musa's horse'   aas-Musa   'Musa's tooth'

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(41)

a) $[bir\eta_i[\eta an\ ki\text{-}bir\eta_i]_S]_{NP}$ b) $[aas_i[\eta an\ ki\text{-}aas_i]_S]_{NP}$
   $[-inal]$ $[+inal]$

   $[bir\eta\ komeye\ \eta an\ ki\text{-}bir\eta]_{NP}$ $[aas\ komeye\ \eta an\ ki\text{-}aas]_{NP}$ T4.1
   $[-inal]$ $[+pro]$ $[+inal]$ $[-pro]$

   $[bir\eta\ Pos\text{-}\eta an]_{NP}$ $[aas\ Pos\text{-}\eta an]_{NP}$ T4.5
   $[-inal]$ $[+inal]$

   bir\eta fana   'my horse'   aas fana   'my tooth'

c) $[bir\eta\text{-}\eta an]_{noun}$ d) $[aas\text{-}\eta an]_{noun}$
   $[-inal]$ $[+inal]$

   $[bir\eta\ Pos\text{-}\eta an]_{noun}$ T9.4
   $[-inal]$

   bir\eta fana   'my horse'   aas-na   'my tooth'

Of these, only the d) derivations are inalienable possession.
The a) and c) forms in the pronominal examples are alike in
the surface, but this is a result of the obligatory exclusion
of pronominal forms from certain compound noun constructions,
as discussed above. The b) forms are cases of alienable
possession of inalienable, as when (for (40)b) the tooth is
the tooth (of an animal) that Musa found.

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':

   (42) lu ki-mat   mwa
         hut of-woman pl

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

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(43) $[lu\ mwa_i\ [mat\ ki\text{-}lu\ mwa_i]_S]_{NP}$

But the same surface ordering will result from the underly-
ing string of (44):

(44) $[lu_i\ [mat\ mwa\ ki\text{-}lu_i]_S]_{NP}$

The two underlying structures have identical surface mani-
festations, 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) $[lu\ mwa_i\ [mat\ mwa\ ki\text{-}lu\ mwa_i]_S]_{NP}$

```
    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 ex-
ample) pluralization for those mass nouns which never occur
in a plural form, with restrictions regarding possible pos-
sessivization 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 sug-
gested 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,

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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]$_S$pet]$_S$bijim]$_S$]$_{NP}$

1st cycle
T4.1 b)

[as mwa[as mwa[as mwa komeye Musa ki-as mwa pet]$_S$ bijim]$_S$]$_{NP}$
                                          [+pro]

T4.5 c)

[as mwa [as mwa [as mwa Pos-Musa pet]$_S$ bijim]$_S$]$_{NP}$

2nd cycle
T4.1 d)

[as mwa [as mwa komeye as mwa Pos-Musa pet bijim]$_S$]$_{NP}$
                        [+pro]

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T4.2 e)

[as mwa [as mwa komeye Pos-Musa pet bijim]$_S$]$_{NP}$

T4.3 f)

[as mwa [as mwa Pos-Musa pet bijim]$_S$]$_{NP}$

<u>3rd cycle</u>
T4.1 g)

[as mwa komeye as mwa Pos-Musa pet bijim]$_{NP}$
              [+pro]

T4.2 h)

[as mwa komeye Pos-Musa pet bijim]$_{NP}$

T4.3 i)

[as mwa Pos-Musa pet bijim]$_{NP}$

T4.4 j)

[as bijim mwa Pos-Musa pet]$_{NP}$

T4.6 k)

[as bijim Pos-Musa mwa pet]$_{NP}$

    l)

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

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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

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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) <u>dyiip ki-shwe</u> le po Musa   'guinea-corn harvest-
    harvesting of-corn hurt mouth   ing is difficult
                                          for Musa'

(2) <u>dyiip ki-shwe</u> kam mun   'guinea-corn
                      crowd us   harvesting is

(3) <u>dyiip ki-shwe</u> shaŋ   duŋ   'guinea-corn har-
                      pleasant much   vesting is very
                                           pleasant'

(4) <u>dyiip ki-shwe</u> ki-Musa riit duŋ[1] '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 <u>dyiip ki-shwe</u>   'Musa will harvest guinea-
          go   corn'

(6) Musa man <u>dyiip ki-shwe</u> 'Musa knows how to harvest
          know   guinea-corn'

_____
[1]Actually, this sentence is ambiguous. It will be discussed below in detail.

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(7) Musa rot   d̲y̲i̲i̲p̲ ̲k̲i̲-̲s̲h̲w̲e̲   'Musa wants to harvest
          want   guinea-corn'

(8) Musa kit   d̲y̲i̲i̲p̲ ̲k̲i̲-̲s̲h̲w̲e̲   '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 p̲o̲- (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-d̲y̲i̲i̲p̲ ̲k̲i̲-̲s̲h̲w̲e̲   'Musa is harvesting
                                      guinea-corn'

(10) Musa po-f̲o̲t̲   f̲-̲w̲u̲²   'Musa is listening to
              hearing of-you   you (pl)'

P. Newman (1970:58) notes that in Tera verbs in the continu-

ous 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

─────────────
    ²The formative f̲- is the shape of the possessive marker
which occurs with pronominal forms. A phonological rule will
change f̲-̲w̲u̲ to f̲u̲.

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can be considered an aspect at all) manifest noun character-
istics, 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):

```
                        # S #
                          |
                        # S_V #
          _____/      _____
         |                                     |
        NP                                     VP
         |                      _____/|_____
         |                     |      |                        |
         |                    TNS     Vb                       NP
         |                     |      |                        |
         |                     |      |                      # S #
         |                     |      |                        |
         |                     |      |                      # S_V #
         |                     |      |            _____/      _____
         |                     |      |           |                            |
         |                     |      |          NP                           VP
         |                     |      |           |               _____/ | _____
         |                     |      |           |              |      |                  |
        NOM                    |      |          NOM            TNS     Vb                 NOM
         |                     |      |           |              |      |                  |
        NOUN                   |      |          NOUN            |      |                 NOUN
         |                     |      |           |              |      |                  |
        noun                   |      |          noun            |      |                 noun
         |                     |      |           |              |      |                  |
         N                     |      |           N              |      |                  N
         |                     |      |           |              |      |                  |
       Musa_i                 NPR    met        Musa_i          NPR   dyiip              shwe
```
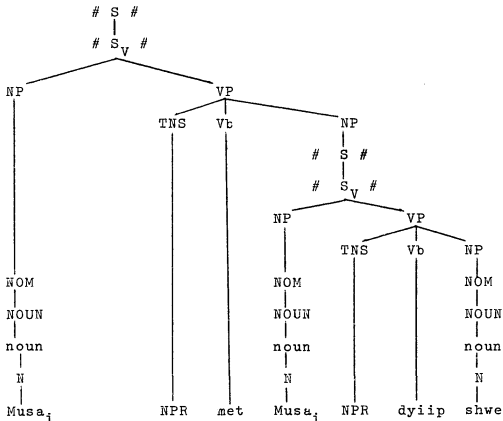
The first rule required is a rule to delete the subject of
the embedded sentence in the event that it is identical in
reference to the subject of the matrix sentence. This rule
may be formulated as follows:

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T5.1 Object Equi-NP Deletion

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

$\quad\quad 1 \quad\quad 2 \quad\quad\quad 3 \quad\quad\quad\quad 4 \quad\quad\quad\quad\quad 5$

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

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

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

SC: $1 - 2 - 3 - 4 \implies 1 - 3 - 4$
$\quad\quad\quad\quad\quad\quad\quad\quad\quad\quad [+VN]$
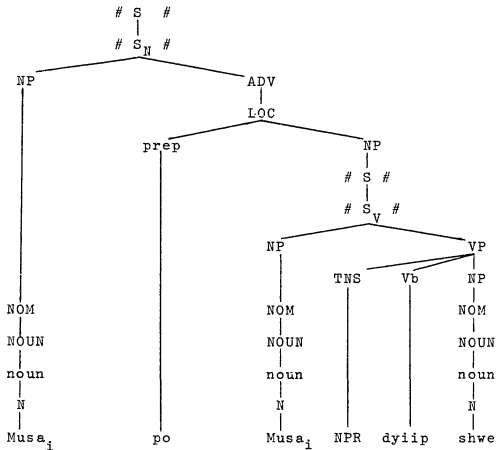
The major environment is that the sentence node has been deleted, although others are necessary as given in the SD (most of these come into play in derivations below). The

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feature [+VN] will be acted upon by the phonological read-justment rules to make the conversion from finite verb to verbal noun (by marking the verb as being subject to a tone-raising rule if lexically subject to it, this being the only change which occurs in this environment). TNS is deleted by the rule. The application of T5.2 to the above structure results in the following:

d) [Musa [NPR met [[dyiip shwe]$_{VP}$]$_{NP}$]$_{VP}$]$_S$
                        [+VN]

Finally, a rule is needed to insert the possessive marker between the verbal noun and the following NP, if any:

T5.3 Pos-Insertion

$$\text{SD:}\quad [W - [X - Vb - NP - Y]_{NP} - Z]_S$$
$$\qquad\qquad\quad [+VN]$$
$$\qquad\qquad \underline{\qquad\qquad}\quad \underline{\qquad\qquad}$$
$$\qquad\qquad\qquad 1 \qquad\qquad\quad 2$$

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

Condition: optional if X in 1 is noun

The constituent Pos will be realized either as <u>ki</u>- (if the object is not a pronoun) or <u>f</u>- (if the object is a pronoun). Applied to the above structure, T5.3 has the following effect:

e) [Musa [NPR met [[dyiip Pos-shwe]$_{VP}$]$_{NP}$]$_{VP}$]$_S$
                        [+VN]

The final sentence which results is (5).

In cases involving an embedded intransitive verb, the derivation is as follows:

(11) a) [Musa$_i$ [NPR met [[Musa$_i$ [NPR ji]$_{VP}$]$_S$]$_{NP}$]$_{VP}$]$_S$

b) [Musa [NPR met [[[NPR ji]$_{VP}$]$_S$]$_{NP}$]$_{VP}$]$_S$ T5.1

c) [Musa [NPR met [[NPR ji]$_{VP}$]$_{\overline{NP}}$]$_{VP}$]$_S$ pruning

d) [Musa [NPR met [[ji]$_{VP}$]$_{NP}$]$_{VP}$]$_S$ T5.2
          [+VN]

e) Musa ki met ji   'Musa will come'
        NPR go coming

   The derivation of the Possessive Gerundive when occurr-
ing 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-dîn-lu^3 'Musa is in the hut'
              inside-hut
     ‾‾‾‾ ‾‾‾‾‾‾‾‾
     NP prep NP

(14) Musa ka-kè-lu^3 'Musa is on top of the
              at-head-hut   hut'
     ‾‾‾‾ ‾‾‾‾‾‾‾
     NP prep NP

---

[3] (13) and (14) contain compound noun constructions,
which will be discussed in detail below.

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

(9) Musa po-dyiip   ki-shwe   'Musa is harvesting
           harvesting of-corn   guinea-corn'
     ‾‾‾‾ ‾‾‾‾   ‾‾‾‾‾‾
     NP prep   NP

(10) Musa po-fot   f-wu   'Musa is listening
           hearing of-you   to you (pl)'
     ‾‾‾‾ ‾‾‾   ‾‾‾‾
     NP prep   NP

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

```
                    #  S  #
                    |
                    #  S_N #
              _____|_____
             NP            ADV
              |             |
                           LOC
                      _____|_____
                    prep          NP
                     |             |
                                # S #
                                  |
                                # S_V #
                            _____|_____
                           NP            VP
                            |         ___|___
                                    TNS  Vb  NP
           NOM          NOM                    NOM
            |            |                      |
           NOUN         NOUN                   NOUN
            |            |                      |
           noun         noun                   noun
            |            |                      |
            N            N                      N
            |            |                      |
          Musa_i   po   Musa_i  NPR  dyiip    shwe
```

The derivation would then be as follows:

a) [Musa_i [po [[Musa_i [NPR dyiip shwe]_VP]_S]_NP]_ADV]_S

b) [Musa [po [[[NPR dyiip shwe]_VP]_S]_NP]_ADV]_S   T5.1

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c) [Musa [po [[$_{NP}$ dyiip shwe]$_{VP}$]$_{NP}$]$_{ADV}$]$_S$ pruning

d) [Musa [po [[dyiip shwe]$_{VP}$]$_{NP}$]$_{ADV}$]$_S$ T5.2
          [+VN]

e) [Musa [po [[dyiip Pos-shwe]$_{VP}$]$_{NP}$]$_{ADV}$]$_S$ 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 Gerun-
dive occurs as sentence subject (as in (1)-(4) above). One
treatment would be to propose that in each such case a sen-
tence is embedded under the NP subject. For (1), then, an
underlying structure like the following would be required:

a) [[[Musa$_i$[$_{NP}$ dyiip shwe]$_{VP}$]$_S$]$_{NP}$ [NPR le po-Musa$_i$]$_{VP}$]$_S$

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]$_S$

          1   2   3   4

     SC: 1 - 2 - 3 - 4 ⟹ 2 - 3 - 4

     Condition: 1 and 3 are identical in reference

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

a) [[[Musa$_i$[$_{NP}$ dyiip shwe]$_{VP}$]$_S$]$_{NP}$ [NPR le po-Musa$_i$]$_{VP}$]$_S$

b) [[[[$_{NP}$ dyiip shwe]$_{VP}$]$_S$]$_{NP}$ [NPR le po-Musa]$_{VP}$]$_S$ T5.4

c) [[[$_{NP}$ dyiip shwe]$_{VP}$]$_{NP}$ [NPR le po-Musa]$_{VP}$]$_S$ pruning

d) [[[dyiip shwe]$_{VP}$]$_{NP}$ [NPR le po-Musa]$_{VP}$]$_S$ T5.2
     [+VN]

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e) $[[[\text{dyiip Pos-shwe}]_{VP}]_{NP} [\text{NPR le po-Musa}]_{VP}]_S$ T5.3
    $[+VN]$

The final output would be (i).

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 nominalization, so only an unspecified subject is possible in the underlying structure. So, for example, for (4) the following underlying structure could be proposed:

a) $[[[\text{go ce } [\text{NPR dyiip } [\text{shwe } [\text{Musa ki-shwe}]_S]_{NP}]_{VP}]_S]_{NP}$

    $\text{riit du}\eta]_S$

But now there is no identity between <u>go ce</u> '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

$$\text{SD:} \quad [[[X - \underline{\text{go ce}} - Y]_S]_{NP} - VP - Z]_S$$
$$\phantom{\text{SD:} \quad} 1 \qquad\qquad 2 \qquad\qquad 3$$

$$\text{SC:} \quad 1 - 2 - 3 \implies 1 - 3$$

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) $[[[[\text{NPR dyiip}[\text{shwe Pos-Musa}]_{NP}]_{VP}]_S]_{NP} \text{ riit du}\eta]_S$ T5.5

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

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c) [[[ÑPR dyiip[shwe Pos-Musa]$_{NP}$]$_{VP}$]$_{NP}$ riit duŋ]$_S$ pruning

d) [[[dyiip[shwe Pos-Musa]$_{NP}$]$_{VP}$]$_{ÑP}$ riit duŋ]$_S$ T5.2
   [+VN]

e) [[[dyiip[Pos-shwe Pos-Musa]$_{NP}$]$_{VP}$]$_{NP}$ riit duŋ]$_S$ 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 d̃o Musa cin   'Musa <u>bought a goat</u>'
        buying of-goat   do

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

        a) Musa COM siit gi
                     [+e]

Here the feature [+e] represents the lexical choice of em-
phasis 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 em-
phasis marker <u>do</u> is inserted, and the dummy verb <u>cin</u> 'do'
appears in the position vacated by the moved verb:

        b) siit gi d̃o Musa cin
            $\begin{bmatrix} +e \\ +VN \end{bmatrix}$

Then T5.3 applies:

        c) siit Pos-gi d̃o Musa cin
            $\begin{bmatrix} +e \\ +VN \end{bmatrix}$

The final result is (15).

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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.[4] 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 kì-shwe mwà 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 mwa:

(17) *dyiip kì-shwe mwa le po Musa[5]
                     pl

---

[4] See Annear and Elliott (1965) for a proposal regarding such rules. Also Chomsky (1965:184ff).

[5] 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.

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Also, numerals cannot modify Possessive Gerundive construc-
tions:

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

Finally, Possessive Gerundive constructions may not be modi-
fied 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 <u>do</u> allow modification
by possessive phrases:

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

    In that numerals, adjectives, and possessive construc-
tions are all derived from embedded sentences (see Chapter
4), it appears that the evidence here is conflicting, be-
cause 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 beautiful-
ly 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
<u>guinea-corn</u> by an embedded sentence:

(20) b) [go ce [COM dyiip [shwe$_i$ [Musa ki-shwe$_i$]$_S$]$_{NP}$]$_{VP}$

        riit dun]$_S$

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

(20) a) [[[Musa[COM dyiip shwe]$_{VP}$]$_S$]$_{NP}$ riit duŋ]$_S$

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" posses-
sive 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 proceed-
ing 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 in-
stance does the Possessive Gerundive function as the head of
an NP; at times (as in the case of the possessive construc-
tion) 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-
                    today   corn today is
                                        difficult for
                                        Musa'

(22) dyiip ki-shwe duŋ-duŋ le po-Musa 'harvesting a lo':
                    much-much   of guinea-corn
                                        is difficult for
                                        Musa'

(23) dyiip ki-shwe n-limar le po-Musa 'harvesting guinea-
                    in-farm   corn in the farm
                                        is difficult for
                                        Musa'

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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) $[[[\text{Musa} [\text{COM dyiip shwe}]_{VP}]_S]_{NP} \text{ riit duŋ}]_S$

Here there is only one instance of <u>Musa</u>, 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: $X - [[\text{NP} - \text{VP} - (\text{ADV})]_S]_{NP} - Y$

      1   2   3   4   5

SC: $1 - 2 - 3 - 4 - 5 \implies 1 - 3 - \text{Pos-2} - 5$

Condition: $1 \neq$ <u>teko</u> or <u>tene</u>

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T5.6 moves the subject to a position following VP (or ADV
if any) and inserts the possessive marker before it, and
deletes the embedded sentence boundaries. The condition is
to block application of the rule in sentences containing
complements or quotations (see Chapter 8). By ordering
T5.6 after the Equi-NP Deletion rules, the only NPs present
in embedded sentences at the time this rule applies will be
non-coreferential, so no statement regarding non-identity of
reference is needed. The same structures can occur as ob-
ject of the verb as well as subject, as can be seen in the
following:

    (24) a) Bitrus fot dyiip ki-shwe ki-Musa[6] 'Bitrus heard
               hear   Musa harvest-
                                        ing guinea-
                                        corn'

As underlying structure for (24) I propose the following:

    b) [Bitrus [COM fot [[Musa [COM dyiip shwe]$_{VP}$]$_S$]$_{NP}$]$_{VP}$]$_S$

Following application of T5.6 to the underlying structure
(20)a or (24)b the derivation is the same as discussed above.
I give the derivation of (20)a here as an example:

    (20) a) [[[Musa[COM dyiip shwe]$_{VP}$]$_S$]$_{NP}$ riit duŋ]$_S$

       b) [[[COM dyiip shwe]$_{VP}$ Pos-Musa]$_{NP}$ riit duŋ]$_S$ T5.6

       c) [[[dyiip shwe]$_{VP}$ Pos-Musa]$_{NP}$ riit duŋ]$_S$ T5.2
           [+VN]

---

    [6]This same surface structure can be derived from the
structure underlying the sentence 'Bitrus heard the harvest-
ing of Musa's guinea-corn'. In this latter instance shwe is
modified by the embedded sentence Musa ki-shwe; but of course
this is not the underlying structure under discussion here.

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d) [[[dyiip Pos-shwe]$_{VP}$ Pos-Musa]$_{NP}$ riit duŋ]$_S$ 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 con-
structions is heavily restricted. The following pairs of
sentences represent the total inventory of such constructions
known to me:

    (25) a) Musa dyíip shwe   'Musa harvests guinea-corn'
            harvest corn

         b) shwedyíip kì-Musa   'Musa's g-corn harvesting'
            of

    (26) a) Musa le   dó   'Musa shouts'
            raise voice

         b) dole kì-Musa   'Musa's shouting'

    (27) a) Musa cin shit   'Musa works'
            do

         b) shitcin kì-Musa   'Musa's work-doing'

    (28) a) Musa tu kok   'Musa plays'

         b) koktu kì-Musa   'Musa's playing'

    (29) a) Musa se yil   'Musa eats earth (=thanks)'
            eat earth

         b) yilse kì-Musa   'Musa's thanksgiving'

    (30) a) Musa tok shik   'Musa speaks'
            speak word

         b) shiktok kì-Musa   'Musa's speaking'

    (31) a) Musa ɓam ke kì-Bitrus   'Musa rescues Bitrus'
            snatch head of-Bitrus

         b) keɓam kì-Bitrus kì-Musa   'Musa's rescue of
                                       Bitrus'

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(32) a) Musa dur   pii   'Musa gives instructions'
         command place

     b) piidur ki-Musa   'Musa's instructions'

(33) a) mwa   leŋ 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 relation-
ships in the sentential and nominal constructions are strik-
ing. It would be a simple matter to devise a rule to gene-
rate 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 dif-
ficulty 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 prefera-
bility 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

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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 restric-
tions 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   good schools'

     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$_i$ [mwa ki-shiktok mwa$_i$]$_S$]$_{NP}$

because <u>mwa ki-shiktok mwa</u> 'they have words' is not a satis-
factory sentence in itself. But that is exactly the

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structure called for by the lexicalist analysis. Interest-
ingly, 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 sub-
ject of the verb and is generally either __go__ 'person' or __bii__
'thing'. I will term these constructions Agentive Nominals.
For example:

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(41) g̀o-karm   nam   mwa[7]   'butchers'
      person-killing animal pl

(42) b̀ii-le   kir[7]   '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) g̀o-karm nam mwa mwa ji   'the butchers came'
                             they come

     b) [[go mwa$_i$[go mwa$_i$[NPR karm nam]$_{VP}$]$_S$]$_{NP}$ NPR ji]$_S$

The first rule to apply is Relativization:

     c) [[go mwa komeye go mwa [NPR karm nam]$_{VP}$]$_{NP}$ NPR ji]$_S$ T4.1
                          [+pro]

Then T4.2 applies:

     d) [[go mwa komeye [NPR karm nam]$_{VP}$]$_{NP}$ NPR ji]$_S$ 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:

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[7]The morphemes go and bii 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- pre-
fix of agent, instrument, and location (reflected by the
prenasalization of go and bii and by the preposition n-
respectively).

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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-<u>komeye</u> - Y

     1   2   3

SC: 1 - 2 - 3 ➡ 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]$_{VP}$]$_{NP}$ NPR ji]$_S$ 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]$_{VP}$]$_{NP}$ NPR ji]$_S$ T5.2
        [+VN]

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

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

Or, T5.3 may apply optionally:

k) [[go [karm Pos-nam]$_{VP}$]$_{NP}$ NPR ji]$_S$ 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:

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T5.8 Compound Rule

SD: $[X - noun - \underset{[+VN]}{Vb} - Y]_{NP}$

        1   2   3

SC: 1 - 2 - 3 $\Rightarrow$ 1 - $\underset{[+TL]}{2}$ - 3

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) $[[go \underset{[+TL][+VN]}{[karm\ Pos-nam}]_{VP}]_{NP}\ NPR\ ji]_{S}$ T5.8

This structure directly underlies the sentence:

m) gò-karm kì-nam   mwa 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, ex-
cept that instead of T5.7 applying at stage d), the plural
marker is moved to a position following the VP. This op-
tional rule may be formulated as follows:

T5.9 Rel Movement (optional)

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

        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) $[[go komeye [NPR karm nam]_{VP} mwa]_{NP} NPR ji]_{S}$ 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:

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(44) a) [Musa COM ne[bii$_i$[bii$_i$[NPR dyiip shwe]$_{VP}$]$_S$]$_{NP}$]$_S$

b) [Musa COM ne[bii komeye bii [NPR dyiip shwe]$_{VP}$]$_{NP}$]$_S$ T4.1
                        [+pro]

c) [Musa COM ne [bii komeye [NPR dyiip shwe]$_{VP}$]$_{NP}$]$_S$ T4.2

d) [Musa COM ne [bii [NPR dyiip shwe]$_{VP}$]$_{NP}$]$_S$ T4.3

e) [Musa COM ne [bii [dyiip shwe]$_{VP}$]$_{NP}$]$_S$ T5.2
                       [+VN]

f) [Musa COM ne [bii [dyiip shwe]$_{VP}$]$_{NP}$]$_S$ T5.8
                 [+TL] [+VN]

g) Musa ne   bii-dyiip   shwe   'Musa saw the
        see thing-harvesting corn   harvesting tool'

Should T5.3 apply after T5.2, the ultimate result would be:

h) Musa ne bii-dyiip ki-shwe

with the same meaning.

It remains to discuss the derivation of the Agentive
Nominals in relation to the lexicalist-transformationalist
controversy. There are three major factors which support a
transformationalist approach in this instance. First, the
inventory of such constructions is enormous. Virtually any
noun-verb sequence can be combined with another noun to give
such a construction. The following are exemplary:

(45) mat-siit   bii   'woman merchant'
      woman-selling thing

(46) nam-cwa   kii   'hen-killing animal'
      animal-killing hen

(47) yin-pin   nkam   'tonic'
      medicine-giving strength

Coupled with this productivity is the fact that the same re-
lation holds between the verb and its object as in the em-
bedded sentence which is the source for this construction.

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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

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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, con-
trary to what might be expected in the derivation from a
verbal sentence containing TNS in VP. This has been dis-
cussed 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 ki-mwa mwa   'their butchers'
                   of-them

    (53)   gò-karm nam ki-mwa mwa pet 'their five butchers'
                        five

    (54) gò-karm nam bijim ki-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 lexica-
list analysis, however, because the structure of the expres-
sion as proposed here is an embedded sentence dominated by
NP. It comes as no surprise, then, that the resulting con-
struction functions like an NP.

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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) lù-karm   nam   'slaughtering hut'
     hut-killing animal

(56) pìi-cik   shwe   'threshing area'
     place-pounding corn

(57) tàr-kop   shwe   'planting season'
     moon-planting corn

(58) pìi-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

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transformational derivation would appear to be possible and
desirable. Such an analysis would be as follows (for (55)):

(55)

a) $[[lu_i[go\ ce[NPR\ karm\ nam]_{VP}\ n\text{-}lu_i]_S]_{NP}\ bijim]_S$ underlying

b) $[[lu\ komeye\ go\ ce[NPR\ karm\ nam]_{VP}\ n\text{-}lu\ [+pro]]_{NP}\ bijim]_S$ T4.1

At this point (55)b may enter the surface as the sentence:

c) lu komeye go ce karm nam   'the hut in which
   hut which someone kill animal   someone slaughters
                                      animals is big'
   n-nyi bijim
   in-it big

Alternatively, the derivation may proceed by the optional
application of T4.3:

d) $[[lu\ go\ ce[NPR\ karm\ nam]_{VP}\ n\text{-}lu\ [+pro]]_{NP}\ bijim]_S$ T4.3

(55)d may enter the surface as the sentence:

e) lu go ce karm nam n-nyi bijim

with the same meaning as (55)c. Alternatively, T5.5 may
apply:

f) $[[lu\ [NPR\ karm\ nam]_{VP}\ n\text{-}lu\ [+pro]]_{NP}\ bijim]_S$ T5.5

g) $[[lu\ [karm\ nam]_{[+VN]}]_{VP}\ n\text{-}lu\ [+pro]]_{NP}\ bijim]_S$ T5.2

h) $[[lu\ [karm\ nam]_{[+TL]\ [+VN]}]_{VP}\ n\text{-}lu\ [+pro]]_{NP}\ bijim]_S$ T5.8

Now the pronominal locative must be deleted, because there
are no nominalizations which contain pronominal forms as
locatives:

i) *lu-karm nam n-nyi bijim

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This deletion can be handled by a rule deleting these pro-
nominal forms in precisely this environment, but not affect-
ing them in (b) and (d) above. This rule may be formulated
as follows:

T5.10 [+pro] LOC Deletion

$$\text{SD:} \quad \dfrac{[X - \begin{bmatrix} Vb - Y \\ [+VN] \end{bmatrix}_{VP} - LOC]_{[+pro]}]_{NP}}{1 \qquad\qquad\qquad\qquad 2}$$

SC: $1 - 2 \implies 1$

Including the [+pro] LOC as part of the NP, and specifying
the Vb as [+VN] will restrict application of T5.10 to pre-
cisely the correct environment.

There are two derivations similar to the above which
result in exactly the same surface structure, but which
have differing underlying structures. I give them here as
(56) and (57); their derivations utilize only rules already
discussed above:

(59) a) $[[lu_i \; [go \; ce \; [NPR \; karm \; [nam_i \; [\; Musa \; ki\text{-}nam_i]_S$
$]_{NP}]_{VP} \; n\text{-}lu_i]_S]_{NP} \; bijim]_S$

   b) lù-karm nam kì-Musa bijim   'the slaughtering
                                       hut for Musa's
                                       animals is big'

(60) a) $[[lu_i \; [Musa \; ki\text{-} \; [lu_i \; [go \; ce \; [NPR \; karm \; nam]_{VP}$
$n\text{-}lu_i]_S]_{NP}]_S]_{NP} \; bijim]_S$

   b) lù-karm nam kì-Musa bijim   'the slaughtering
                                         hut which Musa
                                         has is big'

The identical surface structures which result are a product
of the rules discussed above.

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   'slaughtering huts'
                    pl

(59) lù-karm nam kì-mwa mwa   'their slaughtering
                    of-them   huts'

(60) lù-karm nam kì-mwa mwa pet   'their five slaughter-
                               five   ing huts'

(61) lù-karm nam bijim kì-mwa mwa pet 'their five big
                    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. Neverthe-
less, the noun appears in the same position preceding the
verb and is marked for low tone as in the Agentive and Loca-
tive Nominals, and the verb appears in the verbal noun form.
Note the following examples:

(62) bìi-sé   'food'
      thing-eating

(63) bìi-dyiip   'harvest'
      thing-harvesting

(64) bìi-kàt   'wealth'
      thing-getting

(65) bìi-kop   'seed'
      thing-planting

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

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

(66) bìi-kop   mwa   'seeds'
      thing-planting pl

      but: *bìi-sé   mwa
                 eating

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(67) bìi-kop kí-mwa mwa   'their seeds'
        of-them

    and: bìi-sé kí-mwa   'their food'

(68) bìi-kop kí-mwa mwa pet   'their five seeds'
                      five

    but: *bìi-sé kí-mwa mwa pet

(69) bìi-kop bijìm kí-mwa mwa pet 'their five big
             big   seeds'

    and: bìi-dyìip   bijìm kí-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 un-
clear 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 con-
struction. As mentioned above, in Angas such evidence is
not conclusive, but it does complement the expansion pos-
sibilities 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, in-
cluding the rules marking the verb for its verbal noun form

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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 bìi-dyiip   'they planted a crop'
     plant thing-harvesting

(71) Musa siit bìi-sé   'Musa bought food'
     buy thing-eating

(72) Musa rot bìi-kàt   'Musa wants wealth'
     want thing-getting

The problem in proposing a transformational analysis of
the Objective Nominal is to develop a satisfactory underly-
ing structure which can be transformed as required by rules
of sufficient generality; the problem in proposing a lexi-
calist analysis is that of accounting for the semantic re-
lationship in the semantic interpretation rules, especially
as it compares with the other noun-verb constructions dis-
cussed 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 Nomi-
nals 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

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

(73)

a) [Musa$_i$[COM siit[bii$_i$[Musa$_i$[NPR se bii$_i$]$_{VP}$]$_S$]$_{NP}$]$_{VP}$]$_S$

b) [Musa[COM siit[bii$_i$[[NPR se bii$_i$]$_{VP}$]$_S$]$_{NP}$]$_{VP}$]$_S$ T5.1

c) [Musa[COM siit[bii komeye[NPR se bii]$_{VP}$]$_{NP}$]$_{VP}$]$_S$ 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]$_{VP}$]$_{NP}$]$_{VP}$]$_S$ 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]$_{VP}$]$_{NP}$]$_{VP}$]$_S$ T4.3

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

h) Musa siit bii kí sè

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

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i) [Musa [COM siit [bii [se]$_{VP}$]$_{NP}$]$_{VP}$]$_S$ T5.2
                        [+VN]

j) [Musa [COM siit [bii [se]$_{VP}$]$_{NP}$]$_{VP}$]$_S$ T5.8
                        [+TL] [+VN]

k) Musa siit biì-sé   '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 con-
text 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$_1$[Bitrus[NPR se bii$_1$]$_{VP}$]$_S$]$_{NP}$]$_{VP}$]$_S$

b) [Musa[COM siit[bii komeye Bitrus[NPR se bii]$_{VP}$]$_{NP}$]$_{VP}$]$_S$
                                        [+pro]

                                                                T4.1

c) [Musa[COM siit[bii komeye Bitrus[NPR se]$_{VP}$]$_{NP}$]$_{VP}$]$_S$ T4.2

d) [Musa[COM siit[bii Bitrus[NPR se]$_{VP}$]$_{NP}$]$_{VP}$]$_S$ T4.3

e) [Musa [COM siit [bii Bitrus [se]$_{VP}$]$_{NP}$]$_{VP}$]$_S$ T5.2
                                [+VN]

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

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moved from the environment for that tonal change. Such a
rule would be formulated as follows:

T5.11 Benefactive Formation

$$SD: \quad X - noun - Y - [NP - [Vb]_{VP}]_{NP} - Z$$
$$[+VN]$$

$$\underline{}$$

$$1 \qquad 2 \qquad 3 \qquad 4$$

$$SC: \quad 1 - 2 - 3 - 4 \implies 1 - 3 - Io\text{-}2 - 4$$

Application of T5.11 to the above has the following effect:

f) $[Musa[COM \; siit[bii \; [se]_{VP}]_{NP} \; Io\text{-}Bitrus]_{VP}]_S$ T5.11
                   $[+VN]$

g) $[Musa[COM \; siit \; [bii \; [se]_{VP}]_{NP} \; Io\text{-}Bitrus]_{VP}]_S$ T5.8
                      $[+TL][+VN]$

h) [Musa siit bìi-sé m-Bitrus   'Musa bought food for
                                         Bitrus'

Of course, if Bitrus is again going to serve the food to his
guests, rather than eating it himself, the underlying struc-
ture proposed is again inadequate! In any case, should
constructions like <u>bìi-sé</u> have (infinitely) multiple sources?

Better than such a proposal is the postulation of an
unspecified subject in the embedded sentence as in (75):

(75)

a) $[Musa[COM \; siit[bii_i[go \; ce[NPR \; se \; bii_i]_{VP}]_S]_{NP}]_{VP}]_S$

b) $[Musa[COM \; siit[bii \; komeye \; go \; ce[NPR \; se \; bii]_{VP}]_{NP}]_{VP}]_S$
                                           $[+pro]$

                                                  T4.1

c) $[Musa[COM \; siit[bii \; komeye \; go \; ce[NPR \; se]_{VP}]_{NP}]_{VP}]_S$ T4.2

d) $[Musa \; [COM \; siit \; [bii \; go \; ce \; [NPR \; se]_{VP}]_{NP}]_{VP}]_S$ T4.3

e) $[Musa \; [COM \; siit \; [bii \; [NPR \; se]_{VP}]_{NP}]_{VP}]_S$ T5.5

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f) [Musa [COM siit [bii [se]$_{VP}$]$_{NP}$]$_{VP}$]$_S$ T5.2
                [+VN]

g) [Musa [COM siit [bii [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.[8] 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)   lù-yin   'dispensary'
       hut-medicine

(77)   yìn-tezu   'insecticide'
   medicine-termite

(78)   lìmar-shwe   'guinea-corn farm'
   farm   corn

(79)   ŋgombìi-limar   'farm owner'
   owner   farm

---

[8]This construction was briefly discussed in Jungraithmayr 1964b.

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(80) nàm-ma   'mutton'
      meat-sheep

(81) tàr-fwan   'rainy season'
      moon-rain

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 Com-
pound Noun in the fully expanded NP (cf. (34)-(37)):

(82) lù-yin mwa   'dispensaries'
      pl

(83) lù-yin kì-mwa mwa   'their dispensaries'
      of-them

(84) lù-yin kì-mwa mwa pet   'their five dispen-
      five   saries'

(85) lù-yin bijim kì-mwa mwa pet 'their five big
      big   dispensaries'

    As with the Objective Nominals, from a transformation-
alist point of view the problem here again is that of deter-
mining 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 repre-
sentations which are quite varied (and at times ad hoc), but
which all result in the same constructions (e.g., see Chomsky
1970).

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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)

$$\text{SD:}\quad [X - noun - Y - noun - Z]_{NP}$$
$$1 \quad\ 2 \quad\ 3 \quad\ 4 \quad\ 5$$

$$\text{SC:}\quad 1 - 2 - 3 - 4 - 5 \implies 2 - 4$$
$$[+TL]$$

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 applica-
tion of T5.11 (assuming previous application of T4.1, T4.2,
T4.3):

    (76) b) [lu kí-yin]$_{NP}$ $\implies$ lù-yin   'dispensary'
            hut with-med

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(77) b) [yìn-cwa tezu]_{NP} ⟹ yìn-tezu 'insecti-
   med-killing termite   cide'

(78) b) [limar mwa kop shwe
   farm they plant corn

   n-dìn kì-nyi]_{NP} ⟹ limàr-shwe 'corn-farm'
   in-inside of-it

(79) b) [ŋgombii kí-limar]_{NP} ⟹ ŋgombìi-limar 'farm
   owner with-farm   owner'

(80) b) [nam we ma]_{NP} ⟹ nàm-ma 'mutton'
   meat from sheep

(81) b) [tar fwan te n-dìn
   moon rain fall in-inside

   kì-nyi]_{NP} ⟹ tàr-fwan   'rainy season'
   of-it

The question is whether such "wild" reductions of structure

can be countenanced. The deletion proposed by T5.11 is not

recoverable, so such a rule is not allowable in the present

metatheory. We must conclude, then, that T5.11 is a spurious

rule.

   What we have here, of course, is a phenomenon of Lan-

guage, found in a great many of the languages of the world.

No adequate transformational treatment has yet been proposed,

and it is not altogether clear that such a treatment is pos-

sible for reasons stated above.

   It seems that a proper analysis will have to take into

account a great depth of generality and still allow for

idiosyncratic semantic relations. That is, Gleitman and

Gleitman (1970) have shown by experiment that virtually any

noun-plus-noun construction (among others) can be assigned

a meaning in English given a subject with sufficient depth

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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 <u>horse-cart</u> mirrors in structure both <u>dog-sled</u> (a sled which a dog pulls) and <u>hay-wagon</u> (a wagon that carries hay), but that <u>horse-cart</u> 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.

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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) gáibo 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.

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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 → kí-NP

(1) Musa kí-<u>Bitrus</u> mwa ji[1] 'Musa and Bitrus came'
      with   they come

(2) Musa ji kí-<u>Bitrus</u> '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) *ŋan <u>kí-Bitrus</u> mu ji
    I   we

(4) mun <u>kí-Bitrus</u> mu ji 'Bitrus and I/we came'
    we

(5) ŋa ji <u>kí-Bitrus</u> 'I came with (=brought) Bitrus'
    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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[1]In actuality (1) will appear with <u>ɗaŋ</u> between the conjoined elements rather than <u>kí</u>-. See the discussion in Chapter 4.

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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

$$SD: \quad X - \underset{[+pro]}{NOM} - \underline{ki\text{-}NP} - Y$$
$$ \quad 1 \qquad 2 \qquad 3$$

$$SC: \quad 1 - 2 - 3 \implies 1 - 2 - 3$$
$$ [+pl]$$

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

$$SD: \quad \left[X - \left\{ \begin{array}{l} NOM \\ {[+pl]} \\ pl \\ {[NOM\text{-}ACC]}_{NP} \end{array} \right\} - Y - TNS - Z \right]_S$$
$$ \underline{\hspace{5cm}}$$
$$ 1 \qquad\qquad 2 \qquad 3$$

$$SC: \quad 1 - 2 - 3 \implies 1 - \underset{[+pl]}{2} - 3$$

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

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'[2]
(lemet)(dir)[3]	'toward'

Note the following examples (LOC phrases are underlined):

(6) Musa <u>n-lù</u>   'Musa is in the hut'
         in-hut

(7) Musa <u>ka-kasuwa</u>   'Musa is at the market'
         at-market

(8) Musa <u>po-kasuwa</u>   'Musa is at the market'
         at-market

(9) Musa <u>po-ji</u>   'Musa is coming'
         at-coming

(10) Musa lep Bitrus <u>lemet Per</u>   'Musa sent Bitrus to
         send   toward Amper   Amper'

(11) Musa lep wasika <u>lemet dir Bitrus</u> 'Musa sent a
         letter   toward   letter to Bitrus'

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[2]See the extended discussion regarding the construction with po- as the continuous aspect in Chapter 7.

[3]dir ocurs only and always when the following NP is animate, at which time lemet occurs optionally.

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(12) Musa lep wasika <u>dir Bitrus</u>   'Musa sent a letter
                      toward   to Bitrus'

The Manner phrase has the following form:

B8. MAN → { man }
             { aj }
             { num }

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 <u>lele</u>   'Musa came quickly'
          come quickly

(14) Musa fot <u>ŋkiinkiin</u>   'Musa understood
          hear completely   thoroughly'

(15) Musa ne birŋ mwa <u>aha</u> '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 <u>kwan</u>   'the horses came "three-
     horse pl come three   ly"' (=three horses
                                     came)

(17) mwa met <u>fiir</u> kí-gak[4] 'they went four together'
     they go four   with-one

In still other instances MAN is an adjective (sometimes

reduplicated):

(18) mbaŋga son <u>duŋ</u>   'the drum is very long'
            drum long very/much

(19) birŋ mwa ji <u>duŋ-duŋ</u>   'many horses came'
     horse pl come much-much

_____

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

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

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

    (21) birŋ ɗa 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

$$\text{SD:}\quad \underline{[X - noun - pl - Y -} \begin{Bmatrix} aj \\ Vb \end{Bmatrix} \underline{\; - Z]_S}$$

$$\qquad\qquad 1 \qquad\qquad\quad 2 \qquad 3$$

$$\text{SC:}\quad 1 - 2 - 3 \implies 1 - \underset{[+pl]}{2} - 3$$

The adjective reduplication rule can then be formulated as follows:

        T6.4 Adjective Reduplication

$$\text{SD:}\quad X - \underset{[+pl]}{aj} - Y$$

$$\qquad\quad 1 \quad\; 2 \quad\; 3$$

$$\text{SC:}\quad 1 - 2 - 3 \implies 1 - 2\text{-}2 - 3$$

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

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pluralization is a prevalent phenomenon in Chadic 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 <u>nouns</u> as that mentioned here for verbs. Note the follow-
ing examples:

 (22) gənəm/gənam   'woman/women'

 (23) guli/gáli   'child/children'

 (24) kə̀ne²u/kana²u   'father's brother/brothers'

 (25) kalge/kalage   'mouth/mouths'

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

 (26) pùs/pwas   'to shoot'

 (27) pùt/pwat   'to go out'

 (28) piin/pyan   'to melt'

 (29) ɗiin/ɗawan   'to tie'

 (30) nugul/nwagal   'to stretch out the hand'

 (31) fìi/fyaa   'to blow'

 (32) sù/swa   'to run'

 (33) tù/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) ə bəl-incə cinica   'I killed lions'

(35) ə bəbal-incə 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 forma-
> tion 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 Jungraithmayr (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'

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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   mwà   la   nyi   'they tried to
          they do so-that they receive her marry her'

    (42) mwa cin-cin teko mwà 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 de-
notes intensification of the quality denoted by the adjec-
tive. 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).

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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   'the big horse'
      horse big

(46) birŋ nan-nan mwa   'the big horses'

(47) birŋ dit   'the small horse'
           small

(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:

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(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 lexi-
cal 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 singulary
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   tu-tu   'the goat is killed'
       goat kill-kill

(53)   ŋa ne gi tu-tu   '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 distinc-
tion 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)).[5] These constructions can probably be handled
as derived from structures like:

(54) $[gi_i \ [go \ ce \ [TNS \ tu \ gi_i]_{VP}]_S]_{NP}$

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 $\rightarrow$ $\left\{ \left\{ \dfrac{kadang}{ko} \right\}_{tim} + \#S\# \right\}$

That is, a TIM phrase may be a sentence introduced by either
<u>kadang</u> 'if' or <u>ko</u> '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'

---

[5]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 Chap-

ter 9); in both cases an optional fronting is allowed, fol-

lowed by the morpheme ɓe, with no emphasis possible:

(58) cinii ɓe kasuwa m-Pwel

(59) dondon ɓe Musa ji

(69) ko mwa po-ji ɓe Musa met

P. Newman (1970:29) notes that for Tera counterfactual con-

ditionals 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 kí met kaɗaŋ mwa ji   'Musa will go if
         he   they   they come'

(62) kaɗaŋ mwa ji ɓe Musa kí met

The Instrument phrase has the following form:

B10. INST → $\left\{ \begin{matrix} \underline{shi} \\ \underline{yii} \end{matrix} \right\}$ + NP

The NP instrument is introduced by either the positive pre-

position shi 'with' or the negative preposition yii 'without'.

Note the following examples:

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(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-ŋgak   'Musa caught an
         seize antelope without-snare   antelope with-
                                         out a snare'

(67) Musa tam kim yii-mbaŋga   'Musa danced without
         do song   drum   a drum'

When the object of the instrumental preposition is pronomina-

lized, the resulting form is not one of the general pronouns

(see Chapter 11), but a special form __shik__. Note the follow-

ing examples:

(68) Musa siit cen ɗaŋ màr limar shi-shik   'Musa bought
         buy hoe and farm farm with-it   a hoe and
                                               farmed with
                                               it'

(69) Musa ɗap mbaŋga ɗaŋ 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 __gən__ occurs generally as the instrumental preposi-

tion but is replaced by __yî__ 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" con-

struction in Angas which emphasizes that it is the subject

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<u>himself</u> who performs the action of the verb. Note the fol-
lowing examples:

    (70) Musa mar limar shi-ke ki-nyi 'Musa himself
            farm farm with-head of-him   farmed'

    (71) Musa tep ndam shi-ke ki-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 mar limar shi-cen shi-ke ki-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. PUR → $\left\{ \begin{array}{l} \underline{mpii} + NP \\ \underline{teko} + \#S\# \end{array} \right\}$

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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 becuase-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'

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The Aspectual System

Angas has four aspects: Completive (COM), Incompletive
(INC), Non-Present (NPR), and Subjunctive (SUBJ). These as-
pects are differentiated by tonal phenomena on the person-
aspect markers (see the extended discussion in Chapter 11).[1]
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:Chap-
ter 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 in-
dependent pronoun or noun, followed by a Locative phrase
introduced by po 'at'. Note the following examples:

    (1) ŋan po-ji   'I am coming'
          I   at-coming

_____

[1]This is undoubtedly the reason for Foulkes' misunder-
standing of the Angas aspectual system. He suggests
(Foulkes 1915:31,34) that a single person-aspect marker func-
tions for all the aspects. At various other places in his
grammar he fails to note tone as well, but this is under-
standable 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 oc-
curs 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 ex-
amples:

(5) Musa n-lù   'Musa is in the hut'
           in-hut

(6) ŋan 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

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

(7) ŋan po-ne   ki-birŋ   'I am seeing the horse'
     I   at-seeing of-horse

     ŋa ne birŋ   'I will see the horse'
        see

(8) mwa po-fot   f-ga   'they are understanding
     they at-hearing of-you   you'

     mwa fot ga   'they will understand
     they hear you   you'

(9) Musa po-dyii   ki-birŋ   'Musa is looking for the
          at-seeking of-horse   horse'

     Musa ki dyii birŋ   'Musa will look for the
     he seek horse   horse'

(10) birŋ po-sé   ki-bii-sé   'the horse is
     horse at-eating of-thing-eating eating food'

     birŋ ki se bii-sé   'the horse will eat food'
     he eat thing-eating

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 al-
low for the possibility of body-part words being used within
the aspectual system:[2]

(11) naa wana   'I am working/I will work'

     naa təka wana   'I am busy working'
         body

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

_____ _____

[2] I have the Ngizim data from Russell Schuh.

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

(12) Musa ka-ke   ki-lu   'Musa is on top of the hut'
            at-head of-hut

(13) Musa ka-ɓwiin ki-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 construc-
tion 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 intro-
ducing 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

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

    (16) Musa kí-dyii   kì-biŋ   '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:

                    kə́

                    ndùŋ

                    pù

                    n

Obviously, pù is the most similar to Angas po. But two
others seem to be prepositions, although Jungraithmayr does
not say so; a form kə́ occurs also as the preposition 'with',
and a form n occurs also as the preposition 'in'. Further,
pù itself is homophonous with a preposition meaning 'from'.
There is no prepositional correlate for ndùŋ that I could
find. The pronominal form occurring with kə́ 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.

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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 kí 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 per-
son 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 kì ji   'Musa has come'
               he come

    (21) mwáà ji cinii   'they came today'
          they come tcday

    (22) mwáà ji dondon   'they came yesterday'
                  yesterday

     The Subjunctive aspect is used always and only in sen-
tences 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 environ-
ment 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 environ-
ments. Note the following examples of the Subjunctive aspect:

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(23) Musa rot teko Bitrus nyì met   'Musa wants Bitrus
              want that   he go   to go'

        (24) Musa ji teko nyì ne mwa ɗi   'Musa came to see
              come   he see them   them'

        (25) mante gà met kat!   'don't go!'
              you go

In Tera, in sentences involving a subjunctive aspect the

pronoun subject is obligatorily moved to a position follow-

ing 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 im-

perative. 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 subjunc-

tive 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 ŋàn ka-ke   kì-nyì   'tell me about it!'
              you tell me at-head of-it

        (27) gā met kasuwa lele   'go to the market
              go market quickly   quickly!'

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When IMP is present, a particle which I term here "polite-
ness 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, ḍǝk, ḍaŋ. The following are examples of
sentences employing these particles:

(28) gā li ŋàn ke   'tell me please'

(29) gā ḍar ḍaŋ   'wait a minute please'
      stop

(30) gā ji kí-am   mùn 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: $[X - INC - Y - IMP - Z]_S$
                     $[+II]$

                 1   2   3   4   5

            SC: 1 - 2 - 3 - 4 - 5 $\Rightarrow$ 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 ŋàn ka-ke kì-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 impera-
tive character is present. Note the following examples:

(34) Musa nyī met   'Musa went'
     he   go

(35) birŋ 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 po-
tentially 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 completed-
ness of the action is being stressed, with the Non-Present
and Incompletive being used in a sort of non-aspectual nar-
rative sense. The Incompletive is quite rare in its occur-
rence, 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 rela-
tive clauses, questions, and emphasized sentences. In Hausa,
for example, special relative perfective and relative pro-
gressive forms occur instead of the "normal" forms in such
constructions. Note the following Hausa examples:

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```
(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 rela-

tive perfective. The situation in Ga'anda is somewhat dif-

ferent. 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 construc-
> tions 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.[3] 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'
```

_____

   [3]Foulkes (1915:41-2) notes a "narrative past" in Angas
formed with ka (cf. the Hausa data above). I have been un-
able to substantiate this construction in my investigation.

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(42) Musa ne go ye kí met   'Musa saw the person who
                    NPR   will go'

(43) Musa ne go ye nyí met   'Musa saw the person who
                    INC   went'

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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 <u>tene</u>, and the verbs which occur with it are all verbs which refer to mental process and are thus designated [+speak].

The verbs which take <u>tene</u>-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
     say that   go   went'

(2) Musa leŋ tene Bitrus met   'Musa thought that
     think   Bitrus went'

(3) Musa man tene Bitrus met   'Musa knew that Bitrus
     know   went'

(4) Musa fot tene Bitrus met   'Musa heard that Bitrus
     hear   went'

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

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```
                         #  S  #
                            |
                         #  S_V  #

            NP                              VP
             |                    TNS    Vb      NP
             |                     |      |       |
             |                     |      |    #  S  #
             |                     |      |       |
```
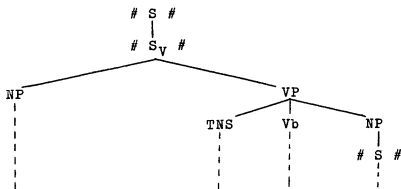
So for (1) the deep structure would be the following:

(1) a) [Musa[COM li[[Bitrus[COM met]$_{VP}$]$_S$]$_{NP}$]$_{VP}$]$_S$

All that is needed in this instance is a simple complementa-
tion 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 neces-
sary rule can be formulated as follows:

          T8.1 Complementation

               SD: [X - Vb   - # S # - Y]$_S$
                         [+speak]
                      1   2   3 4 5   6

               SC: 1 - 2 - 3 - 4 - 5 - 6 $\Rightarrow$
                    1 - 2 - <u>tene</u> - 4 - 6

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

    (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'

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```

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 liiɗak mwà      'Musa bade them
          say farewell to-them   farewell'

(10) Musa li ko  ɗa 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

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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 - <u>tene</u> - Y - IO - Z]$_S$

        1        2        3    4

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

It is not necessary to specify the content of the variable following the complement introducer <u>tene</u>, because it will always be an embedded sentence without boundaries in order for <u>tene</u> 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 construc-
tions 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 in-
volving emphasized objects (to be discussed in detail below)
like the following:

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(3)  shwe ɗo mwa cik          'they pounded <u>corn</u>'

(4)  Musa ɗo mwa kat ka        'they didn't find <u>Musa</u>'

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 fol-
lows:

> T9.1  Topicalization (optional)
>
> SD:  $[X - NP - TNS - Vb - NP - Y]_S$
>
> $\phantom{SD:\ [X}1\phantom{ - NP}\overline{\phantom{ - TNS}2\phantom{ - Vb}}\phantom{ - Vb - }3\phantom{ - NP}4$
>
> SC:  $1 - 2 - 3 - 4 \Rightarrow 1 - 3 - 2 - \underset{[+pro]}{3} - 4$

The pronominalization rules (see Chapter 11) will then pro-
vide 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

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d)  parpus        'sometime'    shikodaŋ    'when?'
    time

d)  shi-bii       'by some      shi me      'by what
    with-thing     means'                    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 preposi-

tion shi (in which case the result is shi-me, cf. (b)).  In-

sertion of a question word in a sentence is possible only

when Q has been chosen by rule B1, but there is no restric-

tion 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 com-

parable 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?'

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(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 shikoɗan-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 ɗaŋ ɗo Musa ji-e?[1]  '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 <u>ɗo</u> following the emphasized element.
The following pairs of sentences are presented here as il-
lustrative of this construction:

```
(11) a)  Musa met              'Musa went'
              go

    b)  Musa ɗo met            '<u>Musa</u> went'

(12) a)  Musa  ne Bitrus       'Musa saw Bitrus'
              see

    b)  Bitrus ɗo Musa ne      'Musa saw <u>Bitrus</u>'
```

---

[1]The construction here involves the obligatory applica-
tion of fronting, to be discussed below.

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(13) a) Musa met Pwel   'Musa went to Pwel'

   b) Pwel ɗo Musa met ɗii[2] 'Musa went to Pwel'

(14) a) Musa met shi-shii   'Musa went on foot'
              with-foot

   b) shi-shii ɗo 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 ɗo 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 empasized element.

_____

[2]ɗii 'there' is a pronominal trace left in the position from which the fronted element Pwel was moved. See discussion below.

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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 d̂o met Pwel   'Musa went to Pwel'

(16) we d̂o 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) ŋan, ŋa met Pwel   'I, I went to Pwel'

(18) ŋan d̂o ŋa 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 d̂o Musa ne   'Musa saw Bitrus'

(20) Musa ne we-e?   'who did Musa see?'
              who

(21) we d̂o Musa ne nyi-e?   'who did Musa see?'
                      him

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In that (20) is a legitimate sentence, the implication is that (21) places emphasis upon we (and so its gloss) in that it is marked as if for emphasis (with fronting and insertion of d̥o). Thus we may conclude that emphasized objects may be question words or other NPs, but they are fronted in any case. Note also that in (21) a trace is left behind in the position vacated by the permuted question word in the form of a third person singular pronoun; there is no trace in (19), however. I will discuss such matters below. In Sura question words who and what may appear either sentence-initial or -final, with apparently no difference in meaning (Jungraithmayr 1964a:29); Jungraithmayr does not discuss question words from the point of view of their function in the sentence, however. In Tera (P. Newman 1970:83), unlike in Angas, the fronting of emphasized objects is not permitted; in Dera (P. Newman 1972:Chapter 5) fronting is common but optional for emphasized objects.

Like objects, indirect objects too are fronted when emphasized, whether question words or non-questioned NPs. Note the following examples:

(22) Bitrus d̥o Musa siit birŋ nyi   'Musa bought a
                  buy horse for-him   horse for
                                         Bitrus'

(23) Musa siit birŋ we-e?   'who did Musa buy a
                                    horse for?'

(24) we d̥o Musa siit birŋ nyi-e? 'who did Musa buy a
                                    horse for?'

Compare the above with the non-emphasized, non-questioned indirect object:

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(25) Musa siit biŋ 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 empha-

sized, 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

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the VP is emphasized; the result in every case is a Posses-
sive 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 formu-
lated as follows:

> T9.2 VP Emphasis
>
> SD: $[\text{X} - \text{TNS} - \underset{[+e]}{\text{Vb}} - (\text{NP}) - (\text{IO}) - \text{Y}]_S$
>
> $\quad\quad 1 \quad\;\; 2 \quad\;\; 3 \quad\quad\quad\;\; 4 \quad\;\; 5$
>
> SC: $1 - 2 - 3 - 4 - 5 \;\Longrightarrow$
>
> $\quad\quad 3 - 4 - \underline{\text{do}} - 1 - \underline{\text{cin}} - 5$
> $\quad\quad [+\text{VN}]$

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:

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(30) Musa met Pwel   'Musa went to Pwel'
          go

(31) Pwel do Musa met dii   'Musa went to <u>Pwel</u>'
                        there

(32) nine daŋ do Musa met dii-e? '<u>where</u> did Musa go?'

(33) Musa met nine-e?   'where did Musa go?'

(34) *nine daŋ do Musa met-e?

Note that when a question word is fronted here the morpheme
daŋ is inserted and a pronominal trace is left behind.

    Clearly, some nouns must be analyzed as optionally re-
ferring to locations (and so being [+loc]) or objects (and
so [-loc]). That is, <u>Pwel</u> is the name of a village and in-
variably denotes a location. <u>lu</u> 'hut', on the other hand,
can denote a location or an object. Note the following ex-
amples:

(35) a) Musa met lu   'Musa went to the hut'
                   [+loc]

     b) lu do Musa met dii 'Musa went to <u>the hut</u>'
         [+loc]   there

(36) a) Musa ne lu   'Musa saw the hut'
                  [-loc]

     b) lu do Musa ne   'Musa saw <u>the hut</u>'
         [-loc]

The interaction between allowable verb-object sequences is
constrained in the lexicon, of course, certain verbs (per-
haps 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

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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 par-Pwel   'Musa went on Pwel's
              day   market day'

(38) Musa met shikoɗaŋ-e?   'when did Musa go?'

(39) shikoɗaŋ ɗo Musa met-e?   '_when_ did Musa go?'

(40) par-Pwel ɗo Musa met   'Musa went _on Pwel's_
                                        market day'

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 _ɗo_; question words do not occur in this construction:

(41) par-Pwel ɓe Musa met   'on Pwel's market day
                                       Musa went'

(42) cinii ɓe kasuwa m-Pwel   'today is Pwel's market
          today   market at-Pwel   day'

Sentential constructions may also occur as TIM as introduced by B9. They are obligatorily fronted. Note the following examples:

(43) ko Bitrus ji ɓe Musa met   'when Bitrus came
          when   come   go   Musa went'

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(44) kaɗaŋ Bitrus kí ji ɓe Musa kí met   'If Bitrus
     if   he come   he go   comes Musa
                                        will go'

With kaɗaŋ only the non-present aspect occurs. The rule per-
forming this optional fronting of non-emphasized TIM phrases
may be formulated as follows:

T9.3 TIM-fronting (optional)

SD: [X - TIM - Y]$_S$

      1   2   3

SC: 1 - 2 - 3 ⟹ 2 - ɓe - 1 - 3

Condition: obligatory if TIM in 2 is

$$\left\{ \begin{matrix} \underline{ko} \\ \underline{kaɗaŋ} \end{matrix} \right\} + \#S \#$$

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 con-
necting particles (ɗo vs ɓe) 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 ɗo 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?'

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(49) *n-dín-me do Musa sììt-e?

(50) me do Musa sììt n-dín kì-nyì-e?   'what did Musa
                         of-it   enter?'

(51) lu do Musa sììt n-dín kì-nyì   'Musa entered
                                       the hut'

(52) Musa sììt n-lù   'Musa entered the hut'

(53) lù do Musa sììt   'Musa entered the hut'

Note (51) first. Here all that is fronted is really the
second noun of the Compound Noun construction, and the pro-
nominal trace which is left behind is obligatorily preceded
by the possessive marker in this instance because third per-
son pronouns (the only kind which are derived anaphorically)
have no possessive form which does not contain the posses-
sive 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 màr limar shi-cen   'Musa farmed with a hoe'
          farm farm   with-hoe

(55) shi-cen do Musa màr limar 'Musa farmed with a hoe'

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(56) cen ɗo Musa màr limar shi-shik   'Musa farmed with
                                          it   <u>a hoe</u>'

(57) Musa màr shi-bii ce   'Musa farmed with some-
                                thing'

(58) Musa màr shi-me-e?   'what did Musa farm with?'

(59) shi-me ɗo Musa màr limar-e?   <u>'with what</u> did
                                       <u>Musa farm?</u>'

(60) me ɗo Musa màr limar shi-shik-e? '<u>what</u> did Musa
                                        farm with?'

(61) ciraŋ ɗaŋ ɗo Musa màr limar-e?   'how did Musa
                                        farm?'

Obviously, the semantic difference between sentences like
(55) and (56) and (59) and (60) is small, but still it seems
to be there. Both pairs can be compared with (54) and (58)
respectively. Note that when the NP object is fronted (as
in (56) and (60)) the trace which is left behind is not a
"normal" pronoun but a specialized form <u>shik</u>. This special
form is the general pronominal form occurring with <u>shi</u>, as
can be seen in the following sentence where it appears
anaphorically:

(62) Musa síit cen ɗaŋ màr limar shi-shik   'Musa bought
           buy   and   with-it   a hoe and
                                             farmed with
                                             it'

The assumption here is that the rules to be formulated below
will leave behind a [+pro] trace here which will be realized
as <u>shik</u> when following <u>shi</u>, the actual form being produced
by the phonological readjustment rules.

The situation here is similar to cases in which the
element in question is a PUR phrase, except that the sequence

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<u>teko</u> + S cannot be fronted or questioned. Note the follow-
ing examples:

(63)	Musa met mpii-pup ki-nyi		'Musa went because
	because-father of-him		of his father'

(64)	mpii-pup ki-nyi do Musa met		'Musa went <u>because</u>
			<u>of his father</u>'

(65)	Musa met mpii-bii ce	'Musa went because
	thing a	of something'

(66)	Musa met mpii-me-e?	'why did Musa go?'
	what	

(67)	mpii-me daŋ do Musa met-e?	'<u>why</u> did Musa go?'

(68)	me do Musa met mpii-nyi-e?	'<u>what</u> did Musa go
	it	because of?'

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
	person a	someone'

(70)	Musa met mpii-we-e?	'who did Musa go because
	who	of?'

(71)	we do Musa met mpii-nyi-e?	'<u>who</u> did Musa go
		because of?'

Note that in emphasized constructions of this nature (as in
(64)) the entire PUR phrase is fronted, although when ques-
tion 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 <u>ki</u>- 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:

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(72) Bitrus met kasuwa kí-Musa   'Bitrus went to the
           go market and-Musa   market with Musa'

(73) Musa ɗo Bitrus met kasuwa kí-nyi 'Bitrus went to
                                  him   the market with
                                         <u>Musa</u>'

(74) *kí-Musa ɗo 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 ɗo Bitrus met kasuwa kí-nyi-e? '<u>who</u> 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 ɗo 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 <u>ɗin</u> 'inside', although a noun, is prevented from being
marked [+e] in the lexicon and thus is not emphasizable.

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Thus in (51) when lu is marked [+e] and is fronted d̲i̲n̲ 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

$$\text{SD:} \quad [X - \begin{Bmatrix} \text{noun} & - \text{noun} \\ [\text{-inal}] & [\text{+pro}] \\ \text{noun} & - \text{noun} \\ [\text{+inal}] & \begin{bmatrix} \text{+pro} \\ \text{+III} \end{bmatrix} \end{Bmatrix} - Y]_{\text{noun}}$$

$$1 \qquad 2 \qquad 3 \qquad 4$$

SC: 1 - 2 - 3 - 4 ⟹ 1 - 2 - 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

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phrases and the other with only the NPs. The second of
these two rules may be formulated as follows:

T9.5 NP Emphasis

$$\text{SD:} \quad [\text{X} - \begin{Bmatrix} \underline{\text{ki-}} \\ \underline{\text{shi-}} \\ \underline{\text{mpii-}} \\ \underline{\text{Io}} \end{Bmatrix} - \underset{[+e]}{\text{NP}} - \text{Y}]_S$$

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

$$\text{SC:} \quad 1 - 2 - 3 - 4 \Longrightarrow$$

$$3 - \underline{\text{do}} - 1 - 2 - \underset{\begin{bmatrix} -e \\ -wh \\ +pro \end{bmatrix}}{3} - 4$$

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 $\underline{\text{mpii-}}$, $\underline{\text{shi-}}$, $\underline{\text{kadaŋ}}$,
and $\underline{\text{ko}}$ 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 introduc-
tory word is so marked. The rule to perform this task may
be formulated as follows:

T9.6 Phrase Emphasis

$$\text{SD:} \quad [\text{X} - \begin{Bmatrix} \text{INST} \\ \text{PUR} \\ \text{TIM} \end{Bmatrix} - \text{Y}]_S$$

$$\qquad\qquad\qquad [+e]$$

$$\qquad\quad 1 \qquad\quad 2 \qquad\quad 3$$

$$\text{SC:} \quad 1 - 2 - 3 \implies 2 - \underline{\text{do}} - 1 - 3$$

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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

$$SD: \quad [X - prep\text{-}NP - Y]_S$$
$$\phantom{SD: \quad [X - prep\text{-}}[+e]$$
$$ 1 \quad\; 2 \quad 3 \quad\;\; 4$$

$$SC: \quad 1 - 2 - 3 - 4 \implies 3 - \underline{do} - 1 - 4$$

Second, a rule is needed to front emphasized subjects:

T9.8 Subject Emphasis

$$SD: \quad [X - NP - VP - Y]_S$$
$$[+e]$$
$$ 1 \quad 2 \quad\;\; 3 \quad\; 4$$

$$SC: \quad 1 - 2 - 3 - 4 \implies 2 - \underline{do} - 1 - 3 - 4$$

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

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object-fronting are required. The first could probably be combined with T9.8 but is kept separate here:

T9.9   Object Emphasis I

SD: $[X - Vb - NP - Y]_S$
               $[+e]$
        1   2   3   4

SC: 1 - 2 - 3 - 4 $\Rightarrow$ 3 - $\underline{do}$ - 1 - 2 - 4

That is, any NP in object position which is marked [+e] in the lexicon, whether a question word or not, is obligatorily fronted, and no trace is left behind. The second rule has to do with [+loc] nouns; again fronting is obligatory if they are [+e], but in this case a pronominal trace is left behind. This rule could have been combined with T9.5 but is kept separate here:

T9.10   Object Emphasis II

SD: $[X - Vb - \text{noun} - Y]_S$
                    $\begin{bmatrix}+loc\\+e\end{bmatrix}$

         1   2   3   4

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

      3 - $\underline{do}$ - 1 - 2 - 3 - 4
                           $\begin{bmatrix}-e\\-wh\\+pro\end{bmatrix}$

Finally, a rule is needed to insert the marker $\underline{daŋ}$ as required. It will be noted ((32)-(33), (61), (67)) that $\underline{daŋ}$ occurs only with $\underline{nine}$ 'where', $\underline{ciraŋ}$ 'how', and with $\underline{mpii}$- phrases (only when the whole phrase is fronted), and only when fronting has taken place. The rule required may thus be formulated as follows:

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T9.11 $\underline{da\eta}$ Insertion

SD: $\begin{Bmatrix} \underline{nine} \\ \underline{cira\eta} \\ PUR \\ [+e] \end{Bmatrix} - \underline{do} - X$

 1 2 3

SC: $1 - 2 - 3 \implies 1 - \underline{da\eta} - 2 - 3$

To conclude this chapter I present here a few sample derivations to illustrate the operation of the above rules.

(11)b a) $[[Musa]_{NP} \atop [+e]}$ $COM\ met]_S$

b) $[[Musa]_{NP} \atop [+e]}$ $do\ COM\ met]_S$ T9.8

(21) a) $[Musa\ COM\ ne\ [\ go \atop \begin{bmatrix}-def\\+wh\\+e\end{bmatrix}}\ ]_{NP}]_S$

b) $[\ go \atop \begin{bmatrix}-def\\+wh\\+e\end{bmatrix}}\ do\ Musa\ COM\ ne\ [\ go \atop \begin{bmatrix}-def\\-e\\+pro\end{bmatrix}}\ ]_{NP}]_S$ T9.10

(51) a) $[Musa\ COM\ s\grave{i}it\ [n- [[din]_N \atop [\cdot e]}\ [lu]_N \atop [+e]}]_{noun}]_{LOC}]_S$

b) $[[lu]_N \atop [+e]}\ do\ Musa\ COM\ s\grave{i}it\ [n- [[din]_N \atop [-e]}\ [lu]_N \atop \begin{bmatrix}-e\\-wh\\+pro\end{bmatrix}}\ ]_{noun}]_{LOC}]_S$ T9.5

c) $[[lu]_N \atop [+e]}\ do\ Musa\ COM\ s\grave{i}it\ [n- [[din]_N \atop [-e]}\ [Pos-lu]_N \atop \begin{bmatrix}-e\\-wh\\+pro\end{bmatrix}}\ ]_{noun}]_{LOC}]_S$ T9.4

(32) a) $[Musa\ COM\ met\ pii \atop \begin{bmatrix}+loc\\+e\\+wh\end{bmatrix}}]_S$

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b) [pii $\begin{bmatrix} +loc \\ +e \\ +wh \end{bmatrix}$ ɗo Musa COM met pii $\begin{bmatrix} +loc \\ -e \\ -wh \\ +pro \end{bmatrix}$]$_S$　　　T9.10

c) [pii $\begin{bmatrix} +loc \\ +e \\ +wh \end{bmatrix}$ daŋ ɗo Musa COM met pii $\begin{bmatrix} +loc \\ -e \\ -wh \\ +pro \end{bmatrix}$]$_S$　　　T9.11

(64) a) [Musa COM met [mpii- [pup ki-nyi]$_{NP}$]$_{PUR}$]$_S$
　　　　　　　　[+e]　　[+e]

b) [[mpii- [pup ki-nyi]$_{NP}$]$_{PUR}$ ɗo Musa COM met]$_S$
　　　　[+e]　　[+e]

　　　　　　　　　　　　　　　　　　　T9.6

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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 <u>ka</u> occurring sentence-final (except preceding the question marker -<u>a</u> or -<u>e</u> 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 birŋ ka-a?   'didn't Musa see the horse?'
       see horse NEG-?

When IMP is also present, the phonological form so generated is not <u>ka</u> but <u>mante kat</u> (<u>mantaŋ kat</u> in some dialects). Further, <u>mante</u> then occurs preceding the person-aspect marker (which is always in the subjunctive aspect in this construction), and <u>kat</u> 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

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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 <u>mante</u> to its proper position. This rule may be formulated as follows:

T10.1   <u>mante</u> Movement

     SD: $[X - \underline{mante} \ \underline{kat}]_S$
            1   2   3

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

<u>mante</u> is shifted to a position preceding even an NP subject:

    (7)   mante Musa nyì 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?   '<u>what</u> is it that Musa
        what   want   doesn't want?'

    (9)   *Musa rot me ka-e?

    (10)   we   do Musa dyii mwa ka-e?   '<u>who (pl)</u> 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

Chapter 9. The rule to add the feature [+e] in this context may be formulated as follows:

T10.2 wh Emphasis

$$\text{SD:}\quad [X - \underset{[+wh]}{NP} - Y - NEG]_S$$

$$1 \qquad 2 \qquad\qquad 3$$

$$\text{SC:}\quad 1 - 2 - 3 \implies 1 - \underset{[+e]}{2} - 3$$

The feature [+e] will be added to the feature matrix already present in the NP, and the whole will undergo the emphasis rules obligatorily, with the correct result.

In Tera special forms occur in the negative instead of the normal auxiliary for perfect and future (P. Newman 1970: 127). This is not the case in Angas, where all aspects may be negativized:

(12) Musa kí met ka   'Musa won't go'
          NPR

(13) Musa met ka   'Musa didn't go'

(14) Musa nyí met ka   'Musa didn't go'
          INC

(15) mante Musa nyì met kat 'Musa mustn't go'
                      SUBJ

In Ga'anda all aspects can be negated (R. Newman 1971:154). In Newman's analysis negation may appear only once in a simple sentence, but it may apply to the auxiliary, to the sentence as a whole, or to a noun. In the last case negation is possible only for emphasized nouns. Auxiliary negation is what I have discussed above. Sentence negation in

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Newman's analysis is derived from an emphasized sentence which is negated. This is not possible in Angas:

    (16) *Musa po-ji ɗo 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 ɗo po-ji ka   '<u>Musa</u> isn't coming'

    (19) kii mwa ɗo mwa se shwe ɗa ka   '<u>the hens</u> are
          hen pl   they eat corn that   the ones who
                                 didn't eat the
                                 corn'

    (20) Bitrus ɗo Musa ne nyi ka   '<u>Bitrus</u> 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 ɗo 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 <u>ba</u> (like Angas <u>ka</u>), but it is able to show the scope of negation unambiguously through the use of a second <u>ba</u>, with the result that the two <u>ba</u>'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 <u>many</u>
                                          <u>rocks</u>'

(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) $[biro \ mwa \ NPR \ ji \ [duo-duo]_{MAN} \ NEG]_S$

(29)

$[[biro \ mwa_i \ NPR \ ji]_S[dao \ biro \ mwa_i[duo-duo]_{MAN} \ NEG]_S]_S$

(30) $[biro \ mwa_i[biro \ mwa_i[duo-duo]_{MAN} \ NEG]_S \ NPR \ ji]_S$

(31) $[biro \ mwa_i[biro \ mwa_i[duo-duo]_{MAN}]_S \ NPR \ ji \ NEG]_S$
$\quad\quad\ [+e] \quad\quad [+e]$

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 dis-
cussed at length in Chapter 4.

Chapter 11

Pronominalization

At several points in the discussion above I have men-
tioned the matter of pronominalization. For reasons dis-
cussed elsewhere I do not want to become involved in the
theoretical discussion which is currently raging in transfor-
mational 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 mun 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]$_S$ [Musa COM ne
         horse pl   come quickly

        [birŋ mwa NPR ji lele]$_S$]$_S$

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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

$$\text{SD:} \quad \underline{S_i - X - [Y - S_i - Z]_S}$$
$$\phantom{\text{SD:} \quad} 1 \qquad 2 \qquad 3$$

$$\text{SC:} \quad 1 - 2 - 3 \implies 1 - \underline{a} - 3$$

Applying T11.1 to the second sentence of (4) will result in (3).

Regarding NP anaphoric pronominalization, P. Newman (1970)[1] 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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[1]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 ŋa 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   Hausa   Sura   Dera
            (NPR)   (Completive)   (Imperf)   (Perf)

            ga   ka   ga   kai

            yii   kin   yi

            wu   kun   wun   ku

     The third person forms, however, manifest no such cog-

nate 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'

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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 (kì-), 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)'

       kì-nyi   'his, her'   kì-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 kì-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 k̀i- 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 k̀imwa   'their father'

cf.   pup k̀i-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.[2] 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   mwáa

      Incompletive   ŋā   mwā

      Non-Present   ŋá   mwá

      Subjunctive   ŋà   mwà

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[2]Jungraithmayr (1963:278) suggests that __mwa__ is comparable to the Ibibio respective pronoun __mmɔ__.

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The third person singular forms, however, seem to call for more explanation. The form <u>nyi</u> 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 <u>nyi</u> which occurs elsewhere, the Non-Present and Completive Aspects manifest a different form <u>ki</u> 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:[3]

(14) na   mukà

      ka   kukà

      kikà

      ya   sukà

      ta

The -<u>kà</u> part of the Hausa relative perfective thus appears to be a possible candidate as a cognate of the third person singular <u>ki</u> in the Completive Aspect in Angas. Note that a similar phenomenon is true of Sura (Jungraithmayr 1964a:36);

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[3]This fact was pointed out to me by Russell Schuh.

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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 de-
rives 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 <u>appears</u> 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 per-
fect tonal paradigm:

(15)   ŋá   mú

       gá   wú

       yíí

       kí   mwá

It is not clear <u>why</u> 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, how-
ever, provide a degree of insight into the form an explana-
tion may take.

In Chapter 2 I discussed three rules in Angas which
delete person-aspect markers in the presence of an NP sub-
ject, 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 kí met
           he go   } 'Musa went'
      Musa met

      Musa kí ne bírŋ mwa
              see horse pl } 'Musa saw the horses'
      Musa ne bírŋ mwa

      Musa kí 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 discus-
sed above, historically Angas would have had forms for the
Completive Aspect something like the paradigm in (17):

(17) ŋa 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

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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 be-
ginning 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 Comple-
tive Aspect forms given in (19):

(19)   ŋáà   múù

        gáà   wúù

        yíì

        kì   mwáà

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.

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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 ⎫
     horse pl they go market ⎬ 'the horses will go
                               ⎭ to the market'
     birŋ mwa met kasuwa

     go   ɗa   mwa mwa met ka ⎫
     person that pl they go NEG ⎬ 'those people won't
                                ⎭ go'
     go ɗa mwa met ka

     gurm mwa mwa ne ɡi mwa ⎫
     person pl they see goat pl ⎬ 'the people saw the
                                ⎭ goats'
     gurm mwa ne ɡi 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)   ŋá́   mú́

       ɡá́   wú́

       yíí

       nyí́   sú́

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

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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

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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   ŋa   +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

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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	gá	gáà	gā	gà	gā	gā	gà	gà
		-masc	yíi	yîi	yīi	yìi	yīi	yíi	yìi	yìi
	+III		kí	kì	nyí	nyì	nyī	nyī	nyì	nyì
+pl	+I		mú	múù	mū	mù	mùn	mún	mú	mún
	+II		wú	wúù	wū	wù	wùn	wún	wú	wún
	+III		mwá	mwáà	mwā	mwà	mwà	mwá	mwá	mwá

(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.)

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The following examples illustrate the use of these pro-
nominal 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 mùn   '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	-gà	mi-gà
		-masc	fīi	-yii	mi-yii
	+III		kīnīi	kinīi	mi-nyī
+pl	+I		fūnū	-nú	mi-nú
	+II		fū	-wú	mi-wú
	+III		kìmwá	kìmwá	mi-mwá

These forms are all derived by phonological rule from the
sequences which are developed by the syntactic rules.

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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 - $[[X]_S]_{NP}$ - $([Io\text{-}NP_j]_{IO})$

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	dyíí	dyìi	dyīī	dyìi	n-dyii	dyíi	dyíi	dyíi
	-masc	dá	dà	dā	dà	n-dà	dá	dá	dá
+pl +III		dú	dù	dū	dù	n-dun	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	gwā	gwà	ŋ-gwàr	gwár	gwár	gwár
	-masc	pé	pè	pē	pè	m-pè	pé	pé	pé
+pl +III		nywé	nywè	nywē	nywè	n-nywè	nywé	nywé	nywé

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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$_i$ li tene dyii$_i$ met kasuwa   'Musa said that he
                NPR   will go to the
                                            market'

(38) Musa$_i$ li tene dyii$_i$ met kasuwa   'Musa said he had
                COM   gone to the
                                            market'

(39) Musa$_i$ li tene dyii$_i$ met kasuwa   'Musa said he
                INC   went to the
                                              market'

(40) Musa$_i$ li tene mwa le teko dyii$_i$
                            SUBJ   'Musa said they
                                          made him go to
    met kasuwa   the market'

(41) Musa$_i$ li tene mwa siit biɾŋ   'Musa said they
    n-dyii$_i$ bought a horse
    for-him   for him'

(42) Musa$_i$ li tene mwa ne dyii$_i$ 'Musa said they
                      him   saw him'

(43) Musa$_i$ li tene mwa ne birŋ f-dyii$_i$ 'Musa said they
                            of-him   saw his horse'

(44) Musa$_i$ li tene dyii$_i$ do mwa ye   'Musa said they
                  he   seized <u>him</u>'

(45) Musa li m-Bitrus$_i$ tene gwā$_i$ ji 'Musa told Bitrus
                         he   to come'

(46) Musa li m-Bitrus$_i$ tene mwa dyik 'Musa told Bitrus
                                          they should build
    lu ŋ-gwar$_i$ a hut for him'
       for-him

(47) Musa naŋ po-Bitrus$_i$ tene mwa   'Musa asked Bitrus
                                        if they had seen
    ne gwar$_i$-a?   him'
       him

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The actual shapes of the possessive forms which occur are
as follows:

(48)   alienable   inalienable independent

-pl +III +subj-id +masc   fídyĩí   -dyĩi   mì-dyíi

                  -masc   fádā   -dá   mì-dá

       +IO-ed   +masc   kìgwár   kìgwár   mì-gwár

                  -masc   kìpé   kìpé   mì-pé

+pl +III +subj-id   fúdū   -dú   mì-dú

       +IO-id   kìnywé   kìnywé   mì-nywé

where the designation [+subj-id] is used here as an abbrevia-
tion for subject-identity (i.e., identical in reference to
NP_i in (34)) and [+IO-id] is used as an abbreviation for
indirect object-identity (i.e., identical in reference to
NP_j 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 in-
alienable possession, and the possessive marker generally
used with nouns (kì-) 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 pro-
posed 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

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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

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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 al-
so 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 func-
tion 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 addi-
tion, however, it can be introduced transformationally to
common nouns in the proper environment.) So, given (49) be-
low, after pronominalization the result will be (50), which
will result ultimately in (51):

(49) Musa COM ne birŋ$_i$. Bitrus COM ne birŋ$_i$ ɓaŋ.[4]
$$\begin{bmatrix} +\text{noun} \\ +\text{III} \\ -\text{proper} \\ -\text{def} \end{bmatrix} \qquad\qquad \begin{bmatrix} +\text{noun} \\ +\text{III} \\ -\text{proper} \\ -\text{def} \end{bmatrix}$$

(50) Musa COM ne birŋ$_i$. Bitrus COM ne birŋ$_i$ ɓaŋ.
$$\begin{bmatrix} +\text{noun} \\ +\text{III} \\ -\text{proper} \\ -\text{def} \end{bmatrix} \qquad\qquad \begin{bmatrix} +\text{noun} \\ +\text{III} \\ -\text{proper} \\ +\text{def} \end{bmatrix}$$

_____

[4]The presence of conjunctions such as ɓaŋ is discussed
briefly in Chapter 12.

(51) Musa ne birŋ. Bitrus ne birŋ ɗa ɓaŋ.
       see horse   that also

Here the realization of the [+def] noun is the same nominal

form plus the definite determiner ɗa.

    The rules which produce (51) from (49) are the follow-

ing (with the understanding that the conditions relevant for

Tll.2 are not stated):

        Tll.2 Definitization

           SD: X - $noun_i$ - Y - $noun_i$ - Z

               1   2   3   4   5

           SC: 1 - 2 - 3 - 4 - 5 ⟹

               1 - 2 - 3 - 4 - 5
                         [+def]

        Tll.3 <u>the</u> Formation

           SD: X - noun - (aj) - (Pos-NP) - Y
                 [+def]
                   ————————————————
              1   2   3

           SC: 1 - 2 - 3 ⟹ 1 - 2 - <u>ɗa</u> - 3

           Condition: optional if the noun in
                     2 is [+proper]

The determiner ɗa will occur after any noun modifier intro-

duced by an embedded sentence in B18, and the rule will ap-

ply to nouns which are lexically [+def] as well as those

which are so marked by Tll.2. Proper nouns occur with ɗa,

but the occurrence is optional. Note the following example:

    (52) Musa ji ɗaŋ mwa ne Musa ɗa ka 'a (person named)
            but   Musa came, but they
                                 didn't see that
                                 (person named) Musa'

(51) above is a legitimate construction in Angas, but optionally a further rule may apply to the output of T11.3, resulting in (53) (if the input is (50)):

(53) Musa ne biɽŋ. Bitrus ne ko ɗa ɓaŋ.   'Musa saw a
                         one the   horse, and
                                           Bitrus saw
                                           that one
                                           also'

The rule may be formulated as follows:

        T11.4   <u>one</u> Formation (optional)

$$SD: \quad X - \underset{\begin{bmatrix} +def \\ -proper \end{bmatrix}}{noun} - Y - \underline{ɗa} - Z$$

$$\qquad\qquad 1 \qquad\quad 2 \qquad\qquad\quad 3$$

$$SC: \quad 1 - 2 - 3 \implies 1 - \underline{ko} - 3$$

I assume here that all the features of the noun are retained in the form <u>ko</u> which replaces it. Note that T11.4 cannot apply to proper nouns, sentences like (54) being ungrammatical:

(54) *Musa ji ɗaŋ mwa ne ko ɗa ka (cf. (52))

Finally, one additional rule may apply:

        T11.5 Pronominalization (optional)

$$SD: \quad X - \left\{ \begin{array}{c} noun \\ [+def] \\ \underline{ko} \end{array} \right\} - Y - (\underline{ɗa}) - Z$$

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

$$SC: \quad 1 - 2 - 3 - 4 \implies 1 - \underset{[+pro]}{2} - 4$$

This rule results in sentences like the following (assuming that the proper lexical form is provided by reference to the features contained in the noun or <u>ko</u>):

(55) Musa ne birŋ. Bitrus ne nyi ɓaŋ.   'Musa saw a
                                          horse, Bitrus
                                          saw it too'
                                          (cf. (53))

(56) Musa ji ɗaŋ 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 pro-
nominal form which occurs is always the noun ke 'head' fol-
lowed 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 them-
     child pl   of-them selves'

The underlying structures which I propose for such sentences
are the following:

(57) a) [Musa$_i$ COM ne Musa$_i$]$_S$

(58) a) [jep mwa$_i$ NPR ne jep mwa$_i$]$_S$

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$_i$ - TNS - Y - NP$_i$ - Z]$_S$
                   _____   ____
                            1   2   3

              SC: 1 - 2 - 3 $\Longrightarrow$ 1 - ke - Pos-2 - 3
                                                     [+pro]

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Assuming that the pronominalization rules outlined in this
chapter apply late in the order of rules, no special com-
ments are necessary regarding possessive forms as such. The
sequence Pos-NP will be generated by several different rules
discussed to date, and if pronominalization is in order the
NP will be replaced by the appropriate pronominal form as
discussed above.

Person-aspect markers for the most part need no further
discussion here either. TNS is chosen by B14; the feature
[+pl] is spread to TNS as required by certain NP subjects
by the rules of Chapter 6 (specifically T6.2). The only
fact regarding person which limits the choice in the lexicon
is that the person-aspect marker must carry the same person
and gender features as any NP subject with which it occurs.
This restriction may be formulated as follows:

T11.7 Person Spreading

$$\text{SD:} \quad [X - \begin{bmatrix} NP \\ \alpha I \\ \beta II \\ \gamma III \\ \delta masc \end{bmatrix} - TNS - Y]_S$$

$$1 \qquad 2 \qquad 3 \qquad 4$$

$$\text{SC:} \quad 1 - 2 - 3 - 4 \Longrightarrow 1 - 2 - 3 - 4 \\ \begin{bmatrix} \alpha I \\ \beta II \\ \gamma III \\ \delta masc \end{bmatrix}$$

The actual phonological shape is provided by the universal
feature-matching rule of lexical insertion on the second
lexical pass, coupled with the phonological rules which
determine the tonal patterns, as discussed above.

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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 occur-
rence for the particles is clear, as will be seen in the
discussion below.

A very common particle is _ɗi_, whose usage I have been
unable to predict totally at present. Two uses, however,

seem to be clear. First, d̲i̲ 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 nyì ne mwa d̂i   'Musa came to see
         come that he see them   them'

(2) wü ji teko mù met d̂i   'come so that we can
                 go   go!'

(3) Musa met teko nyì siit birŋ d̂i 'Musa went to buy a
                      buy horse   horse'

A second common use of d̲i̲, 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 d̲i̲ occurring at the
end of the last one. Note the following examples:

(4) Musa le d̂o, ko nin ki-nyì   'Musa shouted,
         raise voice mother of-him   and his mother
                                       heard and came'
    fot, ko ji d̂i
    hear   come

(5) go-loŋ dim, ko tu mat d̂a   'the chief came
    chief come   kill woman that   and killed the
                                      woman, and pulled
    ko sit cuk, ko karm nyi d̂i   out his knife and
       draw knife cut-up her   cut her up'

(6) dyem ne niŋ mwa ka, b̂e   'the child didn't
    child see cattle pl NEG   see the cattle,
                                      and he picked up
    d̂ap mb̂up d̂a, kwak mwa   the fish, poured
    pick-up fish that pour them   them back into
                                      the water, and be-
    n-d̂in-am,   ko maŋ shii   gan following the
    in-inside-water follow foot   trail of the
                                      cattle'
    ki-niŋ mwa d̂i
    of-cattle pl

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Unfortunately for this analysis, however, d̲i̲ 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
                                      took the body of
    shik ki-nsulk   n̲s̲u̲l̲k̲'
    body of-(particular bird)

(8) ɓe mwa sit birŋ, ɓe mwa   'and they untied the
    and they untie horse and they   horse and "hit the
                                     road"'
    te yit-ar
    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 fol-
lows the event in the main verb chronologically (note the
examples in Chapter 6). This may need to be the generali-
zation 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.[1]

---

[1]There are a number of occurrences of d̲i̲ in Angas text
collections (e.g., Foulkes 1915, Jungraithmayr 1964b) which
appear to be an incorrect analysis of a phonological pro-
cess. Angas has a phonological rule which adds a final [ɩ]
to closed stressed syllables in pre-pause position. For
example:

    (10) mwa met zhwal-ɩ #   'they went to the hills'
    (11) mwa po-met-ɩ #   'they are going'

In cases like (11), where the consonant closing the syllable
is [t], it is possible to mistakenly analyze the [ɩ] in final
position as [dɩ], 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 phe-
nomenon as the phonological process which it appears to me to
be.

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The second particle to discuss here also has been men-
tioned briefly above, viz. b̲e̲ (see Chapter 9). In the above
discussion b̲e̲ was described as the particle which occurs fol-
lowing a TIM phrase which is fronted for stylistic reasons
(see the discussion there for examples).

A second use of b̲e̲ is simply that of conjoining sen-
tences. Again, the use seems to show a sequential relation-
ship 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'
     b̲e̲ gò-loŋ yak mun
        chief seize us

(13) ko wap kí kit,   b̲e̲   'when tax-collecting is
     when taxes it finish   finished there is
                                  other work'
     shitcin ce mwa d̂ii
        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'
     b̲e̲ mwa ji mwa yal kí-mun
        they come they raise with-us

Here b̲e̲ 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 sen-
tence places that sentence as necessarily chronologically
subsequent to the events of the sentences preceding the b̲e̲.
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 d̠aka. d̠aka 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 d̠aka b̠e mwa li   home they
                        they say   said...'

     tene...
     that

(16) mat-ek   ce po-yak   'a pregnant woman
     woman-pregnancy a at-catching was catching fish.
                                     As she was catch-
     ki-mb̠up mwa. Ko nyi po-yak   ing fish ɛ shepherd
     of-fish pl   she   boy came and found
                                    her'
     ki-mb̠up mwa d̠aka b̠e dyèm-lep
                         child-shepherd

     ce ji   kat nyi.
     a come find her

It will be noted that d̠aka and b̠e co-occur in the above ex-
amples.

Regarding simple sentence connectives, in addition to
b̠e (as noted above) two others occur. These are ko and d̠aŋ.
Both are simple conjunctions, although at times d̠aŋ 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   b̠e we gak
          return home only

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(18) ko dyèm-mat   ɗa met   'the girl went on with
            child-woman that go   her cattle, and she
                                           came and found a large
            ki-niŋ   ki-nyi, ko   flat rock'
        with-cattle of-her

            dim kat lèr-pye   ce
            come find rock-white a

        (19) ɗaŋ ko gak po-cik   'now one was pounding'
            one one at-pounding

            ki-shiŋ
            of-mortar

        (20) ɗaŋ we mwa naŋ ŋan-e?   'but who will call me?'
            who pl call me

ɗaŋ appears to occur only sentence-initially in such construc-

tions. In conjoined NPs however (see Chapter 4), its use

denotes the last of a series:

        (21) mu kat Musa ki-Bitrus ɗaŋ 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 ki-niŋ   mwa, mwa 'he enumerated the
            count name of-cattle pl   they   names of the cattle,
                                             they were many,
            duŋ, mwa ɗim   they were completed'
            much they finish

    Finally, there are two sentence-final conjunctions

which denote the fact that the activity denoted by the sen-

tence in which they occur is being repeated. The form kwat

appears when the same subject is repeating the activity,

the form ɓaŋ occurs when a different subject is involved.

Note the following:

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(23) ko Musa   ru   n-wòk   'when Musa reached
              reach in-compound   home, he returned
                                        to the market
     ɓe be   met kasuwa kwat   again'
         return go market again

(24) ko Musa be   n-wòk   ɓe   'when Musa returned
             return in-compound   home, Bitrus re-
                                        turned home also'
     Bitrus be n-wòk   ɓaŋ
                       also

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Base Rules

B1. $\#S\# \rightarrow \#\begin{Bmatrix} S_V & \begin{Bmatrix}(IMP)\\(Q)(E)\end{Bmatrix} \\ S_N & (Q)(E) \end{Bmatrix} (NEG)\#$ p. 34

B2. $S_V \rightarrow NP - VP - (ADV)$ p. 25

B3. $S_N \rightarrow NP - \begin{Bmatrix} NP \\ ADV \\ POS \\ aj \\ num \end{Bmatrix} - (ADV)$ p. 29

B4. $POS \rightarrow \underline{mi}\text{-}NP$ p. 29

B5. $ADV \rightarrow (MAN)(ACC)(LOC)*(TIM)(INST)(PUR)$ p. 31

B6. $ACC \rightarrow \underline{kí}\text{-}NP$ p.121

B7. $LOC \rightarrow prep\text{-}NP$ p.123

B8. $MAN \rightarrow \begin{Bmatrix} man \\ aj \\ num \end{Bmatrix}$ p.124

B9. $TIM \rightarrow \begin{Bmatrix} \begin{Bmatrix}\underline{kadaŋ}\\\underline{ko}\end{Bmatrix}_{tim} + \#S\# \end{Bmatrix}$ p.131

B10. $INST \rightarrow \begin{Bmatrix}\underline{shi}\\\underline{yii}\end{Bmatrix} + NP$ p.132

B11. $PUR \rightarrow \begin{Bmatrix}\underline{mpii} + NP \\ \underline{teko} + \#S\#\end{Bmatrix}$ p.134

B12. $VP \rightarrow TNS - Vb - \left(\begin{Bmatrix}NP\\PO\end{Bmatrix}\right) - (IO)$ p. 45

B13. IO → Io-NP   p. 45

B14. TNS → $\begin{Bmatrix} NPR \\ COM \\ INC \end{Bmatrix}$ p. 41

B15. PO → <u>po</u>-NP   p. 45

B16. NP → $\begin{Bmatrix} NOM(ACC)* \\ \#S\# \end{Bmatrix}$ p. 53

B17. NOM → $\begin{Bmatrix} NOUN \\ pn \end{Bmatrix}$ p. 53

B18. NOUN → noun (#S#)(det)   p. 53

B19. noun → N* (pl)   p. 62

Transformational Rules

T2.1   COM-Deletion (optional)   p. 21

SD: [X - NP - COM - Y]$_S$
                $\begin{bmatrix} +III \\ -pl \end{bmatrix}$
     _____
        1   2   3

SC: 1 - 2 - 3 ⟹ 1 - 3

Condition: 3 ≠ <u>cep</u>

T2.2   NPR-Deletion (optional)   p. 21

SD: [X - NP -   NPR   - Y]$_S$
                $\begin{Bmatrix} [-III] \\ \begin{bmatrix} +III \\ +pl \end{bmatrix} \end{Bmatrix}$
     _____
        1   2   3

SC: 1 - 2 - 3 ⟹ 1 - 3

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T2.3   SUBJ-Deletion   p. 21

    SD: $[X - NP - SUBJ - Y]_S$

                    1   2   3

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

T2.4   Sentence Emphasis   p. 34

    SD: $\begin{Bmatrix} S_V \\ S_N \end{Bmatrix} - E - X$

         1   2   3

    SC: $1 - 2 - 3 \Rightarrow 1 - \underline{do} \begin{Bmatrix} \underline{da} \\ \underline{nyii} \end{Bmatrix} - 3$

T4.1   Relativization   p. 58

    SD: $W - NP - X - \# - Y - NP - Z - \#$

        1   2   3   4   5   6   7   8

    SC: $1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 \Rightarrow$

        $1 - 2 - 3 - 5 - \underline{komeye} - \underset{[+\text{pro}]}{6} - 7$

    Condition: 2 and 6 are identical in reference

T4.2   Pro-Deletion (optional)   p. 59

    SD: $X - \underline{komeye} - \underset{[+\text{pro}]}{NP} - Y$

                      1   2   3

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

T4.3   Rel-Deletion (optional)   p. 60

    SD: $X - \underline{komeye} - \begin{Bmatrix} \text{aj} \\ \text{num} \\ \text{TNS} \end{Bmatrix} - Y$

        1   2   3   4

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

    Condition: obligatory if 3 is [+pl]

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T4.4   Adjective Movement   p. 64

    SD: $[X - (det) - pl - aj - Y]_{NP}$

          1   2   3   4

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

T4.5   Possessive Formation (optional)   p. 69

    SD: $X - NP - \underline{komeye} - noun - ACC - Y$

            1   2   3   4   5

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

T4.6   Possessive Movement   p. 69

    SD: $[X - (det) - pl - Pos-NP - Y]_{NP}$

          1   2   3   4

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

T5.1   Object Equi-NP Deletion   p. 82

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

        1 2   3   4   5

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

    Condition: 2 and 4 are identical in reference

T5.2   Verbal Nominalization   p. 82

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

           1   2   3   4

    SC: $1 - 2 - 3 - 4 \implies 1 - \underset{[+VN]}{3} - 4$

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T5.3   Pos-Insertion   p. 83

$$SD: \quad [W - [X - Vb - NP - Y]_{NP} - Z]_S$$
$$\qquad\qquad [+VN]$$

$$\underline{\qquad\qquad 1 \qquad\qquad} \quad \underline{\qquad 2 \qquad}$$

SC: 1 - 2 $\Longrightarrow$ 1 - Pos-2

Condition: optional if X in 1 is noun

T5.4   Subject Equi-NP Deletion   p. 86

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

$$\quad 1 \qquad\qquad \underline{\qquad 2 \qquad} \qquad\qquad 3 \quad 4$$

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

Condition: 1 and 3 are identical in reference

T5.5   Unspecified Subject Deletion   p. 87

$$SD: \quad [[[X - \underline{go\ ce} - Y]_S]_{NP} - VP - Z]_S$$

$$\qquad\quad 1 \qquad 2 \qquad \underline{\qquad 3 \qquad}$$

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

T5.6   Subject Movement   p. 93

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

$$\quad 1 \quad 2 \quad \underline{\quad 3 \quad} 4 \underline{\quad 5 \quad}$$

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

Condition: 1 $\neq$ $\underline{teko}$ or $\underline{tene}$

T5.7   Plural Deletion (optional)   p. 100

$$SD: \quad X - pl - \underline{komeye} - Y$$

$$\quad 1 \quad 2 \quad \underline{\quad 3 \quad}$$

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

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T5.8   Compound Rule   p.101

$$\text{SD:} \quad [X - \text{noun} - \underset{[+VN]}{\underline{Vb}} - Y]_{NP}$$

$$\phantom{\text{SD:} \quad [X -} 1 \quad\quad 2 \quad\quad\quad 3$$

$$\text{SC:} \quad 1 - 2 - 3 \implies 1 - 2 - \underset{[+TL]}{3}$$

T5.9   Rel Movement (optional)   p. 101

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

$$\phantom{\text{SD:} \quad [} 1 \quad\quad\quad 2 \quad\quad\quad\quad 3 \quad\quad 4$$

$$\text{SC:} \quad 1 - 2 - 3 - 4 \implies 1 - 3 - 2 - 4$$

T5.10   [+pro] LOC Deletion   p. 107

$$\text{SD:} \quad [X - \underset{[+VN]}{\underline{[Vb} - Y]_{VP} - \underset{[+pro]}{\underline{LOC}}]_{NP}$$

$$\phantom{\text{SD:} \quad [X -} 1 \quad\quad\quad\quad\quad 2$$

$$\text{SC:} \quad 1 - 2 \implies 1$$

T5.12   Compounding Rule (optional)[1]   p. 117

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

$$\phantom{\text{SD:} \quad [} 1 \quad\quad 2 \quad\quad 3 \quad\quad 4 \quad\quad 5$$

$$\text{SC:} \quad 1 - 2 - 3 - 4 - 5 \implies \underset{[+TL]}{2} - 4$$

T6.1   Pronoun Pluralization   p. 122

$$\text{SD:} \quad X - \underset{[+pro]}{\underline{NOM}} - \underline{\text{kí-NP}} - Y$$

$$\phantom{\text{SD:} \quad X -} 1 \quad\quad 2 \quad\quad\quad 3$$

$$\text{SC:} \quad 1 - 2 - 3 \implies 1 - \underset{[+pl]}{2} - 3$$

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T6.2   PA Pluralization   p. 122

$$\text{SD: } [X - \begin{Bmatrix} \text{NOM} \\ [+\text{pl}] \\ \text{pl} \\ [\text{NOM} - \text{ACC}]_{NP} \end{Bmatrix} - Y - \text{TNS} - Z]_S$$

$$\underline{\hspace{5.5cm}}$$
$$\qquad\qquad 1 \qquad\qquad 2 \quad 3$$

$$\text{SC: } 1 - 2 - 3 \implies 1 - \underset{[+\text{pl}]}{2} - 3$$

T6.3   Feature-Spreading   p. 125

$$\text{SD: } [X - \text{noun} - \text{pl} - Y - \begin{Bmatrix} \text{aj} \\ \text{Vb} \end{Bmatrix} - Z]_S$$

$$\underline{\hspace{5cm}}$$
$$\qquad\qquad\quad 1 \qquad\quad 2 \quad 3$$

$$\text{SC: } 1 - 2 - 3 \implies 1 - \underset{[+\text{pl}]}{2} - 3$$

T6.4   Adjective Reduplication   p. 125

$$\text{SD: } X - \underset{[+\text{pl}]}{\text{aj}} - Y$$

$$\qquad\quad 1 \quad\ \ 2 \qquad 3$$

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

T7.1   IMP Deletion   p. 144

$$\text{SD: } [X - \underset{[+\text{II}]}{\text{INC}} - Y - \text{IMP} - Z]_S$$

$$\qquad\quad 1 \quad\ \ 2 \quad\ \ 3 \quad\ \ 4 \quad\ \ 5$$

$$\text{SC: } 1 - 2 - 3 - 4 - 5 \implies 1 - (2) - 3 - 5$$

T8.1   Complementation   p. 149

$$\text{SD: } [X - \underset{[+\text{speak}]}{\text{Vb}} - \# \text{ S } \# - Y]_S$$

$$\qquad\quad 1 \qquad 2 \qquad 3\ 4\ 5 \quad 6$$

$$\text{SC: } 1 - 2 - 3 - 4 - 5 - 6 \implies 1 - 2 - \underline{\text{tene}} - 4 - 6$$

T8.2   Indirect Object Movement   p. 151

    SD: X - <u>tene</u> - Y - IO - Z

         1   2   3   4

    SC: 1 - 2 - 3 - 4 ⟹ 1 - 3 - 2 - 4

T9.1   Topicalization (optional)   p. 153

    SD: [X - NP - TNS - Vb - NP - Y]$_S$

         1   2   3   4

    SC: 1 - 2 - 3 - 4 ⟹ 1 - 3 - 2 - 3 - 4
                                     [+pro]

T9.2   VP Emphasis   p. 160

    SD: [X - TNS - Vb - (NP) - (IO) - Y]$_S$
                  [+e]
         1   2   3   4   5

    SC: 1 - 2 - 3 - 4 - 5 ⟹ 3 - 4 - <u>do</u> - 1 - <u>cin</u> - 5
                               [+VN]

T9.3   TIM-fronting (optional)   p. 163

    SD: [X - TIM - Y]$_S$
         1   2   3

    SC: 1 - 2 - 3 ⟹ 2 - <u>be</u> - 1 - 3

    Condition: obligatory if TIM is $\begin{Bmatrix} \underline{ko} \\ \underline{kadan} \end{Bmatrix}$ + #S#

T9.4   Pos Insertion   p. 168

    SD: [X -   noun   - noun   - Y]$_{noun}$
               [-inal]   [+pro]

                 noun   - noun
               [+inal] $\begin{bmatrix} +pro \\ +III \end{bmatrix}$

         1   2   3   4

    SC: 1 - 2 - 3 - 4 ⟹ 1 - 2 - Pos-3 - 4

                             222

T9.5   NP Emphasis

$$SD: \quad [\ X - \begin{Bmatrix} \underline{ki\text{-}} \\ \underline{shi\text{-}} \\ \underline{mpii\text{-}} \\ \underline{Io} \end{Bmatrix} - \underset{[+e]}{NP} - Y]_S$$

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

$$SC: \quad 1 - 2 - 3 - 4 \implies 3 - \underline{do} - 1 - 2 - \underset{\begin{bmatrix} -e \\ -wh \\ +pro \end{bmatrix}}{3} - 4$$

T9.6   Phrase Emphasis

$$SD: \quad [X - \begin{Bmatrix} INST \\ PUR \\ TIM \end{Bmatrix} - Y]_S$$
$$\qquad\qquad\qquad [+e]$$
$$\qquad\qquad 1 \qquad 2 \qquad 3$$

$$SC: \quad 1 - 2 - 3 \implies 2 - \underline{do} - 1 - 3$$

T9.7   LOC Emphasis

$$SD: \quad [X - prep\text{-}NP - Y]_S$$
$$\qquad\qquad\qquad [+e]$$
$$\qquad\qquad 1 \quad 2 \quad 3 \quad 4$$

$$SC: \quad 1 - 2 - 3 - 4 \implies 3 - \underline{do} - 1 - 4$$

T9.8   Subject Emphasis

$$SD: \quad [X - \underset{[+e]}{NP} - VP - Y]_S$$
$$\qquad\qquad 1 \quad 2 \qquad 3 \quad 4$$

$$SC: \quad 1 - 2 - 3 - 4 \implies 2 - \underline{do} - 1 - 3 - 4$$

T9.9   Object Emphasis I

$$SD: \quad [X - Vb - \underset{[+e]}{NP} - Y]_S$$
$$\qquad\qquad 1 \quad 2 \qquad 3 \quad 4$$

$$SC: \quad 1 - 2 - 3 - 4 \implies 3 - \underline{do} - 1 - 2 - 4$$

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T9.10   Object Emphasis II   p. 171

SD: [X — Vb — noun — Y]$_S$
              $\begin{bmatrix} +loc \\ +e \end{bmatrix}$

          1   2   3   4

SC: 1 - 2 - 3 - 4 $\Longrightarrow$ 3 - $\underline{do}$ - 1 - 2 - 3 - 4
                                              $\begin{bmatrix} -e \\ -wh \\ +pro \end{bmatrix}$

T9.11 $\underline{daŋ}$ Insertion   p. 172

SD: $\left\{ \begin{array}{l} \underline{nine} \\ \underline{ciraŋ} \\ PUR \\ [+e] \end{array} \right\}$ — $\underline{do}$ — X

               1   2   3

SC: 1 - 2 - 3 $\Longrightarrow$ 1 - $\underline{daŋ}$ - 2 - 3

T10.1 $\underline{mante}$ Movement   p. 175

SD: [X — $\underline{mante}$ $\underline{kat}$]$_S$

          1   2   3

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

T10.2   wh Emphasis   p. 176

SD: [X — NP — Y — NEG]$_S$
          [+wh]   ‾‾‾‾‾‾‾

          1   2   3

SC: 1 - 2 - 3 $\Longrightarrow$ 1 - ? - 3
                                      [+e]

T11.1   Sentence Pronominalization   p. 181

SD: S$_i$ — X — [Y — S$_i$ — Z]$_S$
        ‾‾‾‾‾‾‾‾‾‾
               1   2   3

SC: 1 - 2 - 3 $\Longrightarrow$ 1 - $\underline{a}$ - 3

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T11.2   Definitization

SD: $X - noun_i - Y - noun_i - Z$
      1   2   3   4   5

SC: $1 - 2 - 3 - 4 - 5 \implies 1 - 2 - 3 - \underset{[+def]}{4} - 5$

T11.3   the Formation

SD: $X - \underset{[+def]}{noun} - (aj) - (Pos\text{-}NP) - Y$
      1   2   3

SC: $1 - 2 - 3 \implies 1 - 2 - \underline{da} - 3$

Condition: optional if the noun in 2 is [+proper]

T11.4   one Formation (optional)

SD: $X - \underset{\begin{bmatrix}+def\\-proper\end{bmatrix}}{noun} - Y - \underline{da} - Z$
      1   2   3

SC: $1 - 2 - 3 \implies 1 - \underline{ko} - 3$

T11.5   Pronominalization (optional)

SD: $X - \left\{ \begin{matrix} noun \\ [+def] \\ \underline{ko} \end{matrix} \right\} - Y - (\underline{da}) - Z$
      1   2   3   4

SC: $1 - 2 - 3 - 4 \implies 1 - \underset{[+pro]}{2} - 4$

T11.6   Reflexivization

SD: $[X - NP_i - TNS - Y - NP_i - Z]_S$
                1   2   3

SC: $1 - 2 - 3 \implies 1 - \underline{ke} - Pos\text{-}2 - \underset{[+pro]}{3}$

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

$$\begin{bmatrix} \alpha\,\text{I} \\ \beta\,\text{II} \\ \gamma\,\text{III} \\ \delta\,\text{masc} \end{bmatrix}$$

     1   2   3   4

SC: $1 - 2 - 3 - 4 \implies 1 - 2 - \begin{matrix} 3 \\ \begin{bmatrix} \alpha\,\text{I} \\ \beta\,\text{II} \\ \gamma\,\text{III} \\ \delta\,\text{masc} \end{bmatrix} \end{matrix} - 4$

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