THE DEEP STRUCTURE OF THE SENTENCE IN SARA-NGAMBAY DIALOGUES

James Edward Thayer
THE DEEP STRUCTURE
OF THE SENTENCE
IN SARA-NGAMBAY
DIALOGUES
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THE DEEP STRUCTURE OF THE SENTENCE IN SARA-NGAMBAY DIALOGUES

Including a description of Phrase, Clause, and Paragraph

James Edward Thayer

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Q  Question  subj  Subject
Q̄  Counter Question  T  Time, Tense
qual  Qualifier  t  Time
quan  Quantifier  t=  same time in both CLs
t#  different time in CLs
RA  Relator-Axis  TEMP  Temporal
REM  Remark  TERM  Termination
RESP  Response  S  Subject  Thot  Thought
 TM  Temporal Margin
semtrans  Semitransitive  tr  Transitive
Ser  Seriated  U  Universal set
SP  Speech
logical symbols:
-  Negation, Counter  >>  Purpose
^  Conjoining  *  Not equivalent, exclusive disjunction
>  Implication  v  Inclusive disjunction
⇒  Cause  ↔  Reason
+
//  plus
/
//  phonemic representation
or
~  nasalization
( )  explanatory comment  "  synonym
[ ]  added information  '  antonym
1,2,3  persons, 1st, 2nd, 3rd  <  previous
< >  orthographic represent.  >  future
[ ]  phonetic representation  vs.  versus
PREFACE

In April of 1966 we welcomed a speaker of Sara-Ngambay (Chad, Africa) to Bloomington, Indiana. Our immediate task was to provide teaching materials in his language for the summer Peace Corps training program. We chose to let him translate from the French of the Hausa-French manual produced by E. Stevick of the Foreign Service Institute. This was mimeographed and entitled "Basic Sara"; it consisted of 98 one-page lessons in Ngambay with translation into English. During the summer we continued by having the speaker write out his own brief descriptions of certain cultural topics. These totaled forty in all, and when accompanied by an English translation and a dialogue based on each lesson, appeared in mimeographed form as the "Intermediate Course" in September 1966.

After a change of linguists, there was an attempt to produce a full size (300 pages) beginning course. Some of this was produced in rough draft by May of 1967, but was never mimeographed in final form because the informant was no longer available to check it.

In the years between 1967 and 1969, an attempt was made by this author to analyze the text material from the "Intermediate and Basic Courses"; but without recordings, adequate dictionary, and informant, only limited progress was made. This consisted mainly of a literal word-for-word translation of the text material and a preliminary tagmemic analysis of the Intermediate Course texts. The dictionaries of the other major dialects, Majingay and Mbay, were of limited use, as were the abbreviated descriptions of the grammars contained in them. The only grammar of Ngambay available in printed form at the time was that of Père Charles Vandame. It was very helpful, as was his learning manual. Pasteur Victor Veary's grammatical summary in his French-Ngambay dictionary also provided some insights from a longer exposure and more involved contact with the problems of the translation of the New Testament.

In the fall of 1969 we were able to make contact in Paris, France, with two members of a group of scholars who call themselves Afrique et Langage. Pères Maurice Fournier and Joseph Fortier provided us with encouragement and all the materials of Père Bernard Duperray, which included a dictionary, grammar, and many other manuscripts, and the tapes of Père Vandame.

In Moundou, Chad, we were able finally to meet Doreen Barrie and through her, Victor Veary. Miss Barrie and her fellow workers provided us with copies of the Veary grammar and French-Ngambay dictionary.

Our task in Chad, when we arrived in December of 1969, was to produce a full-size beginning manual for learning Sara-Ngambay. For this task my wife chose to collect texts on particular in-
Preface

dividual and group occasions, while I elicited verbally (in French) dialogues for particular cultural situations united by particular themes so as to assure some continuity to the lessons. My wife has since edited the more than 130 dialogues that we gathered into a manual of 50 lessons accompanied by phonological and grammatical descriptions.

The question, "What contribution to the study of the Sara languages can be made by those who have produced some learning material in situ?", could be answered in part by reviewing the work in progress. At that time it included a retyping of the Veary dictionary with major restructuring of the format. Recently in Fort Archambault, Pères Pierre Palayer and Maurice Fournier have completed an extensive grammar and a learning manual of the Majingay-Sar subdialect, and are continuing to revise the large Majingay dictionary of Pères Hallaire and Robinne. Père Fortier has just published his revised Mbay grammar.

One task that would benefit future work in all three major dialects (Majingay, Mbay, and Ngambay) would be a concordance of the text materials available in each. In some ways this is a mechanical process, but it would be helpful for the production of reliable and consistent dictionaries and grammatical studies. We are in the process of overseeing the production of such a concordance for the Ngambay New Testament, which has been widely distributed and is currently the major piece of literature in the language. (From a scientific viewpoint, one might question the relationship between the New Testament Ngambay and the Ngambay spoken currently.)

Possibly the most useful scientific work would be dialect surveys and a historical reconstruction of Proto-Sara from the dozen dialects that are currently recognized. My wife and I are collecting information for such a study, although some preliminary work has been done already by L. Angheben, B. Duperray, J. Robinne, and co-workers. This will be my wife's area of concentration for her dissertation during our second trip, hopefully in 1974.

However, in reviewing the grammars that are available, there are several shortcomings that appear. One is the fact that, although work has been done in the Ngambay language for many years, there is still only one major published grammar available—that of Vandame (1963). This grammar emphasizes heavily the phonological and morphological levels. It also represents apparently a rather limited type or types of text material.

One contribution to be made lies, then, in providing a grammar or grammatical description which covers the higher levels of syn-
Preface

tax from corpus or text material that is more representative of the range of speech forms. The description should be in a format which can be used to compare Ngambay with Majingay and Mbay. The present monograph is intended as a step toward that goal.

[This monograph is a slightly revised version of the author's doctoral dissertation prepared at Indiana University in 1973.]
1. INTRODUCTION

One of the most prominent landmarks in the northern heart of Africa is Lake Chad. It forms the center of Chad's western border with Niger, Nigeria, and Cameroun.

Sara is the common family name given to a group of languages which lie to the south-southeast of Lake Chad some 500 kilometers. The prefectures of the Republique du Tchad in which most of the Sara speakers live are Logone Occidental, Logone Oriental, and Moyen Chari. The exact area is located between 7°30' and 9°30' north latitude and between 15° and 19° east longitude, with some older languages of the family located as far north as 12° north latitude. The speakers of Sara-Ngambay are estimated to number between 200,000 and 300,000 and are located for the most part north and west of the western branch of the Logone River. The regional center is the city of Moundou with a population of about 35,000.

1.1 Linguistic description and classification. The first linguistic information on the Sara was published in 1897 by Delafosse. He gave about twenty pages of grammatical description followed by six pages of vocabulary and four pages of comparisons between Sara and Baguirmi (located to the north). There are a number of vocabularies written in the thirties by various people with some need for contact with the Sara people in the carrying out of their administrative duties. These often include some attempt to classify the various groups. It wasn't until the sixties that the intensive studies of the individual languages which were done in the fifties began to appear in print; also in the past decade the broad classifications of African languages were published.

Greenberg's classification, The Languages of Africa (1966), includes the Sara-Ngambay ("gamba") under II. NILO-SAHARAN, E. Chari-Nile, 2. Central Sudanic. (This corresponds to the Bongo-Bagirmi of Tucker and Bryan [1966], and the group Chari-Ouaddaien of Meillet.)

A comparison of the first 200 words of the Swadesh list for Ngambay and the two other major dialects/languages, Mbay and Majingay, indicates between 89 and 96 percent were cognates (Thayer 1973:4).

1.2 Phonemes. The phonemes of Sara-Ngambay are, according to the analysis of Linda Thayer:
Introduction

p  t  k  l  u
b  d  j  g  e  o
mb  nd  nj  ng  (c)  ċ
b'  d'  a
m  n  ŋ  ŋ
w  s  y  h
r
l

For a fuller description of the phonology, see Vandame (1963), Thayer and Thayer (1971, Volume III), and Thayer (1972).

1.3 Orthography. The orthography which is currently used is that which has been recognized as the standard Ngambay orthography by the Chadian government. It is the third in a succession of orthographies used in various editions of the New Testament. It is not strictly phonemic, nor is it the only orthography utilized by scholars (see Vandame).

There are three phonemic tones, which are not marked in the orthography except in a few cases where homophones are distinguished by tone. Borrowing from French orthography, é is used for /e/ and è for /ɛ/. (It happens that /ɛ/ often carries a high tone and that /ɛ/ often carries a low tone.) The symbols o and ō are also used to differentiate close and open o (/o/ and /ɔ/). The doubling of e and o in certain common words is for facility in reading. Where eee occurs (in nouns or in verbs), the final ee is a suffixed third person pronoun.

Further orthographic modifications of the phonemes are as follows:

bb = /b/
bd = /d/
nm = /n/

in noninitial position; that is, V+n indicates a nasalized vowel,
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but V+nn indicates an oral vowel followed by /n/.

\[ c = /s/, \]

that is, [s] or [\textipa{\textsh{s}}] according to environment and subdialect.

1.4 Morphology. Words are composed, in general, of a single one- or two-syllable morpheme. (For compound words, see below.)

There are a number of very frequent single-morpheme function words which are not fully distinguished in the orthography. The three most troublesome cases are: (1) The distinction among [\textipa{\textgo{\textae}}, \textipa{\textgo{\textae}}, and \textipa{\textgo{\textae}}], which are written, respectively, ge, ge, and ge. (The last is the least frequent of the three and occurs usually after a motion verb, whereas its very frequent high-tone counterpart occurs where one would expect a relative pronoun or modification marker. The low-tone form is the preposition or conjunction ge.) (2) The distinction between [\textipa{\texti\textae\textae}] and [\textipa{\textv\textae\textae}], marked as Î‘e and Î‘e in the New Testament orthography, is not necessary here; both are here written as Î‘e. (The former is found in the position of determiner at the end of a phrase, and the latter between object and possessor to indicate possession.) (3) The distinction among [nå], [nå], and [nå], which are written as nå, ne, and nå. (The first is the conjunction 'but'; the second and third are the preposition 'with' and the noun 'thing', respectively. Here the first is marked by a low tone, nå; the latter two are not distinguished, ne, ne.)

In this work the orthography is progressively simplified. In Chapter 2 all morphemes are separated and all grammatical tones marked; in Chapter 3 only those affecting the clause level are marked. In Chapters 4 and 5 a hyphen is used in place of an apostrophe in the standard orthography to separate pronoun prefixes and suffixes of position. Grammatical tone is marked, and vowel quality accents are ignored, as is lexical tone (except where it is necessary and in borrowings from French).

There are a large number of nouns derived from clauses (Cl= W), which are not hyphenated but are usually written either separated (N V N) or as one word (NVN).

- kel ndoo ne = school
- loo ndogo neje = store
- njera kula = laborer

Other nouns consist of two words which might be hyphenated but
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which are usually separated even though they must be considered as a semantic unit. (Whether they should be treated structurally as a word [N] or noun phrase [N N, Phr=W] [Head plus Attributive] is difficult to say.)

kaar kei chest house = wall
kaar kag chest tree = trunk
ngo mann calabash water = cup
ngo muru calabash mush = bowl
ngonn dingam child man/male = boy
ngonn kas child red = baby
ngonn reou small.one road = path
ngokom child mother.my = sibling

Notice the following different kinds of constructions:

ngonn denne child female = girl
ngonn gé denne child who.be female = sister, cousin
ngonn lè denne child of female = daughter’s child
denne woman/female/wife
ngonn bbeu small.one city = village
ngonnji small.one hand = finger

These are numerous enough to be worthy of a separate study. Numerals may also exhibit similar structure:

dog gir-ee joo ten behind-it two = twelve
jinaikara hand.remain.one = nine

There are numerous borrowings from French and Arabic, e.g., leçon, réchaud, tasse, and sabon, sai, maktub.
Introduction

1.5 **Syntactic analysis.** I have chosen to begin a description of the higher levels of syntax by analyzing the dialogue materials gathered for the learning manual (some 130 dialogues and variations). As for the use and value of text material and analyses based on them, I quote from Hymes (1972:420):

> It should be noted that texts were also valued as an opportunity to discover forms which the linguist might not think to elicit, or be able to, and as an independent test of the adequacy of his analysis.

What form of analysis is most suitable? The other published grammars (I include those of Mbay and Sara-Majingay) are all descriptive in the broadest sense of the word. To my knowledge, there are three previous authors of grammatical descriptions of Sara-Ngambay (Bernard Duperray, Charles Vandame, and Victor Veary); each has made a substantial contribution to the knowledge of the language, even though only one of them (Vandame) has achieved formal recognition and distribution through publication of his work in professional circles. I have found them valuable for learning the language but lacking a formal system of classification of grammatical categories that could be applied to an analysis of the full range of forms encountered in texts (especially the clause and sentence).

The Summer Institute of Linguistics (SIL) in preparing grammatical descriptions for many hundreds of languages, has developed a systematic form of description (formulas) which is based on the concept of levels. This has been extended lately to such levels as sentence, paragraph, and discourse. The application of this system and its major concept, the tagmeme, has not always been consistent, with the result that even within the tagmemic literature there exists a wide range of descriptions that are sometimes difficult to compare.

On the other hand, the formalization of descriptions known as generative-transformational grammar (rules), although providing a tighter formalism, often demands a far greater knowledge of the particular language than most linguists attain. One result is that it has been used to describe far fewer languages, and another is that it is used, very often, selectively within a given language. In its present state it has not been extended to cover more inclusive forms such as the paragraph or discourse, and has only partially distinguished the clause and sentence (multiclause) in terms of "dominance".

1.6 **Summary.** This chapter has been a very brief introduction to the classification, orthography, phonological, morphological, and word-level descriptions. (The reader may refer to Volume III of 50
Introduction

Lessons in Sara-Ngambay for a full case grammar written for pedagogical purposes.) We have discussed our choice of format only briefly.

In Chapters 2 and 3 we will describe incompletely and sometimes inconsistently on the basis of the dialogues (our texts) alone the levels of phrase and clause in a tagmemic notation. In each chapter there is some discussion of the differences in application of the tagmemic system, primarily in order to prepare the reader for the examples of the following chapters.

In Chapter 4 we will focus on the utilization of the recent developments from the tagmemic approach to describe the surface structure of sentences and the symbolic representations of interclausal relations. There are some remarks to be made in Chapter 5 about paragraph and discourse levels—in particular, comments as to the possible application of the symbolic representation of sentence structure to describe the internal units of dialogues.
2. PHRASE STRUCTURE

2.0 Introduction. In the assumed framework of autonomous levels of grammatical structure, the phrase occupies that level whose internal units are words (the next lower level) and which forms the internal units of the next more comprehensive or inclusive clause level (the next higher level). Two detailed approaches to the tagmemic analysis of the phrase level have been proposed in the past decade (Longacre 1964; Cook 1969).

Cook (1969:91-116) discusses the tagmemic definition of phrase. He shows also how the tagmemic theory attempts to make more precise the traditional definition of phrase. This is done by treating infinitive and participle constructions as embedded clauses rather than as phrases, and including also the constructions formed by single words with optional modifiers as phrases. (Justification for the latter is based on Pike's treatment of these as "potential phrases".) Finally, he concludes with a relabeling of Hockett's version of Bloomfield's classification of phrase types into Exocentric and Endocentric, and the subdivision of the latter into Coordinate and Articulative (Hockett 1958:181-89; Bloomfield 1933:194-96).

Longacre's procedural definition of phrase (1964:74-100) is based on the "same" criteria as Hockett's, but the types are classified as relator-axis (exocentric) and double-centered or single-centered (endocentric) in terms of their structure. He further classifies them in terms of their semantic meanings as relational, linkage, or modification.

In the development of the analysis of the various types of phrases, Cook discusses each separately under the labels "Relator-Axis Phrases, Multiple Head Phrases, and Head-Modifier Phrases" (a combination of Hockett's and Longacre's terminology). Longacre's work emphasizes the procedures of, and criteria for, selecting, identifying, and classifying phrase types and their internal units.

Our working definition of a phrase, following the tagmemic model (that is the one used in our discovery procedure), has been based on the comparison of the fillers of various slots on the clause level. (By this we mean those traditionally known as subject, predicate, object, complement, temporal, locative, and manner -- the residue.)

Starting with clauses whose one and only verb is the verb 'to be', the subject, when it consisted of more than one word, was easily recognized. The other starting point is the locative that follows the intransitive verbs of motion. From those more isolated and clear-cut instances, the rest of the fillers of the various clause-level tagmemes were identified. An attempt was made to classify the various types of fillers according to their internal structure for each clause type. This resulted in the recognition of two general types of phrases: modified noun phrases and prepositional phrases. Some of the other types present that are most universally recognizable are phrases indicating apposition, coordination, and possession.
Phrase Structure

Cook (1969) has given individual descriptions of each of his three main types: "Relator-Axis, Multiple Head, and Head Modifier". In general, this broad classification is adequate. He uses the criterion of external distribution (how they function on the clause level) to subclassify "Relator-Axis" into three categories: Adverbial, Adjectival, and Nominal. (He further subdivides the first of these into temporal, locational, and manner.) The types of Multiple Head Phrase are listed as two ("on the basis of formal and semantic norms"): Coordinate and Item-Appositive (pp. 101-3). (We have had to include a third type which we have called "Seriated" on the basis of the presence of different connecting particles.) In subclassifying the Head Modifier Phrase, Cook has chosen the form class of the word which fills the Head slot: noun, verb, adjective, or adverb. From the above it can be seen that his criteria for classifying each major phrase type are different.

Longacre tried to avoid this inconsistency by choosing criteria based solely on internal differences (differences in "pattern" on the phrase level). What this has led to is Longacre's requirement:

FOR TWO PATTERNS (SYNTAGMEMES) TO BE IN CONTRAST THEY MUST HAVE MORE THAN ONE STRUCTURAL DIFFERENCE BETWEEN THEM; AT LEAST ONE OF THESE DIFFERENCES MUST INVOLVE THE NUCLEI OF THE SYNTAGMEMES. In practice this amounts to insistence on a two-fold minimal difference at least one of which involves the nuclei (1964:19).

Therefore, Longacre's classification would be language dependent on the consistent application of the analytical procedures which he lists (1964:84-93).

In his discussion of the charting procedure in Grammar Discovery Procedures (GDP) Sec. 5.6, Longacre discusses two problems about phrases from which I quote pertinent excerpts:

(1) The first problem involves charting a sequence of two words of the same broad class... The crucial question becomes then, one of distinguishing a modifier or qualifier of some sort from a head or main element of the same broad word class...

(2) The second problem is that of recognizing a phrase type imbedded within a phrase type.... Specifically, the data to which a person responds in this intuitive manner are: (a) The apparent occurrence in phrase medial of morphemes that manifest tagmas presumably phrase-initial or phrase-final...

(b) Occurrence more than once in a given phrase of a tagma which presumably occurs no more than once in a simple phrase... (c) Occurrence within the same phrase of tagmas presumably characteristic of differ-
ent types of simple phrases.... So marked is this multiple nesting of type within type that phrase types are sometimes partially distinguished from each other by virtue of what phrase types may occur imbedded within them (1964:80-84).

We have only partially resolved the problems of the first type by classifying the verb phrases as Head Modifier rather than Multiple Head Seriated Phrases, and the noun-noun phrases as word-level forms along with the Clause=Word. We have relied extensively upon the criteria of multiple nesting mentioned in the second problem described above to subclassify and subcategorize, especially the Head Modifier Phrases.

Cook's attempt to subclassify noun phrases according to the semantic classification of the noun has not been useful (1969:108), nor have all of Longacre's generalizations of the criteria to make meaningful distinctions between phrase subtypes. The patterns that we have found for this language seem to involve the criterion "one nuclear difference and one structural difference" (Longacre 1964:87).

In summary, we have (1) adopted the phrase types of Cook and some of the classification scheme(s) for each type, that for "Relator-Axis" according to function on the clause level; (2) added the category "Seriated" to the Multiple Head Phrase type; and (3) rejected in part the attempt to subclassify nominal Head Modifier Phrases on the basis of noun classification.

In the following exposition the names of the major categories and some of the subcategories, but almost none of Cook's further subclassification, have been utilized. Especially within the nominal Head Modifier Phrase, we have not worked with Cook's criteria, but rather with some of Longacre's. This might seem confusing, but what we have done is to preserve the universal categories of the former author while using the criteria of the latter to delineate the language-specific phrase types of Ngambay.

Furthermore, the presentation of phrase which follows is limited to those types which are readily discernible in the text and useful for understanding the examples in subsequent chapters. No claim is made for thoroughness or completeness of analysis or description.

For the most part, formulas are provided when they can be substantiated as generalizations rather than attempts to include all possible instances. This leads to formulas which do not include all of the examples listed under them. For the more complicated examples I have included formulas for each layer of nesting. Cook utilizes the symbolic formulas, while recent SIL publications seem to favor verbal generalizations. I have tried to include both.
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2.1 **Relator-Axis Phrases.** The "layer of relation" is the name given by Cook (1969:93) to a word group the structure of which consists of two obligatory constituents (exocentric). This phrase (word group) is designated by the symbol RA. The Relator (R) is usually a preposition; the Axis (A) may be a word, another phrase, or even a clause.

Although there is some similarity between surface form and function of a relator and a subordinating conjunction, the latter are manifested for the most part by a different and somewhat smaller set of words which always occur at the beginning of a clause. The former, relators, are a set which includes many words for parts of the human body (head, side, back, etc.).

The various Relator-Axis Phrases are classified on the basis of their grammatical function as Adjectival or Adverbial and subclassified on the basis of their specific semantic function in the next larger construction (external distribution); but here, we are describing internal distribution within the Axis slot (the various phrase types which fill it).

2.1.1 **Relator-Axis, Adverbial.**

(a-1) **Temporal** (point in time). The most common Relator is qe [gê] 'at'; the Axis is usually a head (H) obligatorily modified by a Relator-Axis, Adjectival phrase in which the relator is gê [gê] and the axis may be a numeral, interrogative pronoun, or a noun phrase/clause.

RA Adv Temp = R: qe + A: HM Nominal

HM Nominal = H: N + M: RA Adj Iden/Id

qe (kâr (gê sîrî))  qe (kâr (gê bân))

at hour which be seven at hour which be how/what

'at seven o'clock' 'at what time?'

qe (kâr (gê aar dâng-do))

at sun which stand above-head

'at noon'

(a-2) **Temporal** (location within a period of time) less frequent.

RA Adv Temp = R: mee + A: N-loc HM/Nominal Iden
Phrase Structure

N-loc = H: N + M: -g/-d
HM Nominal (Iden) = H: N + M: RA Adv Iden

mee (til-g)            dann (loo-g)
in darkness-there      in midst place-there
'in the night'          'in the night'

RA Adv Temp = R: mee + A: HM Nominal Iden
RA Adv Identifier = R: gé + A: Cl-nontrans
mee (naln-je (gé (kär os kene-g yaan el bel))) lē
in month-s which sun pierce in-it much not yet the
'in the months in which the sun is not yet very hot'

(a-3) Temporal (frequency) idiomatic.
qe ndo kāra kāra lāl      qe ndo kāra kāra
at day one each ali        at day one each
'everyday'                 'each day'

(b-1) Locational. The relator may be one of many body parts and
the axis may be a Locative Noun phrase or a noun phrase, or a noun
phrase unmarked for locative.
RA Adv Loc = R: rel-loc + A: N-loc/HM Nominal Id/Quan/IP
rel-loc = mee 'in', do 'on', gîr 'behind', mbor 'beside'
          insides  head back side
mee (kei-je) (gé rang))    mee ((kei-g) kāra
in house-s which be other   in house-there each
'in other houses'           'in each house'
mee ((ndogo-g) 1e cl))
in court-there of us
'in our courtyard'

(b-2) **Locational** (atypical in terms of length and complexity).

RA Adv Loc = R: mee + A: HM Nominal Iden

  HM Nominal Identifier = H: HM Nom IP + M: RA Adv Dir
  HM Nom Item Possessor = I: N + P: RA Adj Poss
  RA Adj Possessive = R: 1e + A: Pron
  RA Adv Directional = R: gé + A: RA Adv Loc
  RA Adv Loc = R: mbor + A: N N

mee ((bbee-je (lè dee)) (gé (mbor (Moundou deb))))
in village-s of them which be beside Moundou region
'in their villages which are near the region of Moundou'

RA Adv Loc = R: mee + A: HM Nom Iden

  HM Nom Identifier = H: HM Nom Identity + M: RA Adj Identifier
  HM Nom Identity = H: N + M: RA Adj Identity
  RA Adj Identity = R: gé + A: N
  RA Adj Identifier = R: gé + A: Cl-eq loc
  Cl-equative locational = Pred: to + RA Adv Loc
  RA Adv Loc = R: mee + A: HM Nom IP
  HM Nom IP = H: N-Loc + M: RA Adj Poss
  RA Adj Poss = R: 1e + A: Pro

mee ((kai-je (gé rang)) (gé (to
in house-s which be other which be
Phrase Structure

(mee (ndogo-g (lè cl)))))))
in court-there of us

"In the other houses which are in our courtyard"

(c) Directional. The Relator is ge [gê] 'toward'; there is quite often no Axis, though there may be an auxiliary directional par 'toward'. The Axis may be a loo Noun Phrase (HM Nom Compl) or an interrogative pronoun.

j-aou (par ge (loo sug-d))
we-go toward toward place market-there

'We go toward the market place.'

see reou nee-le aou ge ra wa

? road here-the go toward where?

'Where does this road go?'

Some forms of directional Axis are locational:
ge do-jl-gel ge do-gel
toward on-hand-left toward on-left
dann-a jorong

midst-in straight

'straight ahead'

(d) Extent. The Relator is saar 'until'. Although the Axis is most usually a clause, there are instances where it is a noun.

The Relator may be reduplicated.

saar bacine
until now

saar ge Douane-q
until toward Customs-there

saar teen bacine
until arrive now

saar teen Lai
until arrive [at] Lai
Phrase Structure

Atypical because of length:

saar m-aou m-wa m-llå mee kel-g bba
until I-go I-take I-put her in house-there emphatic
'until I go put her [female dog] in the house'

saar saar d-ar-ee eme bba d-or bel
until until they-cause-it foam and they-lift yet
'until at last it foams and they remove it [home brewed beer]'

(e-1) Manner/Means. The Relator is qa [gè] 'with'; the Axis is never animate. If the referent has been previously mentioned, usually in the case of Means phrases in focus (in first position in the clause), the Relator is ne 'with', and it immediately follows the verb. The Axis may be a coordinated phrase.

nje qa nan-je d-aou qa kundalla-je le de to
one who.be together-s they-go by bicycle-s of them also
'Some go with their bicycles.'

see m-a yel per qa kul ese ta kir wa
? I-will ignite fire with charcoal or firewood?
'I should start the fire with charcoal or wood?'

kul qa petrol bba l a yel ne per
charcoal and kerosene emph you will ignite with.them fire
'Use charcoal and kerosene to start the fire.'

(e-2) Manner/ Accompaniment. The Relator is qa [gè] 'with'. If the human referent has been previously mentioned the relator is se 'with'. If the Axis is a previously mentioned nonanimate, the relator is ne.

ree qa tine-je
come.to with hatchet-s
'Bring your axes.'
Phrase Structure

see i a k-aou se-m kametag nee wa
? you will go with-me afternoon here ?
'Will you go with me this afternoon?'
nje ge nan-je ree ge magnetophone-je le deo to
one who be together-s come to with tape recorder-s of them also
'Some come with tape recorders.'
d-yan d-ar-ee áou sang lar saar ree ne
they let they allow him he go search money until come with
'They let him go borrow money until he returns with [enough of] it [to pay his head tax].'
Phrase Structure

\[ \text{gé nee-le} \quad \text{gé te ngambal} \]
\[ \text{which.be here-the} \quad \text{which.be word ngambay} \]
\[ \text{gé l0o sug-d} \quad \text{which.be place market-there} \]

(c) **Modifier.**

RA Adj Mod = R: gé + A^n : Adj/Adj Phrase n = 1 or 2

\[ \text{gé bol} \quad \text{gé ngal} \]
\[ \text{which.be big} \quad \text{which.be long} \]
\[ \text{gé (maj1 yaan)} \quad \text{gé (bol bol)} \]
\[ \text{which.be good much} \quad \text{which.be big big} \]
\[ \text{'which is very good'} \quad \text{'which is very big'} \]

(d) **Directive.**

RA Adj Dir = R: gé + A: NPloc/NPdir

\[ \text{gé do-j1-gel} \quad \text{gé do-tar} \]
\[ \text{which.be on-hand-left} \quad \text{which.be on-high} \]
\[ \text{'which is on the left'} \quad \text{'which is first'} \]
\[ \text{gé (par gé (kel ber))} \]
\[ \text{which.be toward toward direction east} \]
\[ \text{'which is toward an easterly direction'} \]

(e) **Possessive** (see Item Possessor under Sect. 2.2 Head Modifier Nominal Phrases).

RA Adj Poss = R: lè + A: Pro/NP

\[ \text{lè deen} \quad \text{lè ka-je} \]
\[ \text{of them} \quad \text{of grandparent-s} \]
\[ \text{'their'} \quad \text{'the elders'} \]
Phrase Structure

2.2 Head Modifier Phrases. These are single-headed phrases with all other elements subordinate to the Head (endocentric). The Head with its Modifiers fills the same slot as the Head itself. These phrases can be classified according to the form class of the word that fills the Head slot: noun phrase, verb phrase, adjective phrase, and adverb phrase.

The Modifiers of the noun as Head include a wide variety of other phrase types (especially Relator-Axis, Adjectival), quantifiers (Nq), and determiners (Det). The Modifiers of the verb as head include auxiliaries, other verbs, and modals. Adjective and adverb modifiers are usually intensifiers (usually another adjective or adverb).

Cook (1969:107-108) has pointed out that noun phrases may be divided into subtypes on the basis of the ways in which nouns are classified in the language, i.e., common vs. proper, count vs. mass, animate vs. inanimate, singular vs. plural. These distinctive features, which must be grammatically defined for the language, may be marked by inflectional endings or select categories. Selective categories are "grammatical features recognized by the choice of items in constructions". Cook goes on to state that "tagmemics formulates inflective categories at the word level by separating inflection from stem.... All categories are covered at the phrase level by concord ties, (1) of agreement within the endocentric phrase, (2) of cross-reference between subject and predicate, and (3) of government by verbs or relaters."

This, however, has little applicability to the phrases of Ngambay since they are only slightly inflected. Longacre's suggestion of the criterion of "one nuclear difference plus one structural difference" (1964:52, 87) is far more useful.

2.2.1 Head Modifier, Nominal. The most common type of noun phrase in Ngambay is one in which the first slot, the Head, is filled by a noun or noun phrase and the second slot is an obligatory Modifier which is filled by a relator-axis phrase whose relator is gé. The third, fourth, fifth, and sixth slots are optional and can be thought of as peripheral; they denote, respectively, quantifier, focus, emphasis, and definiteness. There is also an optional
locational suffix for space or time which may be added to the last word or phrase of the axis. In the instances where the axis is a clause, it is given the name of "Identifier" by Cook, although it is more commonly thought of as a relative clause. A similar version of this occurs where the Head is filled by a noun or noun phrase and the axis of the Modifier is filled by only a noun phrase or a determiner, never a clause. An alternate to this second type is that in which the Head slot is filled by approximately the same range of fillers and the Modifier slot is filled by a relator-axis phrase in which the axis is filled by only an adjective or adjective phrase. A fourth type has only a noun as Head and the Modifier slot is filled by a relator-axis directive phrase. This group of four phrase types is distinguished by the use of RA Adjectival phrases as Modifiers of the Head; they are distinguished from each other by the different fillers of the axis of the modifying RA Adjectival phrase.

There is a second series of noun phrases with more restricted fillers of the Head slot and a wider variety of possible fillers of the Modifier slot (which in one type is optional). The Head slot may be filled by a single noun and the Modifier slot by a qualifier, quantifier, item possessor phrase, or even a dependent clause beginning with an infinitive.

(a) **Identifier.** This phrase type has the most varied range of filler for the Head slot. It fills the subject, object, complement, locational, and occasionally the temporal slots on the clause level.

The filler of the Head slot may be a noun, noun phrase, item possessor phrase, and occasionally item Appositive, Coordinated, Serial Multiple Head phrases. The modifier is a Relator-Axis Adjectival Identifier phrase which is a clause whose predicate verb is Transitive, Nontransitive, or Equative. There are ten possible clause subtypes.

\[ \text{HM Nominal Identifier} = H: \text{Pro/Pr=W/NP/IP} + M: \text{RA Adj Iden} \]
\[ \quad \text{HM Nom Id} \]
\[ \quad \text{MH IA, Co, Ser} \]

\[ \text{RA Adj Identifier} = R: gê + A: C1-tr/nontr/eq \]

Head functions as (_______) on the clause level
Noun...(obj)
Phrase Structure

ne (gé (jeen j-ulá mba k-ar-ee ra))
N Cl-semitrans

thing which we we-say in.order to-cause-him to.do [it]

téchaud (gé (gas to kenneng)
N Cl-locational

heater which gas is in.it

reou (gé (aou Fort Lamy))
N Cl-motion

road which goes [to] Fort Lamy

Noun...(subj)

dingam-je (gé (to (nje-bwa-ta kel-je le nan) lé))
N Cl-equational

man-s who be one-friend-door house-s of each.other the

'men who are neighbors to each other'

Pronoun...(subj)

yeen (gé ((bbar-ee Unitchadienne) lé))
Pro Cl-ditransitive

it which [one] call-it Unitchadian the

Noun...(compl)

lar (gé (deou-je d-uga d-ar gouvernemm))
N Cl-transitive

money which person-s they-pay they-give [to the] government

Pronoun...(compl)
Phrase Structure

\[ \text{yee (gé (to loo (gé (kag-je to kenneng))))} \]
Pro \hspace{1cm} Cl-locational
\[ \text{this which be place which tree-\text{e} be on.\text{it}} \]

\[ \text{yee (gé (in Moundou))} \]
Pro \hspace{1cm} Cl-motion
\[ \text{this which come from Moundou} \]

Noun...(temp or loc)
\[ \text{loo (gé (kar and nang))} \]
N \hspace{1cm} Cl-motion
\[ \text{time/place which sun enter earth} \]

Noun...(temp)
\[ \text{ndo-je (gé (i shi ngina))} \]
N \hspace{1cm} Cl-state
\[ \text{day-\text{s} which you sit wait} \]

Noun Phrase...(obj)
\[ \text{(ngonn kel) (gé (i à k-askem k-oga))} \]
N \hspace{1cm} N \hspace{1cm} Cl-semitransitive
\[ \text{small one house which you you will to-be.\text{able} to-rent} \]
\[ \text{small house which you can rent} \]

Noun Phrase...(subj)
\[ \text{(ngann collège-je) (gé (d-in (bee-je (gé raga)))))} \]
N \hspace{1cm} N \hspace{1cm} Cl-motion
\[ \text{youth-\text{s} high school-\text{s} who they come from village-\text{s} which outside} \]
Phrase Structure

'high school kids who come from other villages'

Noun Phrase...(obj)

(kel-ndoo-ne) (gé (bbar-ee (lycée lé)))

(Cl=W) Cl-ditransitive

house-learn-thing which be call-it lycée the

'the school which is called the lycée'

Item Possessor Phrase...(subj)

(bbee (le ngambal-je)) (gé (to dann-a bap))

I P Cl-locational

village of ngambay-s which be midst-in exactly

'the Ngambay village which is in the center [Moundou]'

Item Possessor Phrase...(obj)

(lar-eel) (gé (Cotonfran woj))

I P Cl-transitive

price-its which Cotonfran show

'the price which Cotonfran offers'

HM Nominal Identity...(subj)

((ne-je (gé nan-je)) (gé (I ndigl))) lé

HM Nom Id Cl-volition

thing-s which together-s which you desire the

'some of the things which you desire'
Phrase Structure

((ngonn (lè-l)) (gé (dingam (gé (l inge cïg1))))) ié
I P N Cl-transitive
HM Nom Id HM Nom Iden (embedded)

child of-you who.be man who you find new the
‘your new boy [servant] whom you found’

(b) Identity. This is the second of the phrases which stress identification of the Head. It is also the most restricted in terms of possible fillers of the Head slot; the fillers are generally limited to single words: pronoun, noun, noun phrase (Cl=W, Pr=W), and item possessor phrase. The Modifier is a relator-axis phrase with an axis filled usually by just a single word: pronoun, noun, numeral (ordinal), interrogative pronoun, determiner, or adverb.

HM Nominal Identity = H: Pro/N/Np/IP + M: RA Adj Id
RA Adj Identity = R: gé + A: Pro/N/ Nu/?Pro/Det/Adv

Pronoun...(subj) Noun...(obj)
yeen gé rang nje gé kette
it which.be other one which.be before
‘the other’ ‘the previous person’

Noun...(subj) Noun...(obj)
ndi gé do-tar goi gé nee-le
rain which.be on-high pestle which.be here-the
‘the first rain’ ‘this pestle’
nje gé denne préfecture gé rang
one who.be woman state which.be other
‘female’ ‘another state’

Noun Phrase (Pr=W)...(subj) Noun...(compl)
Phrase Structure

\[
\text{nje gé nan-je pa-je gé nee-le} \\
\text{one who.be together-s word-s (song-s) which.be here-the} \\
\text{'some'} \\
\text{'these words/songs'}
\]

Examples of locatives filling the Axis slot are:

\[
\text{loo gé nee-g} \\
\text{place which here-in.it} \\
\text{'this place'}
\]

\[
\text{loo gé ra-d} \\
\text{place which where-in.it} \\
\text{'where?'}
\]

\[
\text{sceau gé deb nang} \\
\text{pail which near earth} \\
\text{'pail on the ground'}
\]

The following examples have a more varied filler of the Head:

**Item Possessor Phrase (Pr=W)...(subj)**

\[
\text{nga-ko-i-n gé dingam} \\
\text{child.e-mother-your-- who.be man} \\
\text{'your brothers [siblings]'}
\]

**Item Possessor Phrase (Pr=W)...(obj)**

\[
\text{ngo-ko-i-n gé dingam} \\
\text{child-mother-your-- who.be man} \\
\text{'your brother [sibling]'}
\]

**Item Possessor Phrase...(obj)**
Phrase Structure

(ngonn lè-i) (gè dingam) child of-you who.be man 'your male child/your son'

Noun Phrase (Cl=W)...(obj)
(loo-nndogo-ne-je) gè loo sug-d place-buy-thing-s which.be place market-there 'selling place which is in the market'

Noun Phrase (Cl=W)...(obj)
(kel-ra-kula) gè rang house-do-work which.be other 'another factory'

Item Possessor Phrase...(obj)
((kaar kel) (lè-m) gè kàra N N I P chest house of-me which.be one 'one wall of my house'

(c) Modifier. This type is characterized by having almost the same range of fillers in the Head slot as the Identifier phrase (except for the IA, Co, and Ser Multiple Head phrases). It is distinguished from Identifier in that the axis of the obligatory Modifier is filled by an adjective which may be either a duplication or a series of up to three different adjectives. Its occurrence is more restricted to object and sometimes complement slot on the clause level; there is an occasional use as a subject.


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Phrase Structure

Pronoun...(obj)  Pronoun...(obj)
yeen gé  bol  yeen gé  (bol bol)
   it which.be big  it which.be big big
   'this big one'  'this very big one'
Noun...(obj)  Noun...(obj)
   mu gé ngal  ndogo gé  (ngal yaan)
   straw which.be long  mat which.be long much
Noun...(obj)
   ne gé  (mají yaan ya)
   thing which.be good much truly
   'a really very good thing'
Noun...(compl)  Noun...(comp)
kur gé  (boi tad laimbere) né-so gé boo
   insect which.be big wide thin.flat thing-eat which.be big
   'a big, wide, thin, flat insect'  'a big meal'
Noun Phrase (N N)...(obj)
   (((kao kunja) lé) (gé mají))
   egg chicken the which.be good
Item Possessor...(obj)
   (((ngo-kon) (gé dingam)) (gé lam))
   child-mother-- who.be man who.be small
   'my small male sibling'
Phrase Structure

(d) Directive. The Head is filled either by a noun or a noun phrase (Cl=W, Pr=W). The Modifier is either a locational/directional noun phrase or a locative relator-axis phrase.

HM Nominal Directive = H: N/NP + M: RA Adj Dir

RA Adj Directive = R: gé + A: NP loc/dir or RA Adv Loc

Noun...(obj)

reou (gé do-j1-gel)
road which be on-hand-left
'road to the left'

reou (gé par gē kel ber)
road which be toward toward direction east
'road which heads east'

Noun...(subj)

(loo (gé par gē kel nord)) lé
place which be toward toward direction north the
'the place which is toward the north'

Hôtel de ville (gé (mee (bbee-g nee-le)))
city hall which be in village-in-it here-the
'[the] town hall which is in this village'

(deou-je (gé ((nje-ra-kula) kene-g))) lé
person-9 who be one-do-work in-it the
'the people who are laborers there'

(mann bba (gé gir (kei Hôtel de chasse)-g))) lé
water emph which be behind house Hotel of Hunter-there the
'the river which is behind the Hunter's Hotel'

Noun...(compl)

kar (gé (dog gir-ee joo-g))
hour which be ten behind-its two-there
'twelve o'clock'
Phrase Structure

(e) Quantifier/Qualifier. In this phrase type the Modifier is optional. It is usually either a numeral, quantifying or qualifying adjective, or pronoun. The Head is a pronoun, noun, noun phrase, or item possessor phrase.

HM Nominal Quantifier/Qualifier = H: Pro/N/NP/IP ± M: Nu/Adj/Pro

Quantifiers:

ne-je lai         deou-je bula         deou-je kanda
thing-s all      person-s many      person-s how,many
lloo lai           loo munta           deou-je kàra kàra lai
place all        place three        person-s one each all
'everywhere'     'three places'    'everybody'
kula yaan            ngonn kàra           leçon le-m kàra
work much        child each        lesson of-me one
'much work'      'each child'    'one of my lessons'
rang bbed bbbed           kula-je bbed bbbed bula
other different different       work-s different different many
'others very different'       'many very different jobs'

Qualifiers:

((reou-g) (boI)) lë          ((kaar keI) (lè-I)) cigI
road-there big the       chest house of-you new
'that main road'            'your new house-wall'

Compare: kaar keI lë-I gé cigI
chest house of-you which be new
your house-wall which is new

(f) Completive. These phrases have a Head slot filled by one of three nouns: ne 'thing', loo 'place', and keI 'house'. The Modifier is obligatory and is always a dependent clause which consists of an infinitive which, if the verb is transitive, may be followed by an object, or if nontransitive, by a locative.
 Phrase Structure

These fill some object slots on the clause level, but for the most part appear as fillers of locative or temporal slots. Sometimes it is difficult to discern whether they are locative or temporal. There is much similarity between these phrases and regular noun phrases, except that these phrases do have plural and locational suffixes in phrase-final position.

HM Nominal Completive = H: ne/lool/kel + M: Dependent Clause

Noun...(obj)  Noun...(obj)
ne k-odo-je   ne k-om lebe ul kene-g
thing to-carry-s  thing to-put oil peanut in-it
'things to carry'  'container' 

lool k-uru kubu gé do-tar
place to-sew cloth which,be on-high
'[the] first is how to sew'

Noun...(loc)

lool kula gé le-m
place to-work which,be of-me
'my job'

lool taa kuman-g
place take medicine-there
'hospital'

lool ndoo-ne-g
place-learn-thing-there
'school'

kel-ndoo-ne-g
house-learn-thing-there
'school'

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Phrase Structure

Noun...(loc)

loó ndam-g
place dance/play-there
'public square or bar'

loó ndogo da
place buy
meat
'butchers shop'

loó k-inga kubu
place to-find cloth
'fabric shop'

Noun...(temp)

loó kar-ee
place hour-its
'occasion'

loó ndul-g nee
place black-there here
'this night'

Noun...(loc/temp)

loó ra récital-g
place/occasion to.do recitation-there
'open air meeting'

loó ra Noël-g loo taa kuman-g
place/occasion to.do Noel place/occasion to.take medicine-there
'celebrate Christmas' 'dispensary/clinic hour'

(g) Item Possessor. In the current literature one finds the terms "alienable" and "inalienable", but Vandame (1963) uses the terms "natural" and "contractual" for Ngambay. Rather than define the types of possessive phrase on semantic grounds, it seems preferable for the present to list the three most common structures used in the texts and to give examples for the two which are phrases. The first (which is not a phrase) is the suffixation of a personal pronoun to the noun; this would be described on the word level. The second is the preposing of a relator to the possessor. If the possessor is pronominalized it may, especially a singular pronoun, be suffixed directly to the relator (e.g., lè-i 'of-you'). The third is the direct positioning of the possessor behind the possessed, which results in a noun noun or noun pronoun phrase.

For the sake of completeness it is mentioned that a pronominal possessive kan 'that of' does exist and that it is inflected for
number and person. There are not sufficient examples in this corpus to warrant its discussion.

As a general rule the presence of a relator indicates that the relation is alienable or contractual. The difference between ngoin (ngonn-1 does not occur) and ngoon là-1 -- both can be translated as 'your child' -- is that the first is addressed to the mother who gave birth, and the second indicates that the child is your husband's by another wife.

leçon là-m        baa-je là cl       kaar kel là-m
lesson of-me     river-s of us    chest-house of-me
kem cl           do     dee         kand kag-je
eye our          head their fruit [of] tree-s

An alternative is to use gé:

yeen gé Bangui    baa je là cl gé Tchad
this of Bangui    river-s of us of Chad
'Bangui's'        'our Chadian rivers'

Préfecture gé     rang gé Tchad
state which be other of Chad
'another state of Chad'

2.2.2 Head Modifier, Verbal. The following is a description of the verb phrase; an analysis is beyond our present capabilities.

The verb phrase can be described as a Head slot filled by a verb and optionally modified by one of two types of auxiliary; in addition, there may be an optional auxiliary of aspect. The first type of auxiliary is either a tense or mood marker which is placed before the verb.

The auxiliaries of tense may indicate future/conditional, or immediate future/intense imperative. That is, the two forms that are used each have two meanings, and the choice must be determined from the context.

The auxiliaries of mood may include imperative, interrogative, and negative or affirmative. These are indicated by placing the verb minus
 Phrase Structure

pronoun prefix in the first position in the clause for the imperative; for the interrogative there is an initial optional marker plus an obligatory marker in sentence-final position. Negative and affirmative are indicated by two different clause-final markers.

There are other auxiliaries of mood such as ability, permission, cause, desire, and exhortation. These are indicated by word-level auxiliaries placed immediately before the verb. The auxiliaries of aspect include progressive (continuous), incomplete, complete, commencement (inchoative), intensive, and repeated action (iterative).

The second type of auxiliary is one which consists of a sequence, a Head filled by a nontransitive (motion) or transitive verb plus a sequence of one to five nontransitive (motion) or transitive verbs preceding the main verb. (The transitive verbs in the sequence may have one-word objects.) This use of a series of verbs which describe the action from inception to conclusion is very well known and extensively utilized in West Africa.

(a) Nontransitive.

Tense

m-a qe k-aou  à k-aou
 I-will be.about.to to-go  he.will to-go
á qe k-and  á k-and
you.will be.about.to to-enter  you.will to-enter

Mood + Aspect

m-askem k-aou  m-a k-askem k-aou
 I-be.able.to to-go  I-will to-be.able.to to-go
jeen j-aou ree  d-aou tee
we we-go come.to  they-go leave
'we are coming'  'they are leaving'
ar ci j-aou-je  ar ci j-aou j-ish!
let us we-go-pl  let us we-go we-sit
'let's go'  'let's sit'
Phrase Structure

qe  ree  la-je  ar cin-tel  njaa
be. about.to  come.to  aid-pl.  let us  we-turn  walk
'come help'  'let's walk back'

ko-m  m-ar-ee  ree
mother-mine  I-cause-him  come.to
'Mother, I should bring him?'

Serial

and  àou  tel  d-aou
he.enter  he.go  turn  they-go

d-odo  d-aou  m-a  tel  ree  ndel
they-carry  they-go  I-will  turn  come.to  wake

aar  nee  ngîna  à  kîn  tar  k-lla
stand  here  wait  you.will  to-come.from  high  to-throw
'you will arise to throw'

(b) Transitive and Semitransitive.

Tense

à  qe  ra  à  ra
he.will  be.about.to  to.do  he.will  to.do

qe  ra  ra
be.about.to  to.do  do
'Do!'

Mood + Aspect

d-askem  ra  j-a  k-askem  k-ai
they-be.able.to.do  they-will  to-be.able.to  to-drink

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Phrase Structure

d-unn kudu gol
they-take end prepare
'they begin to prepare'
d-uga qe k-uga
they-pay -- to-pay
'they will surely pay'

ar ci j-ai kido
let us we-drink beer
majl kar-l ãou ndogo
good for-you you.go buy
d-yan d-ar-ee
they-let they-allow-him

ree ar ci j-ai kido
come.to let us we-drink beer
àou sang
he.go search

unn-ee ar-ee ra
take-him cause-him to.do

Serial

m-wa m-illa
I-take I-put
ãou togo
you.go wash

da tel k-or k-unji
they-will turn to-lift to-weave
m-a k-aou dejl
I-will to-go to.ask

ree odo-je
come.to carry-pl
j-aou n-ra
'we are doing [it]' we-go we-do

'come carry'

2.2.3 Head Modifier, Adjectiva]. There are two types, either a re-duplication of the adjective or modification by an adverb. They both indicate an intensification of the Head and can be used together.

boi boi
big big
'very big'
long much
'very long'
maji yaan
bbed bbed bula
good much
different different many
'very good'
'many very different'
Need to see the image for content.
Phrase Structure

class of connectors is not quite the same as that used on the clause and sentence levels (although coordinator qe 'and', alternator ese 'or', and seriators lem, lema, lem to 'also' are the same for all levels).

The three main types: Item Appositive, Coordinated, and Seriated, usually combine nouns or noun phrases and sometimes adjectives. There do not seem to be any examples of formally marked (by connector) combinations of verbs or adverbs.

2.3.1 Item Appositive Phrases. Because of the relatively few examples, no attempt has been made to subcategorize what appears to be a number of different structural forms of Item Appositive. There do seem to be three patterns: (1) noun phrase, noun/pronoun; (2) noun phrase, noun phrase; (3) noun phrase, intensive pronoun.

Noun Phrase, Noun
tira lé lar-ee
bed the price-its

Noun Phrase Noun Phrase Pronoun
collège-je lé nje gé nan-je d-in
high-schooler-s the one which together-s they-come.from
'the high school [students] some of them, they come from'

Dependent Clause Dependent Clause
k-in Fort Lamy ree Moundou ge lapala lé
to-come.from Fort Lamy come.to Moundou by airplane the

Pronoun
yee bba to majl
this emph. be good
'coming from Fort Lamy to Moundou by plane, this is good
[better than by truck]'

HM Nom Item Possessor Intensive Pronoun
dingam-je gé nan-je lè dee nje
man-s which.be together-s of them selves
'the men, some of them, [they] themselves'
Phrase Structure

Noun Noun
nain Octobre
month October

Noun Phrase (Cl=W) HM Nom Quan
nje-mee-kel-je lé nan kàra kàrà
one-in-house-s the other one each
'the members of the family, each one of them'

2.3.2 Coordinated Phrase
(a) Addition using the connector qe 'and'.
MM Coordinated = H: N/NP + Co: qe + H: N/NP

Noun + Noun Noun Phrase + Noun
kel-je qe ne-je ne-je lai qe kel
house-s and thing-s thing-s all and house

Noun + Noun Phrase (HM Nom Mod)
savon qe tasse gé bol
soap and basin which be big

Noun (Cl=W) + Noun Phrase (Cl=W)
nje-kuru-kubu-je qe nje-k-o-s-ne-daji kubu-g-je lé
one-sew-cloth-s and one-to-pierce-thing-pattern cloth-in-it-s the
'the tailors and embroiderers'

Noun Phrase (HM Nom Iden) + Noun Phrase (HM Nom Iden)
réchaud gé gas to kene-g qe frigo gé aou qe pétrole lem
heater which gas be in-it and frig which go by kerosene also
to
also
'a gas stove and a kerosene freezer'

As will be evident from the next example, the previous one is
missing a lem at the end of the first phrase. Although the use of
lem, lem to with two phrases is an additional connector, it is also
a degenerate form of serialization, as will be evident when the fully
Phrase Structure

seriated phrases are described. It would be possible to interpret this use not as a double connector, qe plus lem and lem to, but rather as coordination with seriation imposed.

Noun Phrase (HM Nom Mod) + Noun Phrase (HM Nom Mod)

kubu gé ciği lem qe ne-je gé rang bbed bbed
cloth which new thing-s which other different different

lem to
also also

'new cloth and other very different things also'

(b) Alternation using the connector ese 'or'

MH Coordinated = H: N/NP + Co: ese + H:N/NP

Noun/Noun          Noun/Noun
sai ese cape       caleçon ese chemise
tea or coffee      pants or shirt

Noun Phrase (HM Nom Quan) / Noun Phrase (HM Nom Quan)

matalas kâra ese tire kâra
mattress one or bed one
'one mattress or one bed'

HM Nom Item Possessor / HM Nom Item Possessor

kei lè Chechatî ese kei lè Villoing to
house of Chechatî or house of Villoing also

'Chechatî’s [store] or Villoing’s [store]'

HM Nom Item Possessor (Cl=W) / HM Nom Identifier (RA Adj Dir)

qe (camlon lè nje-suk-je ese camlon-je gé aer tö-reou-d)
by truck of one-market-s or truck-s which stand break-road-
there
Phrase Structure

gé wojl do commissariat lé
which face on police-station the
'by a shop owner's truck or by a truck which parks at the
crossroad which faces the police station'

2.3.3 Seriated Phrase.

(a) Addition using connectors qe and -je plus to.

MH Seriated = H: N/Nco ± (H:N/Nco ± Co:qe)N + H:N/Nco/HM Nom
± Co:to
HM Nom Mod + Noun + Noun + HM Nom Id
ta français mathématique géographie qe na-je gé leou
French mathematics geography and thing-s which. be old
to
also (history)

The coordinator qe is used in order to indicate seriation of
nouns marked for plural:

Noun + Noun + Noun + Noun
kula-je mapa-je sucre-je sa-je qe bonbon-je to
oordage bread sugar tea and candy also
Noun + Noun + Noun + Noun +
bad-je qe byan-je qe kunja-je qe bisi-je
gos and sheep and chicken-s and dog-s
Noun + Noun + Noun + Noun Noun + Noun
ko-je risi-je ngall-je kao kunja-je ubu ul
millet rice manioc egg chicken-s peanut oil

There is not a final -je on ul, indicating that the use of -je
is serial rather than the marking of plural, regardless of whether or
not we think of these nouns as mass nouns (although in this case it may
be that Ngambays consider peanuts a true mass noun which does not take
the plural).
Phrase Structure

Noun + + Noun + HM Nom Id + HM Nom Id
dingam-je qe denne-je qe ngann-je gé dingam qe nje
man-s and woman-s and children-s who.be man and one
gé denne
who.be woman

The substitution of ngannje gé denne for nje gé denne follow-
ing ngann gé dingam has been rejected by the informant on a number
of occasions, but I have seen and heard it elsewhere. It may be
that here the two, boys and girls, are grouped as one.

(a-2) Addition using the connectors lem, lema, lem to.

MH Seriated = (H:N/NP + Co:lem)^n(±H:N/NP + Co:lema) + H:N/NP
+ Co: lem to

n > 1

The full form of this series connector is that the last item
in the series is always followed by lem to; the second to the last
by lema; the third from the last and all that precede it by lem.
The series may occur in an abbreviated form with just lem and lem to
as the connectors.

HM Nom Compl + HM Nom Compl +
loo k-uru kubu lem loo gol ne-so lem to
place to-sew cloth and place to.prepare thing-eat also also
'how to sew and how to prepare food'
Noun + Noun + Noun + Noun +
Afrique lem Indochine lema Prans qe Italie lem to
Africa Vietnam France and Italy also also

Here is an example of a series of accompaniment phrases using
qe 'with'; -je is used to serialize, but notice that qe is used as a
connector (coordinate) along with lema, lem to.
Phrase Structure

Noun + Noun + Noun + Noun

qe matelas qe chais-je qe kia-je qe kwos-je
with mattresses and chair-s with knife-s and hoe-s
+ Noun + + Noun +
qe tina-je lema qe kubu-je lem to
and hatchet-s also with cloth-s also also

(b) Alternation using the connector ese

MH Seriated = (H:N + Co: ese)\(^n\) + H: N

Noun / Noun / Noun

fromage-je ese cape ese nduji mba
chees-es or coffee or powder milk

Noun / Noun / Noun

ngail ese ul ese ko
manioc or peanut or millet
3. CLAUSES

3.0 Introduction. In tagmemic descriptions, the clause occupies the level between the phrase and the sentence. It is composed of a predicate phrase plus several other phrases, and in turn, two or more clauses with the addition of conjunctions (connectors) form a sentence.

There is one exception to the latter statement in that a single clause with final intonation is defined as a sentence. Further, there are instances where the clause is used as a unit within the clause itself or even on the next lower level, the phrase.

Traditionally, clauses have been designated as independent or dependent. The latter category refers to clauses accompanied by subordinating conjunctions. According to Cook (1969:66) tagmemics has defined the clause as a "group containing one and only one predicate". This definition allows for the inclusion of partial clause structures in the dependent category.

Independent clauses are classified according to verb class and the presence or absence of certain phrase-level tagmemes. This classification (independent) is usually subclassified into transitive, intransitive, and equational. Dependent clauses are classified by the functional slot which they fill; that is, at the level in which they embed. Cook further classifies these as nominals, adjectivals, and adverbials for the clause and phrase levels.

As for the internal structure of the dependent clause, there is a distinction made between dependent clauses with an overt subordinating conjunction and those without. The former are called "Subordinated Clause Types", and the latter "Subordinate Clause Types" (e.g., a relative clause) (Cook 1969:77). Partial clauses are those having a participle or infinitive rather than the usually expected verbal form.

Longacre (1964:35) does emphasize the difference between independent and dependent, but in a slightly different framework. Using as a basis the analogy of a clause as a "situation in miniature", he likens the various tagmemes to the human participants and the various nonhuman elements which fill out the verbal "PLOT". On this basis he classifies clauses as noncentered, centered, and relator-axis. The centered clauses are those with a predicate whose subject is included in the predicate, but the noncentered are those where there is, in addition, an obligatory subject tagmem. Both of these are the equivalent of independent clauses. The relator-axis clauses are the equivalent of Cook's dependent clauses. Dependent clauses or relator-axis clauses will be discussed in Chapter 4 under the most recent label assigned to them by Longacre, sentence margins.
3.1 Procedures used for determining clause types. After first separating clauses whose verb is to 'to be', the remaining clauses were divided into two groups, those with an object and those without.

In order to have the total number of instances of any verb, the Single Clause Sentences (Cl=S) and the Single Clauses (C1) from the Multiple Clause Sentences were combined and arranged according to the verb. For each verb, the cards were arranged with the clauses (4" x 6" cards) preceding the sentences (5" x 7" cards); in both categories they were arranged according to the following order under each verb: indicative, subordinate, interrogative, imperative, and exhortative. (These are distinguished by formal criteria to be presented below.)

The results of subdividing the above groups (transitive versus nontransitive) are as follows:

The obligatory object verbs have been divided into Ditransitive (obligatory Indirect Object and optional Object); Transitive (obligatory Object only); and Semitransitive (optional Object).

The verbs without an object (nontransitive) have been divided into clauses with verbs of Motion, Position, State, and Change of State.

Those clauses with the verb 'to be' (equative) were divided into Descriptive (adjective complement), Equational (subject complement), and Locational (locative complement).

There are other verbs and classes of verbs which do not readily fit this classification, such as perceptive verbs (know, see, and think).

3.2 Clause-Level Tagmemes.

3.2.1 Nuclear.

(a) Subject: possibly an optional noun or noun phrase which manifests the actor or topic. It is usually manifested in these Ngambay texts by a pronoun which may be an independent form or just an affix or tone mark on the verb (also Agent).

(b) Predicate: a verb or verb phrase which manifests the action or relation of subject to the comment or complement.

(c) Object: one or more pronouns, nouns, or noun phrases which, when coupled with the predicate, complete the sense of the comment by showing the result of the action, the things or persons receiving the effect of the action, or the resultant state or description or attributes of the subject or topic. This includes Indirect Object.
Clauses

(d) In the tagmemic framework all obligatory tagmemes are nuclear, so that for Ngambay two additional tagmemes could be classified as nuclear: Accompaniment and Location. The former seems to apply only to particular verbs at random, whereas the latter seems to apply to a class of verbs and therefore defines a clause type.

3.2.2 Optional.

(a) Instrument/Means: usually the thing or process (or person, Agent) by which some action is accomplished.

(b) Accompaniment: the specification of a person who is a coparticipant in the action or state.

(c) Manner: includes all adverbs except those of time and place. Indications of frequency of an action, duration of an action, and even direction of an action can be included here, although these can be recognized as separate tagmemes.

(d) Locative: the indication of the setting or direction of the action (occasionally used to indicate a place in a period of time).

(e) Temporal: indicates a time setting. It may be an adverb, a phrase, or even a clause.

3.2.3 Clause versus Sentence. Clauses were originally defined as being Single Clause Sentences (Cl=S) or from a Multiple Clause Sentence. In a future analysis an attempt will be made to establish the criteria which will distinguish simple (single clause) sentences from single clauses which can occur as the units of sentences.

Several criteria are possible: differences in intonation, differences in optional tagmemes, and differences in the order or number of clause-level tagmemes.

Longacre characterizes the difference as that between predicate calculus (clause) and statement calculus (sentence) (Longacre 1970: 783). In this same article he also indicates that Fillmore's concept of "case" relations is relevant only to the clause level. The sentence is to be reserved for the level of combined clauses. It is only the instances of sentences as single clauses that we must concern ourselves with at this moment.
Chart 2
Clause Level Summary

NON-TRANSITIVE

Motion: consists of +S + P + L/Dir as a nucleus plus (+Acc/INS +Ext +T +Purp +Mann), probably in that order, in the periphery.

Position: consists of +S + P +L as a nucleus plus (+Acc +Mann) in the periphery.

State: consists of +S + P as a nucleus plus (+Adv)

Change of State: consists of + Ag + P as a nucleus plus ((+T +L) +Adv) in the periphery.

TRANSITIVE

Transitive: consists of + S + P + O as a nucleus plus (+Acc +Loc +Ins +Mann +Purp) in the first orbit of the periphery plus (+T +Adv) in the second (or outer) orbit.

Semitransitive: consists of ±S + P ± O as a nucleus plus (+Acc +Ins/ Mns +Mann +Purp) in the first orbit plus (+L +T) in the second orbit of the periphery.

Ditransitive: consists of +Ag +P +IO ± O as a nucleus plus ((+Mann +Ins) +Purp) in the first orbit plus (+T +Adv) in the second.

EQUATIVE

Descriptive: consists of +S + P +Adj as a nucleus plus (+Purp +Loc +Ext) in the periphery.

Equational: consists of + S + P + C as a nucleus; no periphery.

Locational: consists of + S + P + L as a nucleus; no periphery.
Clauses

3.3 Non-Transitive Clauses. Clauses containing verbs of motion and position seem to form one category in contrast to verbs of state and change of state, which form another. The former category is distinguished also by the inclusion of the locative tagmemes within the group of tagmemes that form the nucleus of the clause and the occurrence of other peripheral tagmemes. The predicate tagmem of the latter category is accompanied by only an occasional peripheral clause-level tagmem. The most probable addition is aspect or adverb, which might be considered as a part of the verb phrase. The specific differences are described below where each of the four contrasting clause types is discussed in the above order.

The examples which follow are arranged from simple to more complex. It is intended that they be representative of the corpus. There are other clauses which are more difficult to analyze, and they are set aside for study after the basic pattern has been established.

Each clause cited is identified as to its location in the corpus, and is further divided by a slash into its tagmemes, with the morphemes separated by hyphens. Underneath each tagmem is a symbol identifying it. The third and fourth lines are a literal and an equivalent translation respectively.

3.3.1 Motion Clauses. Ten verbs in the text are classified as motion verbs. The usual peripheral (optional) tagmemes are limited to three or less. They include Accompaniment, Extent, and Temporal. (This is the most probable order after the verb.) The other possibilities are Instrumental, of which there are not enough examples (only one) to determine its relative position, and what appears to be a dependent clause of manner, and a relator-axis clause (margin?) of Purpose; the latter may be manifest thrice in succession.

More specifically, the positions of occurrence of Accompaniment and Direction are directly following the verb and preceding the Locative. Both may occur in the order stated. One might expect to find an Instrumental preceding the Locative, but so far no instances have been found.

Tagmemes of time or location may be preposed before the subject. In addition, tagmemes such as Negative-Affirmative, Adverb, and Aspect may occur in the final position in the clause.

The optional subject slot may be filled by an independent pronoun, a proper noun (name), or a noun phrase. In the case of the NP, it is often manifested by a single noun, but NP is intended to refer to Identifier, Identity, Quantifier/Qualifier, Item
Clauses

Possessor, and Coordinate Noun Phrase (these types have been found in subject position). Quantifier/Qualifier phrase is the only one that allows for the optionality of the modifier, and thus allows a single noun as a representative of the phrase type.

Usually, there is little development of the NP as subject; as will be seen from the examples, most subjects are nouns referring to humans, definite or indefinite, optionally modified by a subsequent quantifier. More infrequently the subject may be inanimate. This is exemplified by apparently self-propelled objects such as cars and airplanes, but also includes such statements as "the road goes" or "the river goes".

Examples aou 'go'

J243A2b        J221B3
j-aou/bacine   aou/ mba sang  mann
P T
we-go now      he.go/for search water
'We are going now!' 'He went for water.'

J321C4a
reou neele / aou / par ge / ber
S P Dir L
road here.the/go / toward toward/east
'This road goes east.'

J421B2a
woyo, m-a  k-aou / se-1 / ya
P Acc Afm
yes I-will go / with-you / really
'Yes, I really will go with you.'

J471A1c
m-askem k-aou / mba main / ta lar neja kara / el
P Purp Neg
I-can go for discuss matter money things one / not

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Clauses

'I can't go discuss the price of each thing.'

J331A1b

\begin{verbatim}
  nje ge nanje / d-aou / qe kundallaje le dee
  S    P     Mns
  some which be / they go / by bicycles of them

'Some go on their bicycles.'
\end{verbatim}

J451A4b

\begin{verbatim}
  ndaa) aou  loo suk-d / qe ndo (bba
  P    L   T
  then) you go / place market there / at day (and

  'Go to the market in the morning.'
\end{verbatim}

J372A2b

\begin{verbatim}
  d-aou / kenneng / mba k-ale mann / ta-ta / ya
  P    L     Purp  Adv  Afm
  they go / in it / for to swim water / usually / really

  'They go quite regularly to swim there.'
\end{verbatim}

J452B1b

\begin{verbatim}
  j-aou / par  ge / loo sug-d / mba k-aou k-oo
  P    Dir L    Purp
  we go / toward toward / place market there / for to go to see

  neje lai ge to kene-g
  things all which be in there

  'We go to market to see all the things that are there.'
\end{verbatim}

J521P6

\begin{verbatim}
  ñou / ne / loo suk / mba ndogo ne neje
  P    Acc L    Purp
  go / with / place market / for to buy with things

  'Go to the market with [it] to buy the things on it [the list].'
J322B2c

\[ \text{mbata) ma m-ree / qe lapala} \]
\[ P \quad \text{Mns} \]
\[ \text{because) I I.come.to / by airplane} \]
\[ 'I came by airplane.' \]

J322A1c

\[ \text{tee / Doba / saar teen Laï} \]
\[ P \quad L \quad \text{Ext} \]
\[ \text{go.out / Doba / until arrive Laï} \]
\[ 'You go out from Doba until you arrive at Laï.' \]

J223B2a

\[ \text{ngannje / ree-je / nee / bacine} \]
\[ \text{Voc} \quad P \quad L \quad T \]
\[ \text{children / come.to-p1 / here / now} \]
\[ 'Children, come here now.' \]

L1681ac

\[ \text{loog ge) teen / to-reou-g / dann-a (ndaa} \]
\[ P \quad L \quad L \]
\[ \text{when} \quad \text{you. arrive / break-road-there / midst-in.it (then} \]
\[ 'You arrive at the crossroad.' \]

J26P2c

\[ \text{d-in / ne / wala (bba} \]
\[ P \quad \text{Acc} \quad L \]
\[ \text{they-come.from / with / brush (and} \]
\[ 'They come from the bush with [them] [firewood and millet].' \]
Clauses

J312A1a

see) lapala / njaa / se-l / rebe / as kar kanda
S P Acc L Ext
?
airplane / travel / with-you / way.its / equal hour how many
(bba
(and

'How long was your flight?'

J562B3b

d-a k-in / se-l / qe kar ge aar dangdo /
P Acc T
they-will come. from / with-you / at sun which stand above head /
mba k-aou saar loo ndul
Purp
for to-go until place black

'They will depart with you at noon to go until dark.'

J591A2aa

boo lee) i / ree / qe kar ge sirl / mba shi
S P T Purp
if) you / come.to / at hour which. be seven / for to sit
acc secl saar as kar kara
with us until equal hour one

'You come at seven for one hour.'

J411A3b

see) m-a tel / qe kar ge ban bba / qe mba
P T emph Purp
?
I-will return / at hour which. be how emph / in order
k-ingâ (wa
to-find.him (?

50
3.3.2 Position Clauses. The most common of the peripheral tagmemes is an Accompaniment or Manner tagmem. Either of these may occur immediately after the verb; it is usually followed by a Locative tagmem, but the occurrence is optional. The Manner tagmem may occur immediately after the verb as an adverb. In its clause-verbal form it appears last, or after the locative tagmem. There are many instances of the relator-axis clause of purpose occurring, sometimes twice in succession, after the Locative tagmem (in these cases no Manner tagmem is present). Tagmemes of location may be preposed before the subject, and the first may be topicalized (with ñé 'the' at the end of the phrase).

The optional subject slot may be filled by an independent pronoun, a proper noun, or a noun phrase (Head Modifier Nominal Identity and Multiple Head phrases). There are three or four instances of Serial and Coordinate noun phrases, and a few instances of Clause=Word nouns.

The verb phrases are usually quite simple (a single instance each of future and progressive), but there is one instance of a phrase containing two position verbs.

The locative tagmem phrase is absent in only nine of forty-six examples. It is manifested by either a Relator-Axis (RA Adv Loc) phrase or a Noun (N-loc).

J252A1d
ndae) m-a nai / gogo P Adv
d-lshI / regege P Adv
then) I-will rest /after they-sit / quietly
'I will be late.' 'They sit quietly.'

La1B2a
ma / m-lshI / se deee (m-oo taje S P Acc
I / I-sit / with them (I-hear words
'I sat with them (I listened....'
Clauses

J233A2c

mbata) yee / aar / mee ndogo le-m ge gwoji le
S P L
because) he / stand / in court of-me which be small the
'He [a sheep] stood in my small courtyard.'

J531B2d

see) ges mann ge ndel / nal / kenneng / as
S P L Ext

?) remainder water which be filtered / rest / in it / equal
ban (wa
how (?

'How much filtered water remains in it?'

J451A3d

boo) d-ishí / kenneng / saar loo ndul / el
P L Ext Neg
they-sit / in it / until place black / not

'They don't sit there until dark.'

L5B3b1

njekurukubuje / d-ishí / qt ta kei makajaje / ya /
S P L Afm
one.sew.cloths / they-sit / at mouth house shops truly /
ngal-ngal
Adv
along-along

'Tailors sit in a long line at the doors of the shops.'

3.3.3 State Clauses. The few peripheral tagmemes seem to be limited
to Accompaniment, Extent, Adverb, and some dependent clauses of manner
and purpose of which the last may be preposed.
Clauses

The subject slot is filled by noun and noun phrase, some of which involve coordination of dependent clauses, but for the most part the phrases are either Head Modifier Nominal Quantifier/Qualifier or Item Possessor.

The verbs 'be far', 'be hard', 'be sweet', 'be hot', 'be full', 'be wide', and 'be light' are what we would call adjectives when they occur in the modifier slot of a Head Modifier Phrase. In distinguishing their use as verbs from their use as adjectives, it may be noted that the subject noun is often followed by the definite article. (The verb follows the article and so cannot be interpreted as part of the noun phrase.) No tense, modal, or aspect markers occur, but the adverbs and the affirmative occur at the end of the clause.

J353A1b

rusu / kongo
P  S
be.full / edge (because) chaff the / be.light
'be full to the edge' 'The chaff is light.'

L39B4a

mbata) bina le / wollo
P  S  P

L451A1a

100 suk le / tad / yaan
S  P  Adv
place market the / be.wide / much
'The market place is very wide.'

J322B2a

reou neele / eou / yaan / ya
S  P  Adv  Afm
road here.the / be.far / much / truly
'This road is really very long.'

L41B3b

ndaa) kur-ee / a k-eou / as kar munta ese so
S  P  Ext
then) duration-its / will.be far / equal hour three or four
'It will take three or four hours.'

53
Clauses

J441B2c

ndaa) loo ndogo neje ge loo sug-d / a
    S
then) place buy things which be place market there / will be
    kedere / se-i / yaan
    P    Acc?   Adv
    hard   / with-you / much

'Then, at the market place where you buy things it will be very
difficult for you.'

3.3.4 Change of State Clauses. The only peripheral tagmemes
occurring are Temporal, Adverbial, and Locational. The Temporal
may be found at the beginning of the sentence; the Locational is
seldom preposed.

The Agent slot is filled by a pronoun or a noun phrase (def-
inite or indefinite person plus a modifier of one word), and some
Head Modifier Identity and Quantifier/Qualifier phrases.

In the Predicate tagmeme there are no occurrences of tense or
modal markers, although aspect markers are present. There is one
instance of a serial verb phrase (tei ree ndel 'return come.to
wake').

The verbs are 'hurt', 'fatigue', 'cough', 'lie down', 'awake',
'fear', 'cry', 'die', and others such as 'be pleased', 'be angry'
might be included. Most verbs that imply a certain state of mind
or body do so in either a passive or active sense. In some cases
the body causes the action on the soul or spirit; in others this
does not seem to be the case.

L33B1

rea / téee (ro-e / tol-e) nè) yee / kes (lem to
Ag   P    S    P
body / his / kill him but) he / cough (also
'he hurts [all over]'   'he coughs'

54
L16A3a

ndo ge kar os yaan bba / i / dao / yaan
T emph S P Adv
day which sun pierce much -- you / fatigue / much
On hot days you get very fatigued.'

J29P1c

bba) tò bbl / kenneng maji kar-l / bbel / el
P L S P Neg
and lie down sleep / in it good for-you / fear / not
'They sleep there.' 'Don't be afraid.'

J25P2a

deuje lal / ndel / do bbl-g / kette (bba
S P L Asp
persons all / awake / on sleep there / first (and
'Everybody wakes up first.'

L58B3b

nè bogena ndaa, mee dee wel do-g sel
but today then, inside their die on there it --
'But today then, they forgot.'

L26B4

ta igi-m sel
word escape me --
'I am speechless.'

J352A4

mee ndoje ge ishi ngina mee kel-g neele / ro-l /
T Ag
in days which you sit wait in room there here the / body your /
Clauses

\[ a \quad lel-i / yaan / ya \]
\[ P \quad Adv \quad Afm \]
\[ will \; please-you / much / truly \]

'Your stay will be enjoyable.'

\[ mee-m / on-m \]
\[ Ag \quad P \]
\[ inside-mine / eat-me \]

'I am angry.'

3.4 Transitive Clauses. The category includes verbs which take an obligatory object (Transitive), those which take an optional object (Semitransitive), and those which may take two objects (Ditransitive).

The verbs which take an optional object are of sufficient number and frequent use that even though the number of instances in which they appear without an object is a relatively small percentage of the total, it is significant and requires a separate subcategory. On the other hand, the differences in the fillers of the nuclear slots (both subject and object) for the two subcategories Transitive and Semitransitive do not seem to warrant a separate discussion for each, and so they have been combined in the discussion below.

In the clauses which have a subject tagmeme (thirty-five percent of the total) twenty percent have a pronoun as a filler. The remaining fifteen percent are distributed as follows: noun, seven percent; Head Modifier Nominal Identity and Quantifier/Qualifier, seven percent; the remaining one percent are Item Possessor and Clause=Word (three of 245).

In the clauses which have an object tagmeme, thirty-eight percent are a noun, nineteen percent are marked by a high tone on the vowel-final verbs, and the remaining forty-three percent are phrases, divided as follows: Head Modifier Nominal Identifier, Identity, Modifier about five percent each; Directive, Completive, and Multiple Head are two, three, and two percent respectively.

3.4.1 Transitive Clauses. These clauses are characterized by a nucleus consisting of a Predicate and an obligatory Object. The peripheral tagmemes are Accompaniment, Manner, Locative, Temporal, Means, Purpose, Adverb, and Aspect.

The verb class contains twelve verbs which are always followed by
an object. The Predicate tagmeme may be a verb phrase with serial or auxiliary verbs; the moods may be imperative, interrogative, or exhortative.

**J29P1b**

nje ge nanje / d-illa / twa / nd11 kaag-d ese kei-d ese
S   P     O     L
some    they-put / mat / shadow tree-there or house-there or
mee kei-d
in house-there
'Some put [their] mats in the shade of a tree or house or inside.'

**J481B2c**

a k-ingga / yeen ge lar-ej maji mba ndogo / bei
P     O         Asp
you.will find / this which price-its be.good for to.buy / yet
'You will find one whose price makes it a good buy.'

**J4382b**

see / m-askem k-ingá / Moundou / wa
?  P     L   ?
?  / I-can find.it / Moundou / ?
'Can I find it in Moundou?'

**J451A3c**

mbata) loo sux le / ndogo / ne / kene-g / saar
L P     O     L   Ext-T
because) place market the / sell / thing / in-there / until
kar tel rea ge mbor-ee lam (ndaa
sun turn body.its toward side-its a.little (then
'because in the market [they] sell until four o'clock'
Clauses

J322C1b

á taa / reou ge par ge kel ber / mba teen

P 0 Purp

you will take / road which be toward direction east / for to arrive

Laï (bba

Laî (and

'You go east to get to Laï.'

L34A5b

caprimeje neele / taa / as gol joo / qe ndo kara kara

O 0 P Ext Mann

pills here the / take / equal time two / at day one each

lal / ya

Afm

all / truly

'These pills, take [them] two times a day every day without fail.'

J552A1b

togo / salade le / qe savon qe mann fllitre

P 0 Mns

wash / lettuce the / with soap and water filtered

'Wash the lettuce with soap and filtered water.'

J29P1a

loog ge) deouje / d-uso / ne / mban (ndaa

S P 0 Asp

when) persons / they eat / thing / already (then

'When people have eaten then...'
J28P5a
ngamandeje / d-uso / ne / nan-d
   S     P     O   Acc/L
young women/ they-eat / thing / each. other-there
'Young women eat together.'

L44B2a
nasaraje la1 / do mapa-g   bba / d-usâ (lem to
   S     L     P
Europeans all / on bread-there -- / they-eat.it (also
'All Europeans eat it [peanut butter] on bread.'

3.4.2 Semitransitive Clauses. This clause type is characterized by a
class of verbs which would be expected to have an obligatory object,
but sometimes do not. When no object is present, a reference to a
previous object can be assumed. As a category, Semitransitive will
have to be verified with additional examples of the optionality of the
object for the individual verbs.

Peripheral tagmemes are limited ordinarily to Temporal/Locative,
or Adverb/Aspect, and an occasional Purpose clause. Means, Extent,
Manner, and Accompaniment occur with certain verbs.

The optional Subject tagmemen is filled by a pronoun or noun;
there are no examples of noun phrase, but this is a peculiarity of the
text material. Of the verbs that appear to be of the semitransitive
class, some are very common, some are used frequently and others have
a transitive counterpart.

If the Object slot is without any overt tagmemen, it may be present
as a high tone on the final vowel of a two-syllable verb ending in a
vowel. Six of about twenty semitransitive verbs mark the object in
this way regularly.

J253A2a
majî, nê) ra-je / kalang
   P    Adv
good but) do-pl / quickly (refers to a previously mentioned action)
'Good, but do [it] quickly.'
Clauses

J501B2d

bba) yeen / ra / bei
     S   P   Asp
and) he / do / yet
'He does [it] afterward.'

J372A1a

main kar-a  loo ge) kar / os / yaan le / qe ndo kara kara lai
     T   S   P   Adv   T/Mann
month sun-in.it when) sun / pierce / much the / at day one each all
'In the dry season, when the sun is very hot every day,...'

L41B2a

d-a   k-om / qe   kula / kette (bba
     P   Mns   Adv
they-will put / with cord / first (and
'They will put [it in place] with cord first, and ...'

J562A3a

see d-a   koga / qe   lar kanda / wa ese
 ?   P   Mns   ?
they-will pay / with money how.much / ? or
'What is the price, or...'

J421B2c

mbata) à   main / se-l / kar kur-ee eou yaan
     P   Acc   Ext
because) he.will discuss / with-you / time duration-its be.far much
'...because he will discuss [it] [the rent] with you for long time.'
Clauses

L39A3b

ndaa, see yee / a ra / ban bba / mba kar bina a
? S P Mann emph Purp
then she will do how -- for to cause chaff will be

goto / wa
no more /

'How will she cause the chaff to disappear [when there is no wind]?'

L40A1c

ndaa, see yee / a ra / toge ban bba / mba k-ororo muru
? S P Mann emph Purp
then she will do / be which how -- / for to prepare mush
/ wa
/

'How does she prepare the mush?'

3.4.3 Ditransitive Clauses. This clause type is characterized by a small class of verbs which require an Indirect Object. The peripheral tagmemes are restricted to Purpose, Extent, and Temporal; Aspect is present, but very infrequently.

The Agent tagmeme is optional, being present in about half of the clauses, and when it is present, it is usually a pronoun or a proper noun; noun phrases are not present in this data as fillers of the Agent slot.

The Predicate tagmeme may include the Indirect Object as a pronominal suffix.

The Indirect Object tagmeme is filled by a pronoun or less frequently by a proper noun or noun phrase of the Head Modifier Nominal Identity or Identifier class.

The Object tagmeme may have the same referent as the Indirect Object. The slot may be filled by a noun, proper noun, or noun phrase, but pronouns are not found in the Object slot. Head Modifier Nominal Identifier phrases are a common filler, and all the other Head Modifier Nominal noun phrases are present except Directive. In addition to the Head Modifier Nominal phrase, the Multiple Head phrase and the dependent clause (either of the infinitive type or a special toge 'that' subordinate type) occur with some frequency.
Clauses

J501B2c

jeen / toj-ee / kula / kette (bba
Ag P IO 0 Asp
we / show-him / work / first (and
'we show him the work first, and...'

J232A3b

m-a kula-i / ndo ge j-a k-unn kud-ee / bel
P IO 0 Asp
I-will tell-you / day which we-will take end-its / yet
'I will tell you the day [on] which we will begin later.'

J522A1a

ma / m-ulé / neje lai / mba k-ar-ee ra
Ag P IO 0 Purp
I I-tell.him / things all / for to-allow-him to.do
'I tell him everything and let him do it.'

J411A3a

m-a deji / deou kara / k-oo
P IO Purp
I-will ask / person one / to-know
'I will ask somebody to find out.'

L41B1b

a bbar / kur-mar-ee-je joo ese munta / mba k-ar
P IO Purp
he.will call / pleasing-likeness-his-s two or three / for to-allow
dee la se-a do-g
them help with-him on-it
'He will call two or three friends to help him with it.'
Clauses

L2981b

ndaa, deen / ndoo / dee / loo k-uru kubu lem loo goI
    Ag  P   IO  0
then they / teach / them / place to-sew cloth   place to prepare
    neso   lem to
    thing.eat also
'They teach them how to sew cloth and how to prepare food.'

J243A2c

m-a k-ar-l / sceau je joo ge asena
    P IO  0
I-will give-you / buckets two which.be equal
'I will give you two buckets of the same size.'

J243B2a

a-m / ngon sceau le
    P IO  0
give-me / small one bucket the
'Give me the small bucket.'

J421B1a

I / a k-ar / kurmar-l ge ger loo majl ya ree se-l
    Ag  P   IO
you / will let / friend-your who knows place good truly come with-you
    mba   dejl nje-kel ne ge a ra mba goI
    in-order to ask one-house thing which he.will do for prepare
    kel kette (bba
    house first (and

'You should ask your friend who knows the places well to come with
you in order to ask the owner what he will do to get the house
ready beforehand.'
Clauses

J271A2b

maki kar-i / ar-ee / om nang / el

Ag P IO 0 Neg

good for-you / allow-it / spill earth / not

'Don't let it [the millet] spill on the ground.'

3.5 Equative Clauses. Excluding the clauses that occur with verbs such as goto 'be no more' and as 'equal', and those clauses and sentences in which there is no overt expression of to 'to be', the most obvious subclassification of Equative clauses seems to result in three subcategories.

The first is one in which the verb to 'to be' is followed by an adjective or numeral which may be followed by a comparative or purpose clause plus a locative phrase or adverb. In the single clause sentence additional classes of fillers, Manner tagmemes, and interrogative quantifiers are present.

The second group would be characterized as equational or predicate complement; there is some identity between the complement and the subject. Often the complement is simply a noun which may be qualified by an adjective or numeral. In some instances the complement will be modified by a full Relator-Axis Adjective clause beginning with ge; in others it is an Item Possessor phrase.

The third category is one in which the complement is a locative. This may be a single word, which may be qualified, and either the whole word or the phrase terminated by a locative suffix (-d, -g). The other frequent locative is a phrase beginning with a preposition. In that case the locative may be followed by another locative or directive phrase.

The three subcategories have been given the labels of Descriptive, Equational, and Locational; they will be discussed and illustrated below.

3.5.1 Descriptive Clauses. These are characterized by the use of an adjective or a numeral to specify the quality and/or quantity to be attributed to the subject. The term descriptive is used to cover the use of both adjective and numeral in what is commonly called a Predicate Adjective position.

In addition to the Descriptive tagmem, there is often a Purpose tagmem, and occasionally Temporal, Locative, or Comparative tagmemes. There are few occurrences of the Aspect tagmeme.
A reduplication of the adjective tagmeme, if it is the same filler, is used to indicate emphasis; if the second is different, then its function is that of an adverbial intensifier. Subject tagmeme deletion is possible, as is the occurrence of Item Appositional phrases in the subject position. There are examples in which the subject and the descriptonal adjective are deleted and the purpose tagmeme follows immediately behind the verb.

The fillers of the subject tagmeme slot are noun, Cl=W, Pr=W, noun phrase, and, as would be expected, pronouns and proper nouns do not occur as subjects. The phrases are Head Modifier Nominal with the Identifier and Modifier subtypes absent and the presence of Identity and Directive subtypes still in question on the basis of this sample. There are instances of dependent clauses (ininfinitive) as subject tagmemes.

L25-1B2a
mbata) kula ndole deel / to / yaan
       S   P  Adj
because) work day of them / be / much
'because their workdays are many'

J571B2b
ndaa) yeeje neele bba / to / maji
       S   emph  P  Adj
then) these here.the -- / be / good
'then especially these are good'

J471A1a
neje ge lam lam mbandogo / to / bula yaan / bei
       S   P  Adj  Asp
things which small small for to.buy / be / many much / yet
'There are still a lot of small things to buy.'
Clauses

L29B4a

ton / bulé yáan / él (nè
P  Adj  Neg
he / many much / not (but
'There are not very many.'

J491B2a

tíra  lé / lar-ee / to / sak  munta
Appos  S  P  Nuphr
bed  the / price-its / be / thousand three
'The bed, its price is three thousand.'

J481B2a
	on / máj-it / mba k-sou makaja-g  qe loo  sug-d
P  Adj  Purp
be / good / for to-go store-in it at place market-there
'It is good to go to the store in the market place.'

J441B2a
	on / mba ger  ne  lar neje  kette (bba
P  Purp
be / for to know by this means price things first (and
'It is to know the price of things ahead of time.'

3.5.2 Equational Clauses. These are characterized often by the
repetition of the head noun of the Head Modifier subject phrase as
the head of the complement phrase. The verb to 'be' is obliga-
tory, but the subject phrase may be in a previous clause, deleted,
or assumed rather than just optional. If the head noun is not
repeated then the complement may be a Clause-Word with nje 'one,
person' or a proper noun. The complement is sometimes an inter-
rogative pronoun. There are no other clause-level tagmemes present.

The fillers of the subject phrase slots are either pronoun, noun,
proper noun, Clause-Word, or Head Modifier Nominal phrases. The Head
Modifier Nominal Identifier and Modifier H-M phrase are not found in
the subject position since they would tend to pre-empt the use of an
equational clause to identify the subject. In the complement, all of
the above are present except the Head Modifier Nominal Directive phrase,
whose absence is probably accidental because of its relative scarcity.

L54A5c       J353A2c
 I / to / na-je   yee ge rang / to / Chari
S    P  Compl     S    P  Compl
you / be / one-rob this which be other / be / Chari
'You are a robber.'    'The other one is the Chari [river].'

J341A2a
wah, reou neele / to / reou ge    mee bbee-g     (ndaa
S    P  Compl
no road here. the / be / road which be in village-there (then
'No, this road is the road into the village/city.'

L46Alb
see / glnn-ee / to / ddi / wa
?    S    P  Compl ?
?    / origin-its / be / what / ?
'What is its origin?'

L211A1a
deou je neele / to / na-je / wa
S    P  Compl
persons here. the / be / who.pl / ?
'Who are these people?'

L29B2a
loc-ndoo-ne    le deco le / to / loco munta:
S    P  Compl
place-learn-thing of them the / be / place three:
'Their schools are [located] in three places:...'

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Clauses

L33B2a

wah, loo ge dojgel nee bba / to / loo k-ula qe
S emph P Compl

no place which on. hand. left here -- / be / place to-send by
télégramme (lem
telegram (also

'No, the place on the left is the place to send a telegram.'

3.5.3 Locational Clauses. These are characterized by the presence of a Locational or Directional tagmeme. The former may occur in triplicate and the latter in duplicate; these occurrences are not identical repetitions. There are cases of a mixture of not more than one Directional and not more than two Locational tagmemes.

The adjectival and numeral tagmemes or Purpose tagmeme can occur after the Locational which follows the verb.

There is no deletion of either subject or predicate tagmeme. The subject is filled mostly by noun and noun phrases; there is one instance of a pronoun and one of a Phase=Word. Head Modifier Nominal Modifier and Completive H-M noun phrases seem to be excluded, but Directive is well represented. There are some Multiple Head phrases, in particular Item Appositive.

The Locational tagmemes may be Head Modifier Nominal Completive noun phrases, interrogative pronouns, Relator-Axis Adverbial phrases (locational or directional), or kene-g/kenneng to indicate previous mention of the location, and of course, proper nouns (places).

L25-2B2a

ndamje / to / loo suk-d (lem
S P L
dances / be / place market-there (also

'The dances are in the market place.'
Clauses

J551A2

pétrole / to / mee damljal-g nee (lem
S P L
kerosene / be / in demijohn here (also
'The kerosene is in the large bottle here.'

J461A1

see loo k-inga menji / to / rawa
? S P L
? place to-find beans / be / where
'Where are the beans?'

J551A2c

kul kara / to / mee sac-d / mee kel paga-d / raga
S P L L
charcoal itself / be / in sack-there / in house oook-there / outside
(lem to
(also
'The charcoal is in a sack in the kitchen outside.'

J372A3a

loo k-ale mann / to / kene-g / mba k-ar-i aou ale mann
S P L Purp
place to-swim water/ be / in-it / for to-let-you go swim water
kene-g (boo
in-it (contrast
'The swimming pool is there for you to go swimming in it.'

J341C1a

Hôtel de Ville ge mee bbee-g neele / to / dann-a
S P Dir
the city hall which in village-in.it here.the / be / midst-in.it

69
Clauses

Jorong

straight

'The town hall of this village is straight ahead.'

J321C3a

loo ge par ge kel nord le / to / Kelo

place which be toward toward direction north the / be / Kelo

'The place which is in a northerly direction is Kelo [city].'
4. SENTENCE STRUCTURE

4.0 Introduction. The approach to the analysis of the sentence level in the tagmemic framework is in a state of transition. This is evident especially in the progression of the published works of Longacre in the past few years.

In his Philippine monograph, Longacre lists fourteen assumptions and postulates in defining the "notion of sentence" (1968: 1,2); in the following pages he discusses the application of these to twenty-four languages. Two years later, in an article on sentence structure (1970:783-802), he gives a summary of his conclusions as to the correctness of the formula of Outer Periphery, Inner Periphery, and Nucleus as it has undergone modification with the addition of data from English and ten meso-American languages. Finally, as senior author of a paper on a single Philippine language (Ballard, Conrad, and Longacre 1971a:70-118), he discusses in detail the relations of clauses within the sentence nucleus in terms of the substitutability of conjunctions and logical structure. Results from Longacre's work in New Guinea (1972) will be mentioned below.

I have attempted to analyze and describe the Central African language Sama-Ngambay by combining and altering as necessary the approach outlined and explained in part in the above publications. Because the nature of the text materials (conversational dialogues) is somewhat different, I have felt free to give different labels to the categories which Longacre has proposed and to cite and discuss the criteria, differences, and labels chosen for the language herein described as against those posited for the above languages.

In this brief introduction to sentence structure I will take the Sentence Postulates, Sentence Formula, and the Sentence Deep and Surface Grammar in order, and try to summarize their content as it applies to the development of the description to be presented here. The main body of the chapter will be a detailed introduction, exemplification, and discussion of the Sentence Margins (Inner Periphery) and then the Sentence Nuclei of Sama-Ngambay.

4.0.1 Sentence Postulates. To begin the discussion of his theory of sentence structure in Part 2 of the Philippine volume, Longacre presents a series of Postulates.

The first postulate is concerned with the familiar problem of the relation between the phonological pattern and the grammatical pattern of the sentence. This has been discussed in the
Sentence Structure

past by Pike, and has been included also as an early rule in the
generative schemes of Stockwell and also of Householder. The
gist of the matter is that if there is a final phonological
juncture which occurs medially whether the conjunction is present
or absent, then there are two sentences.

Postulates two through seven are concerned with the fact that
there are a limited number of unique nucleus sentences that form a
system in a given language and that these are accompanied by both
outer and inner periphery. The details of the latter are pre-

tented in the chart (Figure 1) of the article (1970) which is taken

up next.

Postulates eight and nine concern the distinction between

conjunctions and particles and their functions versus bases, which

is a general term for clauses, embedded sentences, and phrases

(the last may be a quotation formula).

Ten states that, in addition to the above, "permutation, de-

letion, and transformation" further distinguish sentence types.

In eleven through thirteen there is a listing of the primitive

sentence types such as "Simple, Coordination, Antithesis, Alter-

nation, and Quotation," and an elaborate description of the ways

in which the nonprimitive sentences can be derived. Postulate

fourteen points out that the logical relations and the grammatical

relations do not coincide. This is the subject of the Ballard

paper. These fourteen are followed by a discussion of the relation

between phonological and grammatical sentences and of the relation

between grammatical and lexical sentences.

4.0.2 Application of the Postulates. The first of the postulates

concerns itself with the distinction between grammatical and

phonological sentences. The conversational dialogues of Ngambay

were recorded, and those instances where the informant's written

punctuation has been contradicted by the intonation which he has

used in recording the material have been resolved by reliance on

the grammatical patterns (clause-final particles and conjunctions).

As in the case with Longacre's citation of Reid (1968:2,3),

we have chosen to rely on the presence of a conjunction to define

a grammatical sentence regardless of the intonation pattern (since

in a number of cases the intonation pattern tends to place the

relator and the conjunction within the boundary of the first

phonological clause).

The presence of two nonconnected or nonserial verb phrases
also calls for the recognition of a multiclause sentence, even though no overt conjunction is present.

The division between periphery and nucleus allows for the description of all periphery as being capable of uniting with or being preposed to any nucleus. This is true especially of the Outer Periphery (exclamation, vocative, etc. governed by the discourse). The Inner Periphery is usually relator plus axis. The axis may be a single clause or it may be some embedded sentence margin or sentence nucleus or combination.

The division between the Outer (occurring first) and Inner Periphery (following) seems to depend most significantly on the absence of embedded Outer Periphery, and the fact that the Outer Periphery is nearly always manifested by a word, sometimes by a phrase, but never by a clause or sentence as is usual for the Inner Periphery.

4.0.3 Sentence Formula. In the article on sentence structure, Longacre claims that "what is usually termed sentence structure in linguistic literature is rather clause structure." He claims further that clause structure is the linguistic counterpart of predicate calculus. Sentence structure, however, is the linguistic counterpart of the statement calculus although it involves a richer and more varied scheme of relations than those found in formal logic (1970:783).

The three operations, conjunction, alternation, and implication, are found in both formal logic and natural languages. Longacre presents a taxonomic scheme for the sentence which is based on a framework used on the clause level, Outer and Inner Periphery versus Nucleus. This taxonomy is presented in his Figure 1, which is reproduced here. He points out that these elements are "non-language specific" but that their linear ordering is language specific. The Outer Periphery is "conditioned by constraints such as paragraph and discourse structure". The Inner Periphery is what has been called dependent clauses, but is here called Sentence Margins. I assume that the term margin is to denote that they are beyond what is necessary to define the nucleus.

The application of the Sentence Formula is taken up in detail in the description of the Sentence Margins.
1. Linear order on the chart is intended to reflect a statistically common ordering among the world's languages.
2. Outer Periphery items permute to grammatical junctures within Inner Periphery and Nucleus in many languages.
3. Nuclear sentence strings may occur recursively within the Inner Periphery and the Nucleus.
4. A particle such as English *then* intervenes in many languages between certain proposed sentence Margins and the Nucleus.
5. In the Outer Periphery, the symbol 'Sent. Conj.' stands for a set of positions such as Sentence Conjunction, Sentence Adverb, and Sentence Modifier, e.g., and, nevertheless, obviously...
4.0.4 Deep and Surface Grammar of the Sentence. In stating his purpose for deriving a taxonomy of Deep Structures on the sentence level (interclausal), Longacre points out that in general the deep structures are not only more basic but also fewer in number than the surface structures.

There has been an effort recently by a number of linguists--Chafe (1970), Fillmore (1971), McCawley (1968), and Weinreich (1966) among others--to emphasize semantic categories as more basic than grammatical ones. In general, the term deep structure has been associated with these attempts to find a lexical or semantic base. Fillmore's case grammar with its deep structure versus surface structure categories became well known in the mid and late sixties, but the contrast (situational vs. grammatical) on which Longacre bases his distinction of deep versus surface was developed even earlier by Pike for Philippine languages.

The above linguists have been concerned with clauses containing one main verb. Longacre asks if this distinction cannot be utilized for the analysis of the sentence, where clause is joined to clause. The deep structure or situational categories are posited because of the similarities and contrasts in "collocational behaviour of close synonyms as well as by noting transformations involving identical lexical items" (Ballard, Conrad, and Longacre 1971a:73). Longacre then goes on to say that a set of deep structures is needed to explain the changes in meaning when the same lexical items are rearranged in different interclausal patterns. Carrying this over into the idea of representing the clauses by symbolic logical predcations, the question is: What are the relations between the symbolic logical predcations when they are combined in a statement calculus? (At a glance, they--the predcations--seem to be related by a conjoining symbol.) The multiplicity and overlapping of the surface forms favors the choice of using the logical representations. Longacre claims that in order to make use of deep structures (symbolized logical statements) it is also necessary to derive a taxonomy of them, as has been attempted for surface sentence structures using the conjunctions which join the clauses.

A taxonomy of the deeper structures should be less complex and more easily defined in terms of number and arrangement of categories.

4.0.5 Application of the Surface/Deep Dichotomy. Applying the concept of a dual set of internal structures on the clause level (situational vs. grammatical) to the sentence level, Longacre envisions a surface pattern/deep structure dichotomy. He views
Sentence Structure

both as taxonomies, not in one-to-one correspondence but in a relationship such that the number of deep structures proposed for a given language is sufficient to account for the surface pattern encoding (data). He thus distinguishes such deep structures as coupling, contrast, overlap, and succession from such surface structures as coordination, antithesis, simultaneity, and sequence.

The comparison of deep structures rather than surface encodings eliminates some of the confusion due to the multiplicity of the surface encodings, and it provides also a formal system for comparing universal deep structures. This can be useful in the study of the languages of a given area.

Longacre points out that questionable grammaticality of a surface structure may arise from a less frequent or unusual encoding of a deep structure which is regularly or normally encoded in some other surface pattern. His arguments for the primacy of deep structure are found in Ballard, Conrad and Longacre (1971a: 74-78). This paper is set up basically for the description of some selected surface types subclassified according to logical representation, but followed by a comprehensive cross reference called the Reverse Index. It is in order next to present a more extensive analysis of the complete sentence structure of a single language in terms of its deep structure categories according to the Index.
Chart 4

Deep Structure Reverse Index
as proposed by Conrad in
Ballard, Conrad, and Longacre
(1971a:111-114)

I. Conjoining
   1. Coupling
   2. Contrast

II. Paraphrase
    1. Affirmation
    2. Negated Antonym

III. Temporal
     1. Overlap
     2. Succession

IV. Implication
    1. Realization
    2. Frustration
    3. Causation

V. Alternation
    1. With excluded middle (exclusive disjunction)
    2. Without excluded middle (inclusive disjunction)

VI. Amplification
    1. Existence-predication
    2. Predication-equation

VII. Reporting
     1. Speech
     2. Awareness
     3. Metalanguage

*This presentation does not include the logical representations
or the sub-subcategories based on them.
Sentence Structure

4.1 Systems of Sentence Margins (Inner Periphery). In his discussion of the Philippine languages, Longacre cites examples to establish the various types of sentence margin, and then presents his Systems of Sentence Margin (1968:2.49-56). The systems which he favors are those which consist of a three-by-three matrix with the exclusion (extrasystemic) of the Sentence Topic Margin. The dimensions of the matrix are "order vs. relation" (time sequence vs. temporal-logical). There is a heavy reliance on the existence of three major time divisions (Prior, Concurrent, and Subsequent).

The three-by-three matrix was initially used as an investigatory model by this author, but it was subsequently rejected in favor of a two-by-four matrix of which several examples are given in Section 1.3.5.2 (Less Extensive Systems) of the Longacre monograph.

Ngambay has a different perspective of temporal events and their relationships. There is one time margin that is used frequently—the one which begins with the relator loo ge. When prior or subsequent relationships are to be indicated, it is done by the use of aspect or tense markers within the margin rather than by the use of a different relator (i.e., margin type). This is not to say that there are not some very specific margin subtypes that can be used to indicate the passage of an interval of time or the continuation of a period of time to some point in the future. The relative infrequency of these, plus the much more frequent use of alternative internal structures in the margins beginning with loo ge, have led to the rejection of a system in which one dimension depends heavily on a partition of time.

The choice of a two-by-four matrix appears to allow for the inclusion of Sentence Topic and Initial Sentence Conjunction to which Longacre has given a fair amount of discussion in Section 1.3.5. Furthermore, there are more appropriate choices for the labels to be given to each dimension and each intersection (the members are the sentence margins). Thus, dimension labels such as "Actual" might also be considered from the perspective of Certain or Assured, whereas "Hypothetical" might be replaced by Uncertain or Unassured.

Additional support for the two-by-four matrix and its labels may be found in a comparison of matrices derived from the examples in the new grammars of the other two major dialects of the Sara family.

The reality of the matrices lies in the use of them as a tool
to distinguish surface forms, but the possibility of creating an
unreal pattern is always present. The following system is to be
regarded as something less than reality. The variations in the
semantic meaning of a given surface form are mentioned under the
appropriate section of the discussion of the sentence nuclei below.

4.1.0 Outer Periphery. For the sake of completeness and to aid
in comprehension of the examples, a brief summary of the Outer
Periphery is listed below. The identification of these is second-
ary to the major thrust of this analysis, and the reader is referred
to pages 13-23 of the Philippine volume for a full discussion
of the identification and classification of Outer Periphery. Some
of the examples are from other text sources; the labels are those
given to each category by Longacre.

Examples of Outer Periphery

1. Initial Conjunction
ndaa 'so then' bba 'and'
beet ndaa 'therefore'
ths bba 'thus'
togbe bba 'thue'
gelee ge nee bba 'for this'
yenn nga 'at this instant'
loog ge nanje 'sometimes'
nga 'and'
yeen bba 'this'

2. Exclamation/Attention
el 'attention'
haa oo 'look out'
he 'hey'
hael 'surprise'
bbal 'help'

3. Response/Affirmation
beet ya 'that's right'
hm 'pensive acceptance'
mayi (ya) 'good'
woyo 'yes'
waah 'no'
togero ya 'O.K.'

4. Vocative (analyzed as Sentence Topic)
proper names
second person emphatic pronouns
kin terms

5. Ligature/Hesitation
nga 'and'
ndaa 'then'
beet, bbe, bee 'thus, thus, thus'
ndaa, ndaa, ndaa 'then, then, then'

79
6. Emphasis

ya 'really' to 'also'

7. Echo

oo 'ee' m-oo 'I see'
a-m 'give me'

Chart 5

The System of Margins

(INNER PERIPHERY) for Sara-ngambay
presented in a two-by-four matrix
with the identifying relator or particle

<table>
<thead>
<tr>
<th>ORIENTATIONAL</th>
<th>CHRONOLOGICAL</th>
<th>IMPLICATIONAL</th>
<th>TELEOLOGICAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certain</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACTUAL</td>
<td>Sentence Topic</td>
<td>Temporal</td>
<td>Concessional</td>
</tr>
<tr>
<td>Assured</td>
<td>..............lé</td>
<td>loo ge</td>
<td>lee....kàrà</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uncertain</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HYPOTHETICAL</td>
<td>Sentence Perspec.</td>
<td>Extent</td>
<td>Conditional</td>
</tr>
<tr>
<td>Unassured</td>
<td>saar</td>
<td>boo lee</td>
<td></td>
</tr>
</tbody>
</table>

(qe) mba kar-
Sentence Structure

4.1.1 Orientational, (a) Sentence Topic. The Orientational column (Chart 5) contains the most diverse surface forms in the whole system of margins. Sentence Topic can be defined by position and the presence of a terminal marker, but Sentence Perspective is limited to one set of margin relators (at present).

In order to resolve the confusion between sentence topic and clause topic, it was necessary to apply the three criteria given by Longacre (1968:2.25) plus one additional criterion: "(a) [the Sentence Topic] groups with elements of the sentence periphery rather than of the sentence nucleus ...; (b) it has...a non-final terminal juncture which sets it off phonologically from the rest of the sentence" (in Ngambay this is indicated usually by the presence of the definite article lē or the emphasis marker bba or both in that order); "(c) the clause, which...has a cross reference pro-word referring to the Sentence Topic, is a complete unit without it." The criterion added with reference to Ngambay is (d) the sentence topic is a dependent clause or is a phrase containing an embedded clause.

There is a clear distinction between sentence and clause topic signified by the use of a second initial interrogative marker see. If it occurs only once at the beginning, what follows is to be regarded as a clause, but if after the first clause the initial interrogative see occurs again, the first clause is a margin (often temporal or conditional, but occasionally sentence topic).

(i) Subject/Agent

In the first example the sentence topic is an Identifier Noun Phrase modified by an embedded clause followed by the definite marker lē; the subject is expressed by a pronoun followed by an emphasis marker. The second example is a dependent clause beginning with an infinitive. The third example is a question sentence in which the first marker is absent, but the second does occur before the nucleus. The fourth contains a passive verb with the Agent topicalized.

L7A3
tobel) ne ge rang ge deen ra bejje, yee
ie.yet) thing which other which they make yet the this
Sentence Structure

bba to gâteau
-- is pastry
'Another thing they make is doughnuts.'

J322C3

woyo,kin Ft. Lamy ree Moundou qe lapalal,le,yee yee to.oome.from Fort Lamy oome.to Moundou by plane the this bba to majl
-- is good
'Coming ... by air is better [than coming by land implied].' 

L23A1

(see) paje ge neele, see to pa ginnka wa songs which here.the ? be songs ancient ? 'These songs, are they traditional songs?'

L282A1

douye ge ra kula Centre Social-g le, kula ra dee to ddle wa people who do work Social Center.there the work do them is what ? 'The people who work at the Social Center, what [kind] of work do they do?'

L62B2

basa kara le loo ge école goto ndaa, yeen ree qe young.man one when school be.no.more then he oomes with kao kunja egg 'One young man, when school is over, comes [to sell] eggs.'

(11) Object, Indirect Object. In the examples where the verb of the nucleus ends in a vowel, one can expect also a high tone or double vowel, but if the verb ends in a consonant, no cross-reference marker or pronoun occurs. This does not hold for the indirect object.
Sentence Structure

J472B2
réchaud ge 1 pa taree le kara, m-oo to heater which you said affair its the even I-saw also
'The heater you talked about, I saw it too.'

L7A3
yeen ge bol ge kem gursi dog le bba, m-a ndigl yan this which be big which for cents ten the I would desire much
'The big one for ten cents, I want it.'

L28BC1
ngannje ge d-askem kaou l'école el bel le bba, deen children who they be able to go school not yet the they
ndoo dee nu
teach them there
'The children who are not going to school yet, they teach them there.'

(iii) Locative. In the Locative examples the sentence topic is a Locative Relator-Axis phrase, and the nucleus contains the locative marker kenne-g/kene-g. When the sentence topic is a Locative Identifier Noun Phrase, the kene-g is not present. In questions the initial question marker is permuted to the head of the nucleus.

J231A3
mee ndogo ge nanje le, kag aer kene-g kara ese joo ar inside courts some the tree stand in it one or two give
dee ndlle bula
them shade its many
'Inside some courtyards, one or two trees provide shade for people.'

L25-1A3
(see) mee bbee booje-g le, see deouje ra nain we in village big a there ? people make celebration ?
'Is it in the big villages [only] that people celebrate?'
Sentence Structure

J26P9

loojie lai ge mee quartierje-g le, deouje d-unda kulje
places all which in quarters-there the people they-show charcoal
'Everywhere in the neighborhoods, people sell charcoal.'

(iv) Temporal. There are only two examples that seem to meet the
criterion for temporal sentence topic.

L1B4

mee nainje ge kar os kene-g yaan el bel le, dee tel
in months which sun pierce in-it much not yet the they return
gol jo ya
times two

'In the months before it gets hot they go to school twice a day.'

J372A1

nain kara, loo ge kar os yaan le, qe ndo kara kara
month one when sun pierce much then each and every day
lai, boo lee i aou ta baa-g ndaa, a koo
if you go edge river-there then you will see
deouje bula ge d-aou mba kale mann lem, nje ge
people many who they-go for to climb water some
nanje ... ese mba ... lem to
or for also

'In the first month [January] when it is hot every day, if you
go to the river you will see many people who are swimming and
[washing clothes, etc.].' (b) Sentence Perspective. The other subcategory that completes
the Orientation order is Sentence Perspective. It includes mar-
gins that begin with the relator na 'lest, so, that not' and
banelle 'perhaps', or a combination na banelle 'lest perhaps'.
What is being indicated is the possible course of action toward an
undesired result or the possibility of an undesired result. The
element of fear may be present. Longacre discusses this under the
Sentence Structure

title Chance/Anticipatory/Hortatory Margins (1968:2.39). (Negative purpose would be indicated by mba...el 'for...not, or else'.)

J252A1

os roi bbad, m-ndigi ndogo mann kalang, nà loo ge m-a
hurry up I-want to.wash water quickly lest when I-will.be.
qe kaou loo kula-g lem ndaa m-a nai gogo
about to to.go place work of.me then I-will rest after (be late)

L27A2
deen pana: n-a kalje mann dann kara el, nà ro neen a
they say we.will drink water during day not, lest body our will
tö neenje
break us (we will get sick)

------

a ci j-aou bee nà njekelje d'a ree nga
let's go home lest owners they.will come certainly
(let's not get caught in their house)

p. 15, Old Dictionary
deen bbel nà banelle d'wa dee
they¹ fear lest perhaps they² take them¹

p. 177, New Dictionary

od ge katte nà banelle loo a ndul
go ahead lest perhaps place will be dark
'Go ahead, don't let the night fall on us out here.'

On the basis of semantics alone some of the examples might be included with the Purpose Margin (Section 4.1.4), but this category label chosen by Longacre is representative of a variety of meanings as indicated by the examples.
4.1.2 *Chronological (a) Temporal Margin.* The clauses which begin with *l̄oo *ge *'place which.be' and terminate with *ndae *'then' can be classified as temporal margins. However, it is evident that these margins are not used to indicate primarily time settings of past, present, or future, but rather a temporal condition. The variations in meaning derive from additional indicators such as the use of complete and incomplete aspect, and future/conditional or immediate future tense.

In half of the instances of these margins three surface subtypes are easily distinguished: (1) those whose relator is *kar as 'hour equal to (at -- o'clock)' instead of *l̄oo *ge for subsequent time or time at which an action will begin; (2) those with complete aspect *mban to indicate the state after which the action follows; (3) those which have future tense in the margin and the future plus the incomplete aspect in the independent clause (nucleus) which follows. The remaining half seem to divide into those which indicate that after a single action has occurred or whenever a given action or state occurs in the margin, the action in the nucleus will take place.

The first two examples utilize the aspect marker. In the third an Extent Margin takes the place of the aspect marker. The fourth example uses the relator *gege *gogo to indicate that after an indefinite interval, the following action begins (normally this relator functions as a sentence conjunction to relate paragraphs).

**J29P1**

*l̄oo *ge *deouje *d-uso *ne *mban *ndae, *nje *ge *nanje *d-11le *twa *nd11

*when people they-eat thing already then some they-put mat shade

'When people have eaten, then some put their mats in the shade.'

**L40A1**

*l̄oo *ge *dene *seb *ko *mban, *tel *uru *ndujee *ndae,

*when woman *shell millet already turn pound flour.its then

*see yeen a *ra *togebani bba *mba *koro *muru *wa

*? she will do how in order to. prepare mush?

'When a woman has shelled the millet and pounded it to flour,

how does she prepare the mush?'
Sentence Structure

J552A2

loo ge risl le ndirl saar er maji ndaa, usu unda mbor
when rice the cooke until cooked well then push put beside
per-g qe mba karee nung a bba, boo
fire-there in order to cause it to be warm to the contrary
yen do per-g aree ned el
leave on fire there allow it burn not

'When the rice is well done, push it to the side of the fire to
keep it warm; don't leave it on the fire to burn.'

J30P6

gее ге гого кар dog ese dog giree kar ndaa, deouja lai
after hour ten or ten behind it one then people all
d-aou keije le dee mba to bbi to
they-go houses of them for to lie down sleep --

'After ten or eleven [p.m.] everybody goes home to bed.'

The second group are examples in which the immediate future
tense in the margin indicates that some time in the future when
the action is to take place, the action indicated in the nucleus
is to occur immediately after or before. In the last two examples
the main clause (nucleus) is in the Imperative.

J313A2

tobei loo ge a qe kand mee lapal-g ndaa,
is yet when you be about to enter in airplane-there then
d-a deji loo koi lei koo
they-will ask place weight of you to see

'When you are about to enter the airplane they will ask your weight.'
Sentence Structure

J501B2
nè loo ge a qe ra kula ndaa, jeen tôjee kula kette
but when he.be about to.do work then we show him work first
 bba yeen ra bei
 and he do after
'When he is going to work we show him the work first, and then he
does it.'

J281B2
woyo, nè loo ge a qe kaou loondoone-g ndaa,
yes but when you.be about to.go place.learn.thing-there then
 ar meeí wei do maktub e1
 allow inside.your die on book not
'When you go to school, don't forget your book.'

J542A2
loo ge a qe njai kubuje do kula-g ndaa, bor do
when you.be about.to hang clothes on line-there then wipe on
 kula kette bba
 line first --
'Just before you hang the clothes on the line, wipe it.'

J27P1
loo ge kar as dog giree kara ndaa, deneje d-unn
when hour equal ten behind.it one then wives they-begin
 kudu gol nesoje
 prepare thing.eat.s
'At eleven [a.m.], the women begin the [midday] meal.'

J29P4
loo ge kar ain as kara ndaa, ngannje tel d-aou mee
when hour runs equal one then children return then-go in
Sentence Structure

keije-g  i e  dee
house-there of them

'At one the children go home.'

The fourth group consists of examples in which the margin indicates some specific condition, state, or action.

L59A1

loogemann goto (nga), see dd! bba deou a ra wa
when water be.not -- ? what -- person will do ?
'When there is no water [in the well], what does one do [to find some]?'

L59B1

loogemann goto ndaa, deouje ge nanje sang loo kur
when water be.not then people some search place to dig
bwa mann
wells

'When there is no water, some people look for a place to dig
[another] well.'

L7B2

loogemann qe nunga bel ndaa, to maji yaan ya to
when remain with heat yet then be good very truly --
'When [the bread] remains hot it is really good.'

L63B2

loogemann nunga yaen ese kagje ge nanje unn kudu pudu ndaa,
when place be.hot very or trees some begin to flower then
'When it's very hot or when some trees begin to flower then,...'

The example below shows the infrequent placement of the temporal behind the main clause.
Sentence Structure

L27B1
d-as kem kusa ne loo qe kar and nang bba
they-be.able to.eat thing when sun enter earth --
'They are able to eat at sundown.'

(b) Extent Margin. This margin is separated from the Temporal Margin because its relator specifies extent in time or space. Longacre mentions two languages in which such a margin is called an extent or limit margin occurring pre- or postnuclear (1968: 2.33). In Ngambay the extent margin relator is saar 'until'; the margin always occurs postnuclear. There is another relator as 'equal to' or 'until equal to' which is usually used when a specific hour, place, or count is to be indicated as the limit to be attained.

J322A1
reou ge ged le to yeen ge In Moundou tee
road which be guarded the be this which come from Moundou goes out.
Doba saar teen Laï
from Doba until arrive Laï

'The regulated road is this one which goes from Moundou to Doba even to Laï.'

J242A2
ngina nee, saar am m-aoe m-wa m-111a mee
wait here until allow me I-go I-take I-put her in
kel-g bba
house-there --

'Wait here until I put her [female dog] in the house.'
Sentence Structure

J281A2

loox ge m-aou ndaa m-ndigl kishi sea saer j-a kin
when I-go then I-desire to sit with him until we will come from
nan-d loondoone-g bel
together-there place learn thing-there after

'When I go I want to remain with him until we go to school.'

L27A1

see arabeje d-unn asem leou ba saar teen bacine wa
? Arabs they take fast long only until arrive now ?
'Arabs fast for a long time but only until now?'

J562B3

d-a kin sel ge kar ge aar dang do mba kaou
they will come from with you at noon in order to go
saar loo ndul
until place dark

'They will start at noon in order to go until dark.'

L3882

m-a mboin nang kunde karee nà yeen ree el
I would mix earth to make to give him but he come to not
saar ndaa munta bacine
until day its three now

'I would have mixed mortar for him but he [bricklayer] hasn't
come for three days.'

4.1.3 Implicational. Under the title of "Implicational Margin versus Implicational Sentence" (1968:2.41) Longacre raises the question as to whether or not such a margin exists. He mentions an alternative analysis, which is to regard the margin as the "protasis" of a nuclear sentence which includes "protasis and apodosis". In Ngambay it is possible to separate those sentences in which the nucleus (second clause) is an Equational Clause which comments on the first clause and could not stand alone without it.
Sentence Structure

Further, there are somewhat lengthy discussions of Conditional Margin versus Time Margin (Section 1.3.4.2) and languages with more than one Conditional Margin (Section 1.3.4.3). These discussions point out that sometimes the relator of the Conditional Margin in Philippine languages is ambiguous; they indicate 'if', 'when', or 'whenever'. Contrary to this, in Ngambay it is the Temporal relator loo ge 'when' that can often be interpreted as indicating 'whenever a particular condition is met'. This might be extended to include the use of loo ge nanje 'sometimes', but this is usually used with a sentence rather than a margin.

(a) Concessional Margin. There are two relators used to indicate the Concessional Margin. The first is the conditional relator in shortened form, lee 'if' instead of boo lee 'if' (where the boo may very well be the adversative boo 'to the contrary' which is used as a conjunction). The second relator is kara 'even', which occurs at the end of the margin rather than at the beginning with lee. The margin itself (i.e., Axis) is not always a full clause; in fact, it may be a phrase or just an interrogative or indefinite "pronoun" reduplicated: riri 'whatever'; rara 'wherever'; nana 'whoever'.

The examples of Concessional Margin in the dialogues are limited to two, but there is one extensive letter that has three occurrences.

J571B1

I a kaskem ndogo odoro ya, nè laree bba yaan
you will be.able buy car all.right but price it -- be.much
lee ge Renault Quatre kara a to bee ya to
if that which Renault Four even will be thus truly also
'You could buy a car, but even the price of a Renault Four is
very expensive.'

L28B3

boo lee deen ndigl ndogo ge Cotonfran el kara, nè lee rirl
if they desire sell with Cotonfran not even but even whoever
kara Cotonfran ya kara ba bba
only Cotonfran truly itself only --
'Even if they don't desire to sell to Cotonfran, no matter who they are there is only Cotonfran.'

L65

meem tō kuji ta mpana: lee m-aou kara m-a inside, my break to, think word I-say if I-go even I-will kinga el mbata bacle to kar so mban: lee find-him not because now be sun fall already even if m-a11 ngwod yaan mba kinga kara l a I-run quickly very for to, find, you even you could have
teen reng mban ese a kudu ta gone out outside already or could have closed door bureau lei mba to office of; you already also

(b) Result Margin/Sentence. Almost every temporal and conditional margin is terminated with the word ndaa 'then'. This word is also used as a conjunction to indicate sequence or eventuation in a nuclear sentence. One might interpret the ndaa at the end of every temporal margin as meaning sequence and at the end of every conditional margin as meaning result. There are at least a dozen instances of ndaa used to indicate result where it might be better translated as 'so', 'with the result that', or 'therefore'. The result margin is always postnuclear.

There is also the use of bee ndaa 'therefore', 'thus', 'then' as a sentence or paragraph link, but it is used as a relator as is bee by itself.

(c) Conditional Margin. The Conditional Margin is much more frequent than the Concessive margin; it is marked always by the relator boo lee at its beginning and is terminated by ndaa. The boo lee implies that what follows is usually contrary to fact at that moment; the ndaa indicates that the following clause will be or would be the result or eventuation if the condition were to be fulfilled. On the other hand, the ndaa may indicate that what follows is a temporal sequence resulting from the condition or a result which occurs if or when the condition is met.
Sentence Structure

The second clause or nucleus has a future/conditional verb in two thirds of the instances, which adds to the uncertainty. This may also be indicated by the use of incomplete aspect or a future/conditional tense in the margin itself. Of the remaining third of the instances, two thirds of these (or two ninths of the total) have the verb to 'to be' in either the margin or the nucleus.

There are instances of multiple clause conditional margins, and the nucleus may certainly be a multiple clause (up to three).

L47A4

boo lee deou mbat kuga l'impôt ndaa, see ddi bba d-aa
if person refuses to-pay the tax then wa what -- they-will
ra sea wa
do with him ?

'If somebody refuses to pay the tax, then what will they do?'

J462A2

boo lee i sang loo qe mba kodo neje ji-g yaan
if you search way in order to carry things hand-in-it much
ndaa, ngaanje bula d-aar kene-g mba kodo neje
then small boys many they-stand there-in-it for to carry things
lel kari bel to
of you to give you after --

'If you are looking for a way to carry your many purchases there are
many small boys standing there to carry them for you [for a
price].'  

J401B3

boo lee i ger lar koga kel le el bel ndaa, maji karl
if you know price to rent house the not yet then good for you
dej laree kette oo bba
ask price its first you see --

'If you don't know the rent then you'd better ask so you know.'
Sentence Structure

J571B2

boo lee l ndigi kaou mba yaan yaan ndaa, yeeje neele
if you desire to go for much much then thing a here the
bba to maji
-- be good

'If you want to go a long way then these [motorbikes] are good.'

J582B1

boo lee naktub tojig ndaa, a la sel yaan ya
if book be hand-in it then it will aid with you much truly

'If you have a book, it will really help you [to learn].'

L41B1b

boo lee to ndogo ge ngal yaan ndaa, a bbar kuramareeje
if is mat which be long much then he will call friends
joo ese munta mba kar dee la sea do-g
two or three for to allow them aid with him on-it

'If it is a very long mat then he will call two or three friends to
help him with it [weaving it].'

L59A2

boo lee mann goto mae bwa-g (ndaa), see d-a
if water be no more in well there
they will
kur ngiira kagje ge to ta baa-g mba kinga mann
dig root trees which be edge river there for to find water
kene-g wa
there

'If there is no more water in the well then they will dig at the
roots of the trees near the river to find water.'
Sentence Structure

J361A2

boo le i unda ventilateur ese i to sange do-i-g ndaa,

if you set fan or you are netted on-you-there then

a la sel kar-i to bbi maji

it will aid with you to allow you lie down sleep well

4.1.4 Teleological. Causal Margin, Reason Margin, and Purpose Margin complete the System of Margins. Reason has been placed in the Actual or Certain category and Purpose relegated to the category of Uncertainty on the basis of the difference in meaning of the surface relators rather than their similarity of form. This somewhat arbitrary decision will be explained.

(a) Causal Margin. The relator of the Cause Margin is the verb ar 'to cause, to allow'. As a relator it may occur in either its regular form or as an infinitive (with prefix k-). Both of these forms may have a pronoun suffix or object which has the same referent as the subject of the verb of the independent clause which follows. The verb ar is never followed by an infinitive as in English (see example J491B3 with vowel-initial verbs). The margin is postposed to the nucleus; it is usually sentence final, but may occur twice.

Although Longacre describes a Cause Margin as "a Relator-Axis Sentence or a relator-axis phrase whose relator is some conjunction or conjunctive complex that means because " (1968:2.35), it seems that in Ngamba the relator mbara which is translated 'reason for, because' is more likely to be the relator of the Reason Margin since there is a relator ar that can actually be translated 'cause, allow' and for which 'because' is not a possible translation.

(b) Reason Margin. Having discussed already the basic distinction between Cause Margin and Reason Margin, we cite as further evidence of the separateness the fact that, although Reason Margins regularly occur postnuclear, they can also occur prenuclear, which is never the case with the Cause Margin. The Reason Margin itself is always a full clause.

The relator mbara is often substituted for the Purpose relator mba 'for' even to the extent of the infrequent substitution for the relator qa mba 'in order to'. This leads to the assumption that mbara is actually mba 'for' plus qa 'matter' or 'for this affair'.
Sentence Structure

In the text material the mbata (margin relator) occurs equally as often as a sentence conjunction in response to a previous question. In these instances it is the initial word of the sentence or is preceded only by an outer periphery (affirmative or negative).

The phrase gelee ge nee bba 'ground.its which.be here --' is often used as a link on the paragraph level; its equivalent translation is 'for this reason'. Reason is thus expressed on several levels.

Longacre (1968) points out under Purpose Margins (1968:2.37) that Cause Margin may express not only causal/reason but also intent and result. Here the separation is claimed on the basis of a formal surface difference (difference in relators, see J44282, p. 100, where the two relators occur successively).

J501A1
see i ra togeban bba inga ne ngonn base
? you do how -- you.find by.this.means young man

aree ra kula arl wa
cause.him he.do work for.you?

J251A3
ula ngennje ar dee d-ishi regege
you.call children cause them they.eat quietly

J491B3
l a bbar njepouse bba karee odo aou ne
you will call cart.pusher -- to.cause.him he.carry he.go with

arl
give.you

J482B2
see l a kom pétrole do réchaud-g karee nunga
? you will pour kerosene on heater-there to.cause.it be.warm

kette bba wa
first -- ?
Sentence Structure

J512B1
I a ndang rI neje lai ge l ndigl karee
you will write name things all which you desire to.cause.him
ndogo le, karee aou ne qe la r neje ge
he.buy the to.cause.him he.go with and price things which
neele le nan-d to
here.the of each-on.it also

J243B2
am ngonn sceau le, mbata yeen ge bol ma
give.me small.one bucket the because this which.be big I
ndigl el
desire not

J252A2
maij, nè raje kalang mbata bausije aou ge
good but do.you quickly because father.your.honorable goes toward
nee deb nga
here near surely
'...because your father is surely coming.'

J322B2
nè rom lelm yaan mbata ma m-ree qe lapala
but body.my pleases.me much because I I-come by airplane
'I am happy that I came by airplane [rather than overland by truck].'

J441A3
see I pa bee mbata m-a ndogo ne qe gursu we
? you say thus because I-will buy thing with coin ?
Sentence Structure

L4B4
tobel ngannje ge loo kila koji el mbata dee ger ta
is yet children know how to behave not because they know word
kenji le njandoodeje sur ei
to think of person teach them a surely not
'The children don't know how to behave because they don't
understand [their] teachers.'

L29B4
në nje ge nanje mber kos dessin mbata d-askem ndogo
but some choose to see design because they can sell
dee ya
them --

J223A2
bber dee am mbata mandigi kula dee ta
call them for me because I desire to say them word
'Call them because I want to say something to them.'

(c) Purpose Margin. The usual relator is mba 'for' or ge mba
'in order to', and the dependent clause that follows begins with
an infinitive. It is possible to combine Purpose with Cause, mba
'for' plus k-ar- 'to-cause-' plus the objective pronoun form of
the subject of the independent clause which follows. The Purpose
usually occurs postnuclear, but it may occur as a Sentence Topic,
and it may be repeated (twice).

J313A2
á kuba lapala mba kaou Ft. Lamy bel
you will mount airplane for to go Ft. Lamy after

J30P5
nje ge nanje d-aou kel bar mba kai kido qa laa to
some they go house bar for to drink beer and dance also
Sentence Structure

J311A2

loo ge lapala tel rea qe mba koso le
when) airplane turn body its in order to land the
'When the airplane turned to make its landing,...'

J442B2

deji dee ngonon réchaud mba kar de d'arl
ask them small one heater for to cause them they give you
oo to
you see also
'Ask them to show you the small heater so that you can see it.'

J522B1

bee ndaa to maji mba ngina mba ra ndo ge rang-d bba
thus them is good for to wait for to do day which other on it --
'So it would be good to wait until another day to do it.'

4.2 Systems of Sentence Nuclei.

4.2.0 Introduction. There are seven major Deep Structures listed
in the Deep Structure Reverse Index, each of which has at least
two subdivisions and four sub-subdivisions (Ballard, Conrad and
Longacre 1971a:111-14). The process of assigning surface sentences
to Deep Structures by their conjunctions is sufficient generally,
but it is evident that the semantic intent of the speaker must also
be taken into account. This is the basis for Ballard's article.

For instance, in Ngambay the common conjunction ndaa 'then'
is used in two ways; one is associated with temporal sequence, but
the other with result. The semantic intent of the speaker dis-
tinguishes the two in terms of Deep Structure, but the Surface
Structure is roughly the same. When assigning these two to Deep
Structures, the one is obviously TEMPORAL in its semantic intent
and the other IMPLICATIONAL or AMPLIFICATIONAL. (The former is the
use of ndaa in Nucleus + Result Margin; the latter is Result
Sentence.)

From the Deep Structure Chart (p.108) it is evident that a
number of Surface Sentence types with somewhat similar and even
greatly dissimilar conjunctions have been grouped under one Deep
Sentence Structure

Structure. The usual relationship is many to one, but sometimes one to one (one Surface Sentence type associated with one and only one Deep Structure, such as Antithetical surface sentence is classified only as CONJOINING, Contrastive Deep Structure). The reverse does occur, a single surface structure encoding more than one Deep Structure.

If we say that the semantic intent of the speaker must be taken into account in the classification of Surface sentences, how is such a classification determined? Is it purely subjective? Can it be objective? To what degree of objectivity?

From the surface system developed in the Ballard article, Conrad formulated his Deep Structure taxonomy by assigning a symbolic logical representation to each Surface Sentence, and then classifying these symbolic logical representations. Is there some overlap, or is the logical representation so definite that no guesswork is involved in the classification?

The Deep Structure Reverse Index of Conrad is derived from the classification of the symbolic logical representations of particular surface types which have been identified on the basis of form and on the basis of certain generalizations of logical analysis. If some of these surface forms which occur in Inbaloi do not occur or have not yet been found in Sara-Ngambay, then certain sub-subcategories will be missing in a Deep Structure Index of Ngambay.

In assigning to each Sara-Ngambay sentence a logical symbolic representation, it has been possible to utilize the symbolic representations presented by Conrad, but in a number of instances when additional logical relations exist for which there is no representation given, it has been necessary to alter both the symbols and the subdivisions of the taxonomy for Ngambay.

The claim in the Ballard paper is that the Deep Structure Reverse Index is in some way representative of a universal Deep Structure Index. How closely does the logical analysis of the sentence of Ngambay conversation texts duplicate this universal Deep Structure Index? How closely related are Sara-Ngambay, Sara-Mbay, and Sara-Majingay in terms of the Deep Structure Index?

At one time it was hoped that differences in the types and orders of syntactic rules of generative grammars would tell us in a quantitative way how different two languages or dialects are. But a comparison on the basis of rules of a grammar is an even tighter
Sentence Structure

formulation which awaits the description in comparable format of the languages or dialects. Is the approach in terms of logical representation a step nearer to the goal of being able to state quantitative differences?

In order to understand the development of this Deep Structure approach, it will be necessary to return to the details of the analysis of Systems of Surface Sentence types as carried out by Longacre in the Philippine languages, and the difficulties of describing an equivalent Surface Sentence System for Ngambay.

4.2.1 Systems of Surface Sentence Types. In discussing Systems of Sentence Types in Philippine languages, Longacre (1968:2.192) emphasizes the need for a classification of the sentence nuclei (contrasting multiclausal as previously defined). He emphasizes in particular the importance of the proper choice of criteria for establishing such contrasts, the awareness of contrast within contrasted members (subcontrast), and the effect of the system (framework) in positing and in determining contrasts.

The foremost choice of a criterion seems to be the conjunction or connecting particle between the clauses of the nucleus (a single clause nucleus may or may not be included in the system, although it is in contrast to a multiclausal nucleus). The application of this criterion to the surface structure of multiclausal sentences distinguishes "kinds of union" in a way which results in classes which can be called "connection, opposition, implication...".

He finds, further, that consideration of the parameters "degree of cohesion, internal restriction, freedom of permutation, and lexical dependence" results in the formation of a system (matrix) having bipolar values which he calls "loose" and "tight". He uses these terms rather than tight/nontight because he finds some systems which have nuclei whose parameters necessitate the positing of a third intermediate value which he calls "balanced".

It is acknowledged that the speaker may choose a variety of surface structures by which to emphasize certain logical or temporal relations. This results in other than one-to-one correspondence between actual surface sentence types and underlying logical relations. This is true also of the sentence composed of a nucleus plus margin(s), that is, a derived sentence. In addition, there is the problem of variation in the grouping of sentence types from language to language. (The place in the matrix may be different depending on the dimensions of the matrix for the individual languages.)

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Sentence Structure

In order to preserve some degree of common universality, Longacre relies on the concept of "neighborhood" (justification is given on pages 203 and 217 for the adoption of such a scheme). He proposes nine neighborhoods (1968:2.219, Diagram 18) of which the following five are basic: Coordinate, Antithetical, Alternative, Direct Quotation, and Indirect Quotation. This is an etic scheme (analogous to Pike's Phonetically Similar Segments, Chart 4, Phonemics (1947:70)).

4.2.2 Surface Sentence System of Ngambay. There are several ways in which the system could be organized. In arranging the columns from left to right, one could use an order based on relative frequency of the conjunction (and thus sentence type) in the text material. Such an order might be: Apposition, Concatenation, Contingency, Opposition, Implication, and Quotation, in pairs with the lesser surface pattern above and the tighter pattern below as in the chart.

In addition to the problem of the selection of labels, I find that relative frequency seems to be much easier to define than the "degree of union". The latter is especially difficult to apply when dealing with juxtaposed clauses which appear to be optional (deleted conjunction) forms of other types.

The chart is only an attempt to state the system of Surface Sentence Types (contrasting nuclei) for Sara-Ngambay. The surface contrasts in this language appear to be in pairs; the individual sentence types are given their usual or common surface pattern designations.

On the basis of what has been said previously, I am anxious to go on to develop a sentence statement for Sara-Mbay and Sara-Majingay. The statement of such systems would probably bring about some changes in the statement of the Surface Sentence System; what it will do to the system of Deep Structures is of more interest.

This attempt to follow Longacre in the construction of a Surface Sentence System is not necessary for our goal, but is provided for the sake of comparison with Inibaloi.
Chart 6
Surface Sentence Types of
Sara-Ngambay

<table>
<thead>
<tr>
<th>APPOSITION</th>
<th>CONCATENATED</th>
<th>CONTINGENCY</th>
<th>OPPOSITION</th>
<th>IMPLICATION</th>
<th>QUOTATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Juxtaposed</td>
<td>Coordinated</td>
<td>Sequenced</td>
<td>Alternative</td>
<td>Reason</td>
<td>Direct/Indirect Quotation</td>
</tr>
<tr>
<td>Itemized</td>
<td>Additive</td>
<td>Directive</td>
<td>Antithetical</td>
<td>Result</td>
<td>Indirect Thought</td>
</tr>
</tbody>
</table>

The total number of these types is determined in part by gross similarities, in particular the conjunction. The arrangement in this chart is in conformity with a subjective appraisal of the relative frequency -- the most frequent are in the center.
4.3 The Deep Structure Reverse Index. In Conrad's Deep Structure Reverse Index the sub-subcategories are each separate symbolic logical representations, which are grouped together according to symbolic similarity in order to form the subcategories under each major Deep Structure. Each subcategory is given a label which appropriately describes the semantic intent of the speaker, and adjacent to each sub-subcategory (that is each logical representation) are listed the Surface Sentence Types which have that logical representation (this depends on the internal or lexical specification of each actor, predicate, or other element of the individual clauses).

It is appropriate to present some of these logical representations accompanied by examples in English so that the reader may perceive some of the difficulties which will be encountered in assigning symbols. The first page of the index is reproduced with the English translation, rather than the Surface Structure labels of certain Inibaloi examples which were used to illustrate the particular logical representation in the body of the article. Complete exemplification is neither necessary nor possible at this point. What is presented here is an illustration of applied logical representation (see Ballard, Conrad, and Longacre 1971a: 111-17 for the full "Index" and "Definition of Symbols").

<table>
<thead>
<tr>
<th>Deep Structure</th>
<th>English Example</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>I. CONJOINING</td>
<td></td>
</tr>
<tr>
<td>1. Coupling</td>
<td></td>
</tr>
<tr>
<td>(1) Pa ∨ Qa</td>
<td>'He was scorched by the sun on the mountain, and he was very thirsty.'</td>
</tr>
<tr>
<td>(2) Pa ∨ Qb</td>
<td>'He was to butcher for them a carabao or cow, and they were to lead a cow and carabao with them home.'</td>
</tr>
<tr>
<td>(3) P(1) ∨ P(b) ∨ ... ∨ P(n)</td>
<td>'There is meat, there is camote, there is rice, there is dessert.'</td>
</tr>
<tr>
<td>2. Contrast</td>
<td></td>
</tr>
<tr>
<td>(1) P(a) ¬ [P(b)¬Q(b)]</td>
<td>'I never once tried to cross this river, but she was the one who always crossed to come to me.'</td>
</tr>
</tbody>
</table>

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Sentence Structure

(2) \( P(a) \land P''(b) \)

*'And all the people, they would work when the moon was out, and they would sleep when the sun was out.'

(3) \( P(\neg a) \land P(a) \land (aeU) \) no example

II. PARAPHRASE

1. Affirmation

(1) Identity-Equivalence
\( Pa \land [Pa\land P'a] \)

\( Pa \land Pa' \)
'The soldiers went; many Japanese went.'

\( Pa \land P'1a \land P'2a \land P'3a \land P'na \)

(2) Generic-Specific
\( gPa \land sPa \)
'They took the carabao to another barrio; they led the carabao.'

(3) Specific-Generic
\( sPa \land gPa \)
'So the person they are mummifying dries up; he gets very dry because (they do it) for one month.'

(4) Statement-Specification
\( P\hat{a} \land P\hat{b} \land P\hat{x} \)
'That spy returned; he went to Sayangan.'

2. Negated Antonym

* The example is better represented by \( P(a) \land \neg P''(a) \) (for the difference between Pa and P(a) see Ballard, Conrad, and Longacre 1971a:115).
Sentence Structure

In presenting the Ngambay sentences on which I want to establish not only the general adequacy of the Deep Structure Index, but also the changes which are needed to make it representative of Ngambay, I have the choice of trying to cover every category, subcategory, and sub-subcategory with from two to five examples of a given surface sentence subtype, that is at least two to give differences in symbolic logical representation of the terms, or being selective of the types as Ballard has done.

Whether the multiplicity of examples adds or detracts from the perception of the reality of the system by the reader I am not quite sure, but since I hope that this work will be read by a few people actively working with Ngambay, Mbay, and Majingay it was my intent to include enough examples so that if such a reader objects either to the Ngambay itself or the translation of one or two examples, the justification of the catetory will survive on the basis of the remaining examples about which there is some agreement. As to agreement about the symbolic logical representation, in general, I have chosen examples that are not ambiguous when read in the context of the individual conversation and Chadian culture.

Further, the examples given are representative of the most common surface structures and not of the possible encodings, some of which I hope to discuss at some later date in a transformation-generative grammar.

The same surface structure may be included under several Deep Structure Categories. Where necessary the surface structure type is explained. The following chart gives the general order of the presentation of the Deep Structures and the examples. The various changes in subcategories and sub-subcategories will be discussed in the presentation of each Deep Structure, but I have included here already one major change. I have split the category IMPLICATION into IV A and IV B; the former is IMPLICATION and the latter EXPLANATION.

I have made no attempt to guarantee the equivalence of the logical structure of the Ngambay in the English translations.

4.3.1 Conjoining. The Deep Structure CONJOINING is represented by placing the symbol for the predicate of the second clause, sentence, or base after the first and indicating the logical relation of the second to the first by the symbol of conjunction (•). Usually the second predicate is different from the first; it may differ completely with no apparent relation, or it may be an
# Chart 7

Conrad's Deep Structure Reverse Index (as modified)

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<td>... kette bba</td>
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<td>tobei</td>
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EXPLANATION

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<td>ar-</td>
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## Antithetical S

<table>
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<td>mbata</td>
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<td>Nuc + Purpose M</td>
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</table>
antonym (P ∨ Q) or (P ∨ P). The actor(s) of the second base may be the same, different, or the contrasting part of the group (universal set) mentioned in the first clause, sentence, or base (a,a); (a,b); ((U-a),a).

CONJOINING can be subdivided into: (1) Coupling, which includes the logical representation of different predicates with the same actor for each or the same predicate with different actors; (2) Contrast, which includes the negation of the first predicate or an antonym of the first predicate as the second predicate (P ∧ P), (P ∧ P'); (¬ neg; "antonym").

There are four surface structures that represent the logical Deep Structure CONJOINING. Three of these represent the subdivision Coupling (Coordinated Sentence, Sequenced Sentence, and Itemized Sentence). The fourth is the Antithetical Sentence which is the single representative of the rather diverse Deep Structure sub-division, Contrast. Contrast has been subdivided into three logical categories by Conrad, but I have chosen to utilize what appear to be the logical representations derived from subcategories of the surface type Antithetical Sentence as mentioned by Longacre (1970:796-98). The resultant variety of logical representations includes, beside those symbols mentioned by Conrad, the extensive use of (Q) different predicate, (E) equational predicate, and (U) the universal set used with time and actor. This provides an expanded system to deal with the great diversity of antithetical statements.

The discussion of the surface structures and the listing of examples will be presented in the above order.

(a) Coupling

(i) Coordinated Sentence

The surface structure Coordinated Sentence is a set of two bases connected by bba 'and'. There are no occurrences of sentences containing more than one bba conjunction; instead, another surface structure is utilized.

Two surface structure patterns appear with relatively high frequency: one, an interrogative sentence in which the first base begins with the sentence-initial interrogative marker see and ends with an interrogative pronoun (such as togebā 'how', kanda 'how much', or ra 'where') followed by bba, which might be interpreted as emphasizing the question word, but is more often a conjunction
Sentence Structure

or an introducer of the second clause. The second clause is often
the achieved result or implication of what is queried in the first.
The second clause is terminated with the regular final inter-
rogative marker wa.

The other is a noninterrogative sentence in which bba 'and'
seems to substitute for ndaa 'then'; that is, the second clause
happens not so much as a result of the first but as the next
event or action of a natural sequence of events or actions. The
idea of result is played down. The second clause may be additive
or repetitive in thought.

As Longacre has said, the point seems to be that a conjunction
such as bba 'and' in the surface structure can substitute for
many other conjunctions when the speaker does not wish to empha-
size the relationship by the use of the expected conjunction, or
assumes that the relationship is so well perceived by the hearer
that there is no need to employ the expected conjunction.

The first two examples show how the coordinator bba can be
substituted for ndaa within a two-clause interrogative sentence.
The logical representation involves two different predicators
but the same actor.

J501A1 (Pa ∼ Qa)
see i ra togeban bba inga ne ngonn basa aree ra
? you do how and you find by this young man cause him do
kula ari wa
work for you?

'How did you find a fellow to work for you?'

J312A1 (Pa ∼ Qa)
see lapala njaa sei rebe as kar kanda bba
? airplane march with you way its equal hour how many and
teen sei Fort Lamy wa
arrive with you Fort Lamy?

'How long was your flight to Fort Lamy?'

The example below shows that the predicators might be anto-
nyms with different terms. If the concurrence of the events were
to be emphasized, which is apparently not the intention of the speaker, the first predication would be a Temporal Margin.

J221B2 (Pa & P"b)

nglna nee lam bba m-a kaou dejl ngokom ge tog koo

wait here a little and I-will go ask brother.my who old to see

"Wait here while I go ask my older brother to find out."

The next two examples have the sequence of events played down by the use of bba. If the first clause occurred without the bba, the second might be considered a paraphrase of it (J31).

J312B1 (Pa & P'a)

woyo, ma m-in Paris ya bba m-ree Fort Lamy

yes I I-came.from Paris truly and I-came.to Fort Lamy

"Yes, I came to Fort Lamy from Paris."

L56B1 (Pa & Qba)

m-ulâ mee poche-g bba sele ge m-om mee poche-g le undâ
I-put.it in pocket and coin which I-put in pocket the hit.it
aree to

cause.it to.break

'I put it in [my] pocket and the coin which I put in [my] pocket
hit it, causing it to break."

(The logical structure of this does not indicate whether or
not the coin mentioned was placed in the pocket first.)

The next example is the single occurrence of nga 'and' in the
dialogue material. It occurs profusely in narrative, where it is
regularly found when the second base begins with the initial inter-
rogative clause marker see.

J271B1 (Pa & Pb)

m-a kunn g0l ge neele, nga i unn maree
I-will take pestle which here.the and you take likeness.its
Sentence Structure

ge rang
which be other

'I will take this pestle, and you take the other like it.'

Here is an example in which the logical result is so obvious that nothing more than bba 'and' is necessary.

L54A6 (Ea ~ Eba) (spoken to a thief at night)
see kei kei goto bba i to kene-g el wa
? house of you not exist and you are in it not?
'Don't you have a house to be in [at this time of night]?'

The next two examples show the substitution of bba 'and' for tobei 'in addition, furthermore'. The second one is a little ambiguous in that bba may also function as an emphasis marker, especially if ya precedes it.

J242A3 (Pa ~ Qa) (the dog)
yeen oji ngannje bba yeen yan nje ge nanje boo ndam se de
she bore children and she allows someone big play with them el
not
'She had pups, and she doesn't allow adults to play with them.'

J272A3 (gPa ~ sQa, sRa, sSa, sTa) (the fish) see Itemized Sentence p.115
woyo, gol togebe bba tel unja dea gang lem, unja
yes prepare thus and again cut head its across -- cut
bbongee gang lem, tan meee or sien lema, tunja
tail its across -- cut inside its lift -- repeatedly cut
danna lam-lam lem to
midst in small small -- --
'Yes, that's how to prepare it; cut off its head, tail, lift the insides, and chop it in little pieces.'
Sentence Structure

The final example is a sentence in which bba 'and' is a substitute for ndaa 'then, result'; note conditional margin.

J451A4 (Pa > Qa ^ Ra) (> 'implication'

boo lee I ndigl ndogo da ese kanji ndaa, aou loo suk-d
if you desire to buy meat or fish then go place market-there
qe ndo bba a kinga ndogo bel
at day and you will find it to buy yet
'If you want to buy meat or fish, then go to the market in the
morning and you will find them for sale [later, you will not
find them].'

(ii) Sequenced Sentence. The surface structure Sequenced Sentence couples two clauses, sentences, or bases by the coordinator bba 'and'; the element of sequence is indicated by the aspect markers kette 'first, before', and bel 'after, yet, later' at the end of the first and second respectively.

In almost two-thirds of the sentences the kette is missing without any confusion as to the intended sequence. This is because the sequence is usually one process following another performed by the same actor as in a procedural discourse. Quite often the second process is a short clause with few tagmemes, but bel is always present.

The first two examples of Sequenced Sentence have predicates which could be thought of as similar if not synonymous.

L3981 (Pa ~ P'a) (it is the same action)
d-om kand ko birl seb kette bba d-ur bel
they-put fruit millet mortar to shell first and they-pound after
'They put the millet seed in the mortar to shell [it] first and
then pound [it].'

L4182
d-a kom qe kula kette bba d-a tel kor kunjl bel
they will put with cord first and they will return to lift weave after
Sentence Structure

'They put [the reed] in place first with cord and weave it later.'

This next example has different subjects and predicates but the same object in common, even if it is not expressed in the second clause.

J522A2 (Pa \(\land\) Qb)

ta-ta ma m-tojee kula lea bba yeen ra bel
usually I I-show him work of him and he does after
'Usually I show him the work and he does it later.'

L19B1 (Pab \(\land\) Ob)

I a teen mbor kag drapeau-g bba a teen
you will arrive beside wood flag and you will arrive
poste-g bel
post office after
'You will arrive at the flagpole and later at the post office.'

This previous example has the same predicate in both halves, a feature that is quite common in the giving of directions. The next example gives a work sequence prefaced by a Temporal Margin.

J542A2b (Pa QA \(\land\) Ra)

loog a qa nqjii kubuje do kula-g ndaa,
when you will be about to hang clothes on line there then
bor do kula kette bba nqji kubu kene-g bel
wipe on line first and hang cloth on it after
'When you are about to hang the clothes on the line, wipe it first and hang the clothes on it afterwards.'

The next example has a negative conditional margin and a pair of imperative bases; the second is very brief.

J432A2 (Pa Qa \(\land\) Ra)

boole inga mann tuyau el ndaa maji karl ole mann
if you find water faucet not then good for you boil water
Sentence Structure

gē to mee bwa-g bba al bel

which be in river and drink after

'If you don't find a faucet, then you had better boil the river water before you drink it.'

The last example shows the distance by which two bases can be separated: by a conditional margin plus a nucleus plus a cause margin.

J522B2 (Pab [Qb Rb Sb])

I a tojē as go! bula kette bba, boo lee yeen sang you will show him equal time many first and if he search

loo gē mba ra ne gē l ndgī le ndaa, ndo how in order to do thing which you desire the then day
gē rang keme a kínjä kāree ra kula which other eye his will perceive it cause him do work

maji bel
good yet

'You will show him many times, and if he wants to do it, then some other day he will understand it, and he will do it well.'

(iii) Itemized Sentence. Itemized Sentences are serial sequences with concentrating elements which may be used to distinguish one entity or activity from another, or to list a series of steps in a given procedure.

The examples given here illustrate a certain amount of parallelism in that each clause/sentence is open to deletion of similar tagmemes (verbs, subject), leaving only what is necessary (i.e., an object) in the following clauses to complete the parallelism already established. They may have a temporal margin.

Activities or entities are serialized by using the connectives lem, lema, lem to. As described previously under the phrase level, lem to appears at the end of the final clause; lema appears at the end of every clause prior to the next to the final, which is marked by lema. If there are only two clauses, then lem substitutes for lema. The most frequent is the pair lem, lem to, but it is possible to have a series of five or six (lem, lem, lem, lema, lem to).

These first two examples are parallel itemizations.
Sentence Structure

J25P4 \((Pa \ loc_1 ^ \ loc_2)\)

`ngannje d-aou loondoone-g lem, dingamje d-aou loo children they-go place learn thing -- men they-go place kulaheg le dee lem to works s of them -- -- 'The children go to school, and the men go to their places of work.'`

J561B1b \((Ea ^ Eb)\)

`camion car ge bbaree Unitchadienne le to ge nda lem, bus which call it Unichadian the is that which white -- yeen ge Bangui to ge kas gein lem to it which of Bangui is that which yellow -- -- 'The buses of Unichad are white; those of Bangui are yellow.'`

The third, fourth, and fifth examples are procedural itemizations.

L13B2 \((Ea ^ Eb ^ Pb)\) \((in \ the \ post \ office)\)

`wah, loo ge doji gel nee bba to loo kula qe no place which on hand left here -- is place to send at telegramme lem, qe loo bbar-bbar qe telephone lema, telegram -- and place call-call with telephone -- doji kol le bba d-a kaskem kula qe on hand right the -- they will be able to send at mandat ese mbete ge koga dea lem to money order or letter which to pay head its -- -- 'No, on the left is the place to send a telegram, and telephone; on the right one can send a money order or a registered letter.'`

J551A2 \((Ea ^ Eb ^ Ec)\)

`pétrole to mee damija-g nee lem, alumette to mee caisse-g kerosene is inside demi-john here -- matches are in chest`
lema, kul kara to mee sac-d mee kei pag-d raga lem to
-- charcoal is in sack in house cook outside -- --
'The kerosene is inside the jug here, the matches are in the cabinet, and the charcoal is in the sack in the kitchen outside.

J25P6 (Pa ~ Qa ~ Ra)
deen d-wa loo lem d-uru golje le deem lema
y they they-sweep place -- they-pound pestles of them --
d-aou mba too mann lem to
they-go for to draw water -- --
'They sweep, they pound their pestles, and they go draw water.'
(b) Contrast (1) \( \overline{F(a) \cdot [P(b) \cdot \overline{Q(b)}]} \), (2) \( P(a) \cdot \overline{P}'(b) \),
(3) \( P(U-a) \cdot P(a) \cdot (\overline{a e U}) \)

Antithetical Sentences consist of two bases connected by the particle nê 'but'. A stronger form bôo 'in contrast to, to the contrary' occurs with a negated predication in the antithesis or second base.

Using the subtypes proposed by Longacre (1970:796-98), the following semantic subtypes have been differentiated by apparent meaning and further confirmed by differences in logical structure: Parallel contrasting, Counterbalance, Expected consequence denied, Acknowledged exception, Additional requirement, and Denied alternative. All except one of these subtypes have two or more logical forms.

Summary of all examples according to logical form:

Parallel contrasting \( P \cdot P'', P \cdot Pa'', E \cdot \overline{E}, \overline{E} \cdot E \)

Counterbalance \( P \cdot E, \overline{E} \cdot P, E \cdot E, -\overline{P}/\text{Cond } P \)

Expected consequence denied \( P \cdot \overline{Q} \)

Acknowledged exception \( P \cdot P, P \cdot Q, -\overline{E}/\text{Cond } P \)

Additional requirement \( P \cdot Q, P \cdot \overline{Q}, -\overline{P} \)

Denied alternative \( P \cdot \overline{Q}, P \cdot \overline{P}, P \cdot P'' \)
Sentence Structure

The categories are based on the logical analysis of every occurrence and represent a minimum of three examples which are not suspected of simultaneously being representative of one of the other categories.

Parallel contrasting, as the name implies, is characterized by the same predicate in both the thesis and the antithesis; the contrast occurs in that the actor, object, or both of the second clause are antonyms of those in the first clause. In addition, the contrast may include time or place as a part of the predicate complement.

When the antithesis counterbalances the thesis, the logical structure may be one of several forms. The most frequent of these is an Equational Clause conjoined by a Predication or Equational Clause. The predication itself may be a conjoined logical structure. If the predication is simple (unconjoined), it may occur first. One other logical structure exists, where the antithesis occurs as a sentence with an initial ne 'but'; in this case the thesis has occurred in the previous sentence.

When the expected consequences of the thesis are denied, the predicate of the second base is not only different but also negated ($P \land \neg Q$). This is the only consistent form in which Expected consequence denied appears.

The Acknowledged exception appears in a number of logical forms which are not easily distinguished from Parallel contrasting; the exception lies in contrasting predicates, argument, negation, or even an exception to a previous sentence.

Additional requirement occurs usually as either contrasting predicates or a predicate with a condition or implication in response to a previous sentence.

Denied alternative occurs as two bases joined by boo 'to the contrary', with the second predication negated or an antonym of the first.

The following are examples of Antithetical Sentences:

Parallel contrasting:
Sentence Structure

L61B3  (Eab  A E(U-a)' b")  (spiders)
nje ge nanje to ge lam ba, nè nje ge nanje to some be those which small only but some be ge bol as ge ngonji bee those which big as small one hand thus 'Some are only small, but some are as big as a finger.'

L63B3  (tP  A (U-T)’ P)  (hall)
loo ge nanje er lam-lam, nè loo ge nanje er yaan sometimes rains little little but sometimes rains much ge kwójí ya to as rock truly also 'Sometimes it rains very lightly, but sometimes it is very heavy.'

J491B2  (aEc)m  bEc)n
tira le laree to sak munta, nè mateless ndaa laree bed the price its be thousand three but mattress them price its to sak joo ge dea tol be thousand two and head its 100 'The price of the bed is 3000, but a mattress is 2500.'

J581B1  (Ec  Ec)  (the difference lies in the modifier)
kings deou karee ndool ta ngambal to kedere to find person to allow him to teach you word Ngambay be hard el, nè kinga deou ge ged ged ge mee to do not but to find person who really who inside his be on ndoo ne-g bururu le to kedere ya teach thing thoroughly the be hard truly 'To find a teacher of Ngambay is not hard, but to find someone who really wants to teach thoroughly is truly difficult.'
Sentence Structure

L47B4 \(((\overline{Pa} > Qa) \land (Pa > Rb))\)

boo lee uga el ndaa, a ra dangal, nè boo lee ndig!
if he pay not then he will do jail but if he desire
kuga ndaa, d-yan daree aou sang lar
to pay then they leave they allow him he go search money
saar ree ne until he come from with

'If he doesn't pay, then he will go to jail, but if he desires to pay then, they will let him go find some money until he comes back with it.'

Counterbalanced

J432B3 (Ec (1) \land Pacl) (location in contrast)

bee ya, yee baa to ne ge maji yaan ya, nè see
thus truly this -- be thing which be good very really but?
m-askem kingâ Moundou wa
I be able to find it Moundou?

'OK, this is really good, but can I find it in Moundou?'

J481A1 (Ecl \land Ed) (good cloth is available, but price is high)

kubuje ge maji le to kakaja-g yaan, nè laree baa
cloths which be good the be store there many but price its --
to yaan
be much

'There is good cloth in many of the stores, but it is expensive.'

L29B4 (EU \land P(U-a)) ReasM (U; U-a are indefinite)

to bula yaan el, nè nje nanje mber kos dessin mbata
be many much not but some choose to sew design because
d-askem ndogo dee ya
they can sell them truly
'There are not very many, but some choose to sew designs because they can sell them.'

L54A5 ((Fab)→ PU)* (everybody except you; again U-a more accurate but implied)

nè deouje iai to bbl
but persons all lie.down sleep
'(You and I are awake), but everybody should be sleeping.'

* The proposition which is to be counterbalanced occurs in the previous sentence.

J281B2 (Pal)→ Temp M Pb1") (the first base is Outer Periphery)

woyo, nè loo ge a qe kao loondoone-g ndas yees but when you.be about to.go place.learn.thing—there then aree meel wel do maktabje-g lel el allow.it inside you die on books of you not

'Yes, but when you go to school don't forget your books.'

(I remember your books if you are at home; you remember your books if you are not home.)

Expected consequence denied

L34B2 (P(b)a → Qa)

la sem ya, nè rokom le or dom-g el bel aid with.me truly but sickness the lift on.me—there not yet

'[The medicine has helped me really, but I am not well yet.'

Lb1B2 (Pa → Qa) (How could the temporal element be expressed logically?)

ma m-ndoo qe ndo kara kara iai ya, nè moo ginee sur

I I-learn by day one each all truly but I-see base.ite --

el bel

not yet

'I study every day, but I still don't understand its origin.'
Sentence Structure

J592A2 (Pa ≠ Q̣ba)

deu ge njendo-m ta ngambai le ree ta-ta ya,
person who be one teach-me word Ngambay the come regularly truly
nè jeen bba j-askem kwoji see ta qe ta ngambai
but we -- we can discuss with him matter by word Ngambay
le, el bel
the not yet

'My Ngambay teacher comes regularly, but we can't discuss things
in Ngambay with him yet.'

('a' is here the subject in the first base, but the object in
the second, while the instrument in the second base occurred
as an embedded modifier in the first.)

J522A1 (Pac ≠ [Ec→Obc])

ma m-ulá nje lai mba karee ra, nè montra goto
I I-tell him things all for to cause him to do but watch not exist
ndaₐ, yeen askem ra nje lai el
then he can do things all not

'I tell him all the things to do, but he doesn't have a watch, so
he can't do everything.'

(The expected consequence is once removed into the result
of the implication.)

Acknowledged exception

J28P5 (Pa ≠ P(U-a)) ('a' females vs. 'U-a' males)

deneje le kara, d-uso ne nan-d to nè ngannje ge
women themselves they-eat each other there but boys who be
tog asena qe basaje d-uso ne nan-d
old equal with young men they-eat each other there

'The women eat together, and the boys and young men eat together.'

J502bB ((Pa) ≠ U-t Qb) ('a' is you; (P) speak; t indefinite;
U-t not every time)

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Sentence Structure

ta français ese ta ngambay ya joo bor, nè loo ge nanje word French or word Ngambay truly two beside but sometimes yeen pele deel nan-d to he mix them each other there also '[Use] French or Ngambay or both, but sometimes he mixes them together.'

J302B1 ( -- Êc) (actor is in the modifier; presupposition) maji, nè gurs l e m goto good but coin of me not exist 'I have no money.' (It is a good idea, but I have no money.)

J353A2 (Ea (loc1) ~ Êa loc2 → Reas M ...) (loc1 = here) woyo, kanjje to yean ya nè to asena ge Fort Lamy bee yes fishes be much truly but be equal those of Fort Lamy thus el, mbeta bbe ge nu to yean lem ... not because -- that which be there be much ... 'Yes, there is much fish [in this river], but there are not as many as in the river at Ft. Lamy, because there is so much there.'

Additional requirement

J512B2 (Pa Æ Qac ...)
toge mee-l ndigl, nè a tura ri neje neele as inside you desire but you will read name things here. the karee oo kette bbe to cause him he see first -- 'As you desire, but you should read the names of these things first so he understands them.'

J262A3 (Pa ~ Õ) (Os roi bbad is Outer Periphery)
os roi bbad, aou ree ne nè maji kar-i nodgo bon-bon el hurry up go oome to with but good for you buy candy not 'Hurry up, go get them, but you had better not buy any candy.'
Sentence Structure

L13A1 (Pac Qba > Rac)

ma ndigl kula ge maktab bbee lem, nè see l a la
I desire to send with book home of me but you will aid
sem kam ndogo timbres wa
with me to allow me to buy stamps?
'I want to send this with the book to my home, but will you help me to buy stamps?'

J252A2 (→ [p→Q])

maji, nè raje kalang mbata bausije aou ge
good but do quickly because father your honorable goes toward
nee deb nga
here near surely
'Good, but do it quickly because your father is surely coming.'

J551A3 (→ Pac Qac)

woyo, nè maji karl om pétrole le meee ngonn cob-g
yes but good for you put kerosene the inside it small one bottle in it
tobei tel unda damijal loo ge nee-g to
further return put jug place which here in it also
'Yes, but it would be good if you pour the kerosene inside the bottle and return the jug to this place.'

Denied alternative

J372A3 (Ea > Pa loc₁ ~ Pa loc₂)

loo kalemann to kene-g mba karl aou ale mann
place to climb water be in it for to allow you go climb water
kene-g, boo i a kaou ndam dann mann baa-g
in it contrary you will go play in water river there
el
not
'The swimming pool is for swimming; don't go play in the river.'
Sentence Structure

J552A2 (Pab 1\(1\) Qab 1\(1\) Rd/a) ("d" fire as agent; scorch)
loo ge/ndae, usu und\(\acute{a}\) mbor per-\(g\) qe mba karee
when/then you lift put it beside fire-there in order to cause it
nunga bba, boo yan do per-\(g\) aree ned e\(l\)
heat -- contrast leave on fire-there allow it scorched not
"When it is cooked, lift it off and put it beside the fire to keep warm; don't leave it on the fire to burn."

J572A1 (CondM > Pac \(\bar{P}a\)c") (cigi vs. j\(\bar{l}\) deou-\(g\))
boo lee l\(\bar{n}\)digi ndogo mobylette ndae maj\(\i\) kar\(l\) ndogo yeen
if you desire to buy motorbike then good for you buy one
g\(e\) cigi bba boo yee ge j\(\bar{l}\) deou-\(g\)
which be new -- contrary one which be hand person-in it
el
not
"If you want to buy a motorbike, then buy a new one, not a second-hand one."

L591A2b (Pabc Qab > Ra \(\bar{S}\)(b))
ma ndigi kogai as gursi jinaijoo n\(\bar{e}\) ma ndigi kar\(l\)
I desire to pay you equal gursi nine but I desire for you
ree ta-ta ya boo lal ndo kara el
come regularly truly contrast lack day one not
"I want to pay nine gursi, but I want you to come very regularly; don't miss a day."

L42B5 (Pa \(\bar{P}\)"b) or (Pab \(\bar{E}\)ab') > Qb
bl\(\bar{l}\) mbag ya bba a kuru-d ne kar kurl
mortar mahogany you will pound-in it thing for pound-your
eou, boo kudu ese bbida ndae a ndusu bacine
long contrast kudu or bbida [wood] then it will wear now
"A mahogany mortar will last, but kudu or bbida wood wears out soon."
Chart 8
Comparison of Logical Representations for Conjoining

Deep Structure Index | Deep Structures, Ngambay | Surface Form, Ngambay
--- | --- | ---

I. Conjoining (4.1.3)

1. Coupling

(a) Coupling

(1) Pa \sim Qa
   but also Pa \sim P'b
   Pa \sim P''a
   Ea \sim Eba

(2) Pa \sim Qb
   but also Pab \sim Qb
   Pa \sim Qba

(3) P(a) \sim P(b) \ldots \sim P(n)
   rather Ea \sim Eb \sim Ec
   Ea \sim Ea \sim Pb
   Pa \sim Qa \sim Ra

2. Contrast

(b) Contrast

(1) \overline{P(a) \sim P(b) \sim Q(b)}
   \overline{E_c \sim E_c}
   \overline{Pa > Qa \sim Pa > Rb}
   \overline{EU \sim Pu-a \rightarrow ReasM}

(2) P(a) \sim P''(b)
   Eab \sim E(U-a)b

(3) P(U-a) \sim P(a) \sim (aeU)
   Eab \sim E(U-a)b; tP_a(U-t)P
   EU \sim P(U-a); Pa \sim P(U-a)

Parallel contrasting
Counter balance

Antithetical S
Sentence Structure

The proposed representations of the Deep Structure of Ngambay compared with the Logical Deep Structure Index show a somewhat greater variety of logical forms in the use of synonyms, antonyms, and the use of the predicate equation (E).

In particular, these include more use of the object or goal of the first base as the subject or object of the second base, plus a possibly greater complexity of the second (it may contain conditional or temporal margins). Nor is the negative of the predicate equation (E) as restricted as it appears to be in the Index. Although the symbolization is defined for Existential predication, it is never used (see Ballard, Conrad, and Longacre 1971a:117).

The third logical representation of Coupling in the Index does include (E) as a predicate and further the conjoining of different predicates with the same subject (Pa, Qa, Ra) in a nontemporal relationship. This logical representation is found in III TEMPORAL, 2 Succession, (2) Event-event, but it is not necessarily temporally oriented in Ngambay.

A comparison with the surface forms would show that Coordinated Sentence in Ngambay never joins more than two, but Itemized Sentence two to six (if either the predicate or the subject is the same). Sequenced Sentence forms occur, even though the temporal order is partially de-emphasized by using the coordinator which demonstrates the choice of the speaker alternative, the underlying thesis of the Ballard article.

In discussing the first logical representation under Antithetical, the negation of the first base occurs, but seems to be limited primarily to one subtype (Parallel contrasting). Although there is a single example which could be classed definitely as Counterbalance, many of the Parallel contrasting examples could be interpreted as other subtypes, but at present there is only a single example of this in each subtype; the situation can be resolved with more examples.

The second logical representation, with the predicate of the second base an antonym of the first predicate, is more likely to be a coordinate surface type. The pattern in the Antithetical Sentence is to use an antonym of one of the terms.

The third logical form with the Universal set (U) seems to occur with the (U) or term (a) in the first base, while (U-a) occurs in the second. There are two instances where the difference is dependent on the temporal term.
Sentence Structure

The previous listings of logical representations for semantic subtypes of Antithetical Sentence (p. 117) does not distinguish clearly one subtype from another. It is clear that Denied alternative, although having logical representations in common with two and possibly three other subtypes, is distinguished in the surface structure by the use of the conjunction boo. The listings can be simplified if (E) is included or rewritten as (P) and the order of the predicates is disregarded. The result is the following list.

<table>
<thead>
<tr>
<th>Parallel contrasting</th>
<th>--</th>
<th>P₁P⁺</th>
<th>P₁Pa⁺</th>
<th>P₁P̄</th>
<th>--</th>
<th>--</th>
</tr>
</thead>
<tbody>
<tr>
<td>Counterbalance</td>
<td>P₁P</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Expected consequence denied</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>P₁Q</td>
<td>--</td>
</tr>
<tr>
<td>Acknowledged exception</td>
<td>P₁P</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>P₁Q</td>
<td>--</td>
</tr>
<tr>
<td>Additional requirement</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>P₁Q</td>
<td>P₁Q</td>
<td>--</td>
</tr>
<tr>
<td>Denied alternative</td>
<td>--</td>
<td>P₁P⁺</td>
<td>--</td>
<td>P₁P̄</td>
<td>--</td>
<td>P₁Q</td>
</tr>
</tbody>
</table>

In a reanalysis with more examples the frequency of use would become more apparent.

In summary, the negation of the first predicate, the use of an antonym of the first predicate as the second, and the use of the Universal set term are what distinguish the Deep Structure subcategory Contrast from Coupling.

4.3.2 Paraphrase. Paraphrase is defined as the repetition of the logical representation of the first predication in the second, but in a slightly different logical form (certainly equivalent surface structure but without an intervening conjunction). The same actor occurs usually in both, but one of them may be a synonym or situational equivalent. Often the first clause, sentence, or base makes the general statement, and the second is more specific, although the order may be reversed. Negated antonyms (double negation) can be used.

Conrad has divided and subdivided PARAPHRASE into: (1) Affirmation, which includes (a) Identity-Equivalence, (b) Generic-Specific, (c) Specific-Generic, (d) Statement-Specification, and (2) Negated Antonym, which I have not found in Ngambay as yet.

There seem to be three surface types of juxtaposed bases, without formal surface markers of relation. There is the possibility

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of treating each as if it were an alternative (optional conjunction) of one of the conjoined types of nuclear sentence.

One of the three types does not fit the above classification. This is the juxtaposition of bases which are minimal clauses (with object or other clause-level tagmeme not necessarily incorporated into the verb or verb phrase). These have been given the label Juxtaposed serial; they have been classified under the Deep Structure, III TEMPORAL.

The second type I have called Paraphrase because of the repetition of either lexical items or thought pattern. This may occur in two other ways: A general statement followed by a more specific statement (or amplification), or itemization.

The third type divides into two subcategories: first, one in which it is possible to insert a particular conjunction (on the basis of the context), and the second, in which the two bases may appear to be two sentences rather than one.

(i) Identity-Equivalence $P_a \wedge [P_a \equiv P'a]$; $P_a.P'a'$;

$P_a.P'_{1a}P'_{2a}...P'_{n'a}$

L7A1 $(P_a \wedge P'a)$

woyo, kin Fort Lamy ree Moundou qe lapala le, yee yes to.come.from Fort Lamy come.to Moundou by plane the this bba to maji

-- be good

'Yes, coming to Moundou from Fort Lamy by plane is best (better than by truck).'

J243A1 $(P(U-a) \wedge P'U)$

ngannje ree odoje sceauje ar ci j-ouje mann children come carry.pl buckets let us we-go.pl water

'Children, come carry the buckets; we are going for water.'

(Us includes the speaker of the first clause; 'to carry buckets' and 'to go for water' are to be understood as synonymous.)
Sentence Structure

(ii) Generic-Specific gPa \( \sim \) sPa

J331A1 \((gPa \text{ loc } \sim sP'a \text{ instrument})\)

deouje bula njaa rebe, nje ge nanje d-aou qe kundallaje
persons many walk way, it's some they-go with bicycles
le dee
of them

'Many people travel the road; some go by bicycle.'

('njaa' is translated marcher in French and is equivalent to 'to go'; specifically one can njaa by bicycle rather than by foot.)

L26B5 \((gPab \sim \_\)\)

wah, m-oo to ge nje konbbeeje bba la qe deouje
no I-see that one mother, villages -- aid with persons
d-ula ne dingam meen dee-g mba kar dee
they-put thing man inside them-there for to cause them
ndö bin le dee majl

cultivate cotton of them well

'No, I understand that one of the government officials helps the people by encouraging them to grow good cotton.'

J332C1 \((gPbac \text{ instrument } \sim sP'a \text{ loc}_{1} \sim sP'a \text{ loc}_{2} \sim (b' \text{ obj. focus})\)

woyo, yee neele d-odo qe camlion d-in ne
yes this here. the they-carry with truck they-come from with
Douala ese d-in ne Point Noire to
Douala or they-come from with Point Noire also

'Yes, this they carry by truck; they bring it from Douala or Point Noire.'

('Carry', although in one sense more specific than 'come from with', is not in focus; it is rather the distance or location that is defined specifically, from two places on the coast.)

(iii) Specific-Generic Spa \( \sim \) gPa \((\text{no example, but see J332C1})\)
(iv) Statement-Specification

\[ P_{ba} \]
\[ P_{a} \wedge P_{ab} \]
\[ P_{ax} \]

L884 \ (E_{aa} \wedge P_{ab} > Q(U-a), a) \]

woyo, nje ndogo kuman le to deou ge majl yeen ar neje yes one sell medicine the is person who good he cause things

lal aou majl ndaa, deouje lai d-om mee dee dea-g

all go good then persons all they-put inside their on-him-there

'Yes, the pharmacist is a reliable man; he runs his business well; everybody trusts him.'

(Here the details of his goodness are specified to the result.)

J552A1 \ (gP_{ab} \wedge sP'_{abc} \wedge sP'_{abd} \wedge sP'_{abe}) \]

ma ndigl kar-l gol salade qe tomatoje togo salade le

I desire for-you to prepare lettuce and tomatoes wash lettuce the

qe savon qe mann filtre, tobel tel om mann filtre

with soap and water filtered is yet return pour water filtered

keneng, nê om ubu do salade-g kette e1 bel

on it but pour oil on lettuce-on it before not yet

'I want you to prepare the lettuce and tomatoes, wash the lettuce with soap and filtered water, and rinse with filtered water, but
don't pour the oil on the lettuce yet.'

(specification of the steps and the one not desired)
Chart 9

Comparison of Logical Representations for Paraphrase

<table>
<thead>
<tr>
<th>Deep Structure Index</th>
<th>Deep Structure, Ngambay</th>
<th>Surface Form, Ngambay</th>
</tr>
</thead>
<tbody>
<tr>
<td>II. Paraphrase</td>
<td>II. Paraphrase (4.3.2)</td>
<td></td>
</tr>
<tr>
<td>1. Affirmation</td>
<td>(a) Affirmation</td>
<td>Juxtaposed S</td>
</tr>
<tr>
<td>(1) Identity-Equivalence</td>
<td>Pa \iff Pa'</td>
<td>Pa \iff P'a; P(U-a) \iff P'U</td>
</tr>
<tr>
<td></td>
<td>Pa \iff Pa'</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pa \iff Pa'</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pa \iff Pa'</td>
<td></td>
</tr>
<tr>
<td>(2) Generic-Specific</td>
<td>gPa \iff sPa</td>
<td>gPa loc \iff sP'a instru</td>
</tr>
<tr>
<td></td>
<td>gPa \iff sPa</td>
<td>gPab \iff sPab &gt; Qb</td>
</tr>
<tr>
<td></td>
<td>gPa \iff sPa</td>
<td>gPba instru \iff sP'a loc_1 \iff sP'a loc_2</td>
</tr>
<tr>
<td>(3) Specific-Generic</td>
<td>sPa \iff gPa</td>
<td>no examples</td>
</tr>
<tr>
<td>(4) Statement-Specification</td>
<td>Pa \iff Pab</td>
<td>Eaa \iff Pab</td>
</tr>
<tr>
<td></td>
<td>Pa \iff Pab</td>
<td>gPab \iff sP'_1 \iff sP'_2 abd \iff sP'_3 abe</td>
</tr>
<tr>
<td>2. Negated Antonym</td>
<td>(1) Pa \iff \neg^n a</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(2) \neg^n a \iff Pa</td>
<td></td>
</tr>
</tbody>
</table>
Sentence Structure

Paraphrase is present only when the predicate of the second base is a synonym of that of the first base; synonymy of the terms (a') does not seem to occur.

Serial synonyms with exactly the same terms (that is the third logical sub-substructure) are not common (there is only one possible example, J552A1 under (4) Statement-Specification).

Generic-Specific is common, but often involves differences in instrument and location, and probably time (although there are no examples of the last). There are no examples of the reverse order, Specific-Generic.

In Statement-Specification it is necessary to specify as many as three or more terms (see examples g(a,b,u-a) and ab, abc, abd, abe).

In that Juxtaposed Sentences can be represented both as TEMPORAL and AMPLIFICATION Deep Structures, it is difficult to find sufficient examples to justify the sub-subcategories in a rigorous manner.

The Deep Structure PARAPHRASE is quite similar to CONJOINING, but it is without overt surface conjunction and has additional restrictions of synonymy of predicates or equivalent terms (not synonymous), but not both.

4.3.3 Temporal. Temporal as a Deep Structure is symbolically represented in the Index by preposing the Temporal Margin (relator-sentence) predicate P to the nucleus predicate Q (clause, sentence, or base) and conjoining the two with the conjunction symbol _ _ . The various logical possibilities are marked by the subscripts as continuous _, punctiliar , span _, and event _ .

Conrad has divided TEMPORAL into two subdivisions, Overlap and Succession. The first utilizes the continuous/punctiliar opposition for two contrasts "(2) Punctiliar-continuous (P _ _ Q)" and (3) Continuous-punctiliar (P _ _ Q)". His "(1) Coterminal (P _ _ Q)" is actually represented as continuous-continuous, but punctiliar-punctiliar he has subclassified as Event-event under Succession. Succession has subdivisions "(1) Span-event (P _ _ Q)" "(3) Event-span (P _ _ Q)" and "(2) Event-event" which occurs in a number of forms of (P _ _ Q) with possible multiple predicates having the same actor or a change of actor between the two predicates.
Sentence Structure

The most common surface structure is, of course, Temporal Margin + Nucleus: it can represent any of the Deep Structure Temporal sub-subcategories proposed by Conrad. For Ngambay the greatest variety of surface structures occurs when the first base is stressing continuity or span. It is often the case that if the first base is stressing the punctiliar (duration) or event (short extent) that the second base will be juxtaposed to it, especially if it is also of brief duration or extent.

Some other surface structures that occur are Additive Sentence, Directive Sentence, Juxtaposed Serial Sentence, and Conditional Margin + Nucleus. The Conditional Margin has been discussed already, as has the Juxtaposed serial Sentence. Directive Sentence is a series of clauses, with predicates which are motion verbs, connected by ndaa 'then'. This leaves the Additive Sentence which has not been previously discussed.

Additive Sentences are of two types. Both are distinguished by the presence of the relator tabel 'is yet, further, in addition'. In one type the relator occurs between two bases, and in the other it occurs before the inner periphery or nucleus of the sentence. In the latter case it may be preceded by an outer periphery (such as Yes or No Response, Confirmation, or both). This is more accurately described as AMPLIFICATION and will be discussed under that Deep Structure heading. The former type has predicates in the two bases which may be the same or synonymous. The predication of the second may be more specific than the first, thus paralleling the same pattern in the Paraphrase Sentence. The relation may be one of simultaneity or sequence.

In utilizing Conrad's classification, the linguist is forced into assigning individual examples to specific categories on the basis of subjective judgements. By referring to the context (dialogue), the subjectivity has been reduced but not eliminated. This is most obvious in that some examples appear under more than one sub-subcategory. This problem has necessitated a restructuring of the whole TEMPORAL Deep Structure taxonomy (see below).

Before discussing each of the logical structures and subcategories, it is necessary to state again that the indications of duration and extent of time are internal to each clause, sentence, or base. How these are determined from tense or aspect markers in the surface structure has not been made explicit. The impression conveyed is that there is something more in the way of symbols needed in the logical representation and in the criteria for the assigning of them to each clause.
In the surface structure, it is assumed that the hearer will generally order the time relations. If something special is needed, it is added in the surface structure, but this is language specific. In an unpublished paper Linda Thayer (1971) has considered this problem using the framework of Bull (1968) with inconclusive results for English, Mandarin, and Ngambay. It is a problem whose resolution is beyond the scope of this presentation. But at present the logical apparatus probably ought to include some logical symbolic representation of objective event in time (calendrical), speaker’s frame of reference (tense?), order of occurrence of events (between the two clauses), and aspect, as indicated by Bull in his extensive analysis of time relations in 65 languages.

What Conrad specifies is a language specific or possibly a subjective judgement as to whether a clause is punctiliar or continuous. This is a classification of what I will call the "Nature of the Event" or aspect to which a third subcategory could be added, that of iterative, interrupted or reoccurring.

If the clause or clause plus margin as a unit are to be considered as overlapping or co-occurring, then a symbol of conjoining seems nondistinctive. I have chosen to indicate overlapping or co-occurring or Simultaneity by the symbol $t^\ast$, in contrast to Succession which I indicate by $t^\circ$.

The equivalent of the 'a' and 'b' terms must be expressed for temporal relationships, and in this case instead of actor, goal, etc., it might be (A) Temporal word or phrase, (B) Speaker’s frame of reference, (C) Nature of event or action, (D) Aspect or state of the event or action (see Bull 1968).

In the surface structure of a given language B, C, and D may be combined in the verb phrase or indicated by separate markers. In trying to represent this in the Deep Structure, it seems only reasonable to handle this by indicating what is specified in the surface structure (see Introduction, Longacre 1964), but it is not necessary to specify which element or elements of the surface structure they appear in (verb, adverb, particle, etc.).

Further, how is the temporal relationship of the two clauses which are both nuclei to be determined? On the surface we look for such criteria as tense, aspect, adverbs, and temporal phrases. In most two-clause (two-nuclei) sentences if B, C, or D is specified in the first clause it may not be repeated in the second. In attempting to deal with the temporal relation of two clauses,
Sentence Structure

one must take the two as a unit.

This I have attempted to do in my classification of surface structure. In developing this taxonomy of Temporal Deep Structures I have symbolically represented the regularities of what I believe is an approximation of the Deep Structure of the temporal relations of two-clause sentences in Ngambay. The categories and representations are presented in parallel with the Deep Structure categories of Conrad, but they will not be explained until the discussion of the differences between the two. By this I hope to avoid overburdening the reader. A few examples were moved from one category to another or excluded after re-analysis in terms of the criteria mentioned above, but for the most part the initial selection of examples to fill the categories designated by Conrad were also those that were used in the less subjective selection based on the criteria mentioned above as they were represented in the surface structure.

The use of the symbols T (for temporal and tense) and A (for aspect) plus the use of the symbols < and > to indicate before, past or complete, and after, future or incomplete, respectively, allows for a more specific representation of each example.

(a) Simultaneity 't='

(i) Co-occurrence

P T (A) t= Q T" (A")

Temporal Margin + Nucleus

J502A3 P T_< t= Q T_<

(loo ge jeen j-ulá qe ta ngambai ndaa, kemee inja when we we-tell.him with words Ngambay then eye.his out
do-g kalang
on-it quickly

'While we are telling him in Ngambay, he quickly perceives.'
Sentence Structure

L7B2  P A_\rightarrow t = Q A_\rightarrow  (the states are coexistent)

woyo, nè ngann mapa ge kem gursu kara kara le, loo ge yes but small one bread which for gursu one each the when
nain qa nunga bei ndaa, maji yaan ya to
rest with heat yet then good much truly --

'Yes, but the small loaf of bread for a nickel is very good while
it is still hot.'

Additive Sentence

J232B2  P T_\rightarrow t = P T_\rightarrow >> Q

jeen qa ngokom ge dingam j-a la sei kor derngel
we and child my who man we will aid with you prepare brick
tobel dene lem a la qa dene lei mba too mann
is yet wife of me will aid with wife of you for to draw water
boro lem to
mud also (different actors, but same action and time)

'My son and I will help you to make bricks, and my wife will help
your wife to carry the water.'

L25-2 B3  P T_\leftarrow t = P T_\leftarrow

kall neele nasaraje bua ree qa appareli photoje
year here the Europeans many come with apparatus photography's

is yet nje ge nanje ree qa magnetophone je le dee to

This year many Europeans came with cameras, and some came with
their (tape) recorders.'

(of many some came with both)

Conditional Margin + Nucleus

J451A4  [P T t = Q T"] \land R T_\rightarrow A_\rightarrow

boo lee l ndigi ndogo da ese kanji ndaa, aou loo suk-d
if you desire to buy meat or fish then go place market there
Sentence Structure

qe ndo bba a kinga ndogo bel
at day and you will find to buy yet

'If you want to buy meat or fish, go to the market early, and you will find some still for sale.' (the desire continues while one goes)

L25-1 B2b E t= [P <-> Qa T] -> Q'a T

yee bba boo lee nain Janvler ndaa, deen ger ndea maji,
this if month January then they know day. ite well
mbata dee ndogo bin le dee ndaa, d-askem ndogo kubuje
because they sell cotton of them then they can buy clothes
gi woji do ra nain neele
which they wear on day make feast here. the

'Just this, if it is January then, they know very well which day;
because they sell their cotton then, they can buy clothes which
they wear on this holiday.'

(they sell cotton and buy clothes on the same day)

(i) Attained Time or State

E/P A<_t= Q (A_<>
Temporal Margin + Nucleus

J521A7 E<_t= Q A_> (A_ indicates 'begin')

loo ge as kar dog giree kara ndaa, unn kudu gol
when equal hour ten add it one then take behind prepare
neso
thing eat

'At eleven, begin to prepare the meal.'

J29P4 P<_t= Q (A_>

loo ge kar ain as munta ndaa, ngannje tel d-aou
when hour run equal three then children return they go
loondoone-g
place learn thing there

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'At three the children return to school.'
(they begin to go to school for the second session)

J521A8 \[ E A \subseteq t \rightarrow Q \wedge R \] (the nucleus is Juxtaposed serial)

loo ge neso goto mban ndaa, odo tasseje do
when thing.eat be.no.more already then carry dishes on
table-g aou togo dee (this involves several trips and
continuous washing)

'A fter the meal is finished then, carry the dishes from the table;
go wash them.' (or be washing them?)

J541A1b \[ P A \subseteq t \rightarrow Q \wedge R \]

loo ge togo lai mban ndaa, odo dee unda dea mee caisse-g
when wash all already then carry them put them in cabinet-there
'After you have washed them all then, put them away in the cabinet.'

J25P1 \[ [P \wedge E] t \rightarrow Q A \]

tee qe ndo as kar so qe gesse ndaa, kuna kunjaje
arrive at day equal hour four and half.its then roosters

d-unn kudu non
they.take behind to.org

'At four-thirty in the morning the roosters begin to crow.'

Juxtaposed serial Sentence

J52P5 \[ P A \subseteq t \rightarrow Q A \subseteq t \rightarrow R A \]

unn nglsa wa loo, bor koor do naje-g
take broom take place wipe on things-there

'Sweep and dust.' (viewed as one continuous task)

L39B4 \[ P A \subseteq t \rightarrow Q \leftrightarrow R \]

lel or bina le om rang mbata bina le wollo
wind lift chaff the put other because chaff the be.light

'The wind lifts the chaff and deposits it elsewhere because the chaff is light.'
Sentence Structure

(iii) Anticipated Action or State

\[ P_{T>x} \equiv Q (T_{x}) A_{x} \]

Temporal Margin + Nucleus

J501B2 \[ P_{T>x} \equiv [Q A_{<} \land R A_{x}] \]

nè le̱o ge a qe ra kula ndaa, jeen tojee kula kette but when he is about to do work then we show him work first

bba yeen ra bel and he do yet

'BUT when he is about to work then, we show him the work first and he does it afterward.'

J313A2 \[ P_{T>x} \equiv Q T_{x} \]

tobelg) loo ge a qe k-and mee lapal-g ndaa, is yet) when you will be about to enter in plane there then
d-a dejii loo koi lei koo they will ask you place weight of you to see

'When you are about to enter the plane then, they will ask you your weight in order to know [the total].' Confident Sentence

J241A4 \[ P_{T>x} \equiv Q T_{x} A_{x} \]

loo ge m-a kwoji kel bba m-a ger leee bel when I will measure house and I will know place its yet

'After I measure the house [roof] I will know how much [sheet-iron I will need to cover it].' Confident Sentence

L41B2 \[ P_{T>x} \equiv Q T_{x} \gg R \land S A_{x} \]

d-a kom qe kula kette bba d-a tel kor kunjil they will put with cord first and they will return lift weave bel yet

yet
Sentence Structure

(the two operations viewed as one)
'They tie it with cord first and weave it afterward.'

Conditional Margin + Nucleus

J522B2 \[P_1 T>] A_< \land \[Q_1 t= [R>>S]] \land Q_2 T_\rightarrow P_2 A_\rightarrow\]

I a toj ee as gog! bula kette bba, boo lee yeen sang
you will show him equal time many first and if he search
loc qe mba ra ne ge i ndgi! le ndaa, ndo ge
place in order to do thing which you desire the then day which
rang kemee a kinja karee ra kula maji bel
other eye, his will cut cause him do work good yet

'You will have to show him many times, and then if he wants to do
the thing which you want, then another day he will get it.'

(b) Succession 't\#'

(i) Indefinite or Extended Period

\[P (A_\rightarrow) t\# Q\]

Temporal Margin + Nucleus:

J30P6 E_< t\# Q >> R

gree ge gogo kar dog ese dog gilee kar ndaa, deouje lai
after hour ten or ten add it one then persons all
d-aou kelje le deee mba to bbl to
they go houses of them for lie down sleep -- (sometime after)

'After ten or eleven everybody goes home to sleep.'

L27B1 P t\# Q

d-askem k-usa ne loo ge kar and nang bba
they can eat thing when sun enter earth --
'They can eat after sundown.'

J552A2 P A_\rightarrow t\# Q >> R \land S \rightarrow X (see J552A2)
Sentence Structure

loog esisi le ndiri saar er majl ndaa, usu unda mbor
when rice the cook until be done well then slide put side
per-g ...
fire-there
'After the rice is done then, put it beside the fire there ...'

Directive Sentence

J341A4 E >> P A_ t# Q t= R t= E (A_ 'until')

to majl mba njaa qe recu neele saar tee nelindoone
be good for walk by road here the until arrive house learning thing
ndaa, taas do ge aou lam ge kette ndaa
then take head which go little which before then
a tee ta baa-g ndaa, hotel le to
you will arrive edge river-there then hotel the be
noin-g dogel mbor hopital
before you-there on left beside hospital

'It is good if you walk this road until you arrive at the school; then go a little further, then you will come to the edge of the river; the hotel is in front of you on the left across from the hospital.'

Conditional Margin + Nucleus

J372A1 P t# Q T_ (complexity of temporal not symbolized)

mainkara, loog ge kar os yang le [ ] qe ndo kara kara
month first when sun pierce much the during day every
lal boo lee l aou ta baa-g ndaa, a koo
if you go edge river-there then you will see
deous bula ge d-aou mba kale mann lem, nje ge nanje
peroens many who they go for to climb water -- some
d-aou ndam mann, ese mba togo kubuje le dee lem to
they go play water or for wash clothes of them --

'In the first month when it is hot, every day if you go to the river you will see people swimming, playing, or washing clothes.'
Sentence Structure

L38B2b $\leftrightarrow [P > Qacb \sim R A_x] \not\preceq S$

mbata boo lee a ree ndaa, m-a mbolin
because if he.would have come.to then I.would have mixed
nang kunda karee nè yeen ree el saar ndaa
earth to.make to.give him but he come not until day.its
munta baslne
three now

'Because if he had come then, I would have mixed mud (mortar) for
him, but he hasn't come for three days.'

L47B4 $[[P \not\preceq Q T_n] \sim [P \not\preceq R \sim R'' \sim S A_x]] \not\preceq (P)$

boo lee uga el ndaa, a ra dangal nè boo lee ndig!
if he.pay not then he.will do prison but if he.desire
kuga ndaa, d-yan d-aree aou sang lar
to.pay then they.leave they.allow him he.go he.search money
saar ree ne
until he.come with

(The ultimate event is that he pay them the tax.)

(ii) Sequence of Actions

$P_1 (A) \not\preceq Q_2$

Temporal Margin + Nucleus

J25P3 $P \preceq [Q \not\preceq R]$

loog deouje d-intar ndaa, deen togo kem dee tobel
when persons they-arise then they wash eye their is.yet
d-use ne to
they-eat thing also

'When people get up, they wash their eyes and eat something.'

(nucleus = second and third clauses (an Additive Sentence.))
Sentence Structure

L5B2  P  t≠ Q >> R

loo ge denje ndogo kubu ge lal kuru bei ndaa, d-aou ne
when women buy cloth which lack sewing yet then they go with
ro njekurukuru—g qe mba karee uru
person one.sew.cloth-on.it in order to cause him he sew
robe ar dee
dress give them

'After the women buy material, they take it to the tailor so he
can make a dress for them.'

L4OA1  [P A< ~ Q] t≠ R T> >> S

loo ge den seb ko mban, tel uru ndujee ndaa,
when woman shell millet already turn pound flour it's then
see yeen a ra togeban bba mba koro muru wa
she will do what for to prepare bread?

'After the woman shells the millet and pounds it to flour then,
how does she prepare the mush?'

(There are two events in the margin (Attained Time?).)

Additive Sentence

J2SP3  [P t= Q] t≠ R(same surface structure as above)

loo ge deouje d-intar ndaa, deen togo kem dee tobei
when persons they arise then they wash eye their in addition
d uso ne to
they eat thing also

'When people get up then, they wash their eyes; further they eat
something.' (three events)

L4OB1  P T> t≠ Q T>

ne ge kette ge yeen a ra le, a kunda mann ped
thing which first which he will do the he will put water fire
Sentence Structure

caree ole, tobel a k-lla nduje do mann-g
cause it boil is yet he will put flour on water on it
lam bba
a little --
'The first thing which he will do is put the water on the fire, then he will put a little [millet] flour on the water.'
(The speaker's reference point is secondary to the procedural sequence.)

J551A3 - P t\# Q
woyo, nè maji kari om pètrole le mееe ngonn
yes but good for you put kerosene the inside its small one
co bg tobe tel unda damjal loo ge nee-g to
bottle there is yet return put jug place which here also
'Yes, but you had better put the kerosene in the small bottle, and then return the jug here.'
(a procedural sequence)

Juxtaposed serial Sentence

J242A4 [P t\# Q] A_<
ma m-wa m-llá kei mban
I I took her I put her house already (female dog recent mother)
'I took her and put her in the house already.'

J30P2 Pac t\# Qab A Rbc
deneje gol neso qe kametag d-ar dee d-uso
women prepare thing eat at noon they give them they eat
'Women prepare the noon meal; they give it to the men to eat.'

J281B3 [P t\# Q] A_<
wah, maji kari aou too mann ree ne am kette bba
no good for you go draw water come with give me first --
'No, you had better go get some water for me first.'
Sentence Structure

\[(\text{111) Subsequent Attainment}_2^\text{2})\]

\[P(A_x) \neq Q(T_x)(A_x)\]

Temporal Margin + Nucleus:

\[J451B2^\text{2} \quad P \neq Q \circ T > A_x\]

\[
\text{loo ge } \text{m-tol kula lem ndaa, see m-a kaou ndogo ne}
\]

when \(I\)-finish work of.me then ? \(I\)-will go buy thing

\(\text{beul wa}
\]

yet?

'After \(I\) finish work, \(I\) can still buy it?' (the market is open?)

\[J252C1^\text{2} \quad P \neq Q \neq R \circ T > A_x\]

\[
\text{aou usa ne kette bba loo ge i tel ndaa, jeen j-a}
\]

\(\text{go eat thing first and when you return then we we-will}
\]

\(\text{ndogo mann le be}
\]

\(\text{wash water the yet}
\]

'Go eat something first and when you have returned then, we will

\(\text{have washed.'}

\[L60B3^\text{2} \quad E \neq Q \circ A_x \gg R\]

\[
\text{loo ge bag do goto ndaa, yeen bba ler ne kel gamagar}
\]

when \(\text{wing bat be.no more then one -- thing house spider}
\]

\(\text{beul, mba kar kundu bbar ne maji}
\]

yet for to.caue xylophone sound by.this-means well

'When there are no more bat wings, one uses spider webs to cause

\(\text{the xylophone to resonate well.' (fill up the bottom of the}
\)

\(\text{resonator tube under each bar to adjust the pitch)}

\[J412A3^\text{2} \leftrightarrow [P \circ T > Q A_x] \Rightarrow [R \neq S >> X]\]

\[
\text{mbata ta-te njekel-je le d-a gol do ro dee}
\]

because usually one.house-a the they-will prepare on body their
Sentence Structure

mba rai laphia bel, bee bba loo ge unda ji ndaa, for do.you greeting yet thus -- when you clap hand then nglna mba kar dee tee ree d-ingal bba wait for to allow them arrive come they find you -- 'Because usually they have to put something on [clothes] to greet you, so when you clap your hands wait for them to come and find you.'

Longacre's general approach, as previously stated in Ballard, et al. (1971a:75), is to develop a taxonomy of surface structures (which are readily observed) and then to attempt to discover a simpler Deep Structure Taxonomy (with fewer categories). He has proposed that these Deep Structure categories be described by an expanded logical symbolic representation.

The logical symbolic representation given by Conrad for the Deep Structure TEMPORAL includes, it would seem, two concepts that are quite prevalent in logical argument: the first is the stating, at the same time, of two conditions which must be met in order to arrive at a given conclusion. The second is the concept of successive conditions to reach a given conclusion. When he applies these to temporal relations he designates them as Overlap and Succession.

The subclassification of these two is achieved by setting up three combinations or two different characterizations of single clauses. For Overlap the characterizations are "punctiliar" and "continuous", which seem to describe the nature of the semantic content in terms of the nonduration (punctiliar) and duration (continuous) of an action or state. For Succession they are "span" and "event", which seem to describe the extent (span) or the non-extent (event) of an action or state. The logical categories are made up of combinations of these. The similarity of the concepts of duration and extent is ignored because they occur in association with Overlap and Succession respectively.

The Deep Structure has not been illustrated by surface examples in the Ballard paper. Rather, it is assumed that the statement that temporal sentence (margin + nucleus) or other sentence type (nucleus + nucleus) exists is sufficient.

One of the first questions to be asked is which of the two conjoined clauses is the margin and which is the nucleus, and do the same criteria which classify margin also classify nucleus? Up to this point symbolic conjoining has been used to designate the
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joining of two nuclei.

If the sub-subclassifications are based on the order of description, punctiliar-continuous vs. continuous-punctiliar, etc., how does one classify a clause as having a deep structure continuous or punctiliar by its surface structure in which optional alternate orderings of the clauses are possible?

If the use of formal surface criteria (relators) defines the time margin as being secondary (Inner Periphery) to the nucleus, then the logical symbolic Deep Structure taxonomy of Conrad which does not make this distinction is not based on or derived from a simplification of the surface taxonomy. Is this not a departure from the stated approach and goal?

In conclusion, if the Deep Structure classification is based on the order of the clauses, then a surface structure with transformed order would belong to the other Deep Structure. Order is usually thought to be not a suitable criterion for Deep Structure distinctions.

Having presented the examples, their symbolic representations, and the Chart which compares the revised system with the original by Conrad, the reader still needs to have the new criteria for each category explained. We will attempt to do this taking each in order.

Co-occurrence is defined by the presence of a synonymous temporal word or phrase, tense, or adverb, and is indicated by the use of the symbol "T". It may also involve the occurrence of the same verb or at least verbs of the same type in both clauses. The actors may be the same or different.

Attained\_1 Time or State refers to the first clause. Here the temporal margin denotes the time or state at which an action takes place. The time may be specified as continuing, or the state may be specified as having been achieved (usually indicated by completed aspect) and assumed to be continuing. The second clause may contain verbal phrases indicating the inception of the action at that point or emphasizing the continuance of the action from that point. A more complete title for this category would be Action after Attained\_1 Time or State.

Anticipated\_2 Action or State refers to the second clause. The verb of the first clause is in the immediate future or even sometimes the future tense, and the simultaneity of the second clause
Sentence Structure

is indicated by the use of the incomplete aspect.

Under Succession, the first subcategory is now Indefinite or Extended Period. This is usually indicated in the first clause by the use of a relator indicating an indefinite interval. It may be indicated also by an adverb or as the extent of the time by a clause whose relator is saar 'until' at the end of the first clause.

Sequence of Actions refers to the relations of the verbs which overshadow the temporal and aspectual considerations. This is what Longacre calls "Expectancy Chains" (Ballard, et al. 1971a: 78); to quote him further:

Certain groups of verbs often occur linked together in chains of chronological or logical expectancy, so that when one member of the chain occurs, we expect to see a closely consecutive member appear next.

This is an additional reason why a Deep Structure taxonomy of sentences must be based on the two clauses taken as a single unit.*

Subsequent Attainment has the emphasis, not on the point of time of attainment, but just the fact that the state or action will be attained before the second is continued or completed. If the future tense occurs, it occurs in the second clause optionally accompanied by the incomplete aspect. It is this combination in the second clause that distinguishes this from the second and third categories under Simultaneity.

In the process of making judgements as to which examples can be classified under each of the six subcategories, the linguist was frequently faced with the problem of deciding which criteria to use. The basic relation to be explained is the interclausal one, but to specify a single characterization of each clause as "continuous, punctiliar, span, or event" is to gloss over some

*Fred Householder: "i.e., a more correct notation would be, e.g., = (t(P), t(Q)), etc., where = is a function which takes proposition-pairs as arguments and t ('time of') is a function which takes single propositions as arguments. This notation is very misleading." (personal communication)
very significant differences. Further, what is it that enables one to classify a given clause? We usually think of tense of the verb, adverbs, aspect markers, and "temporal adjuncts" (temporal word or phrase). Chafe (1970) has shown that by a very careful consideration of the verb in terms of "States, Processes, Actions" (Chap. 9), "Derivation" (Chap. 11), and "Inflection" (Chap. 13) a much clearer conception of the internal differences between clauses can be obtained, especially with regard to their semantic meaning or intent.

The task of analyzing temporal relations can be approached by taking a step back away from language to temporal space. By this I mean one can view the temporal aspect of a sentence as consisting of the various encodings for the direction and distance, state of accomplishment, the axes of orientation from which the speaker views an event or series of events (see Bull 1968).

The representation which has been proposed here is, I believe, less subjective in that it allows each category to be justified on the basis of criteria which are more readily identifiable in each example. A more elaborate and detailed representation should include distinctions based on a classification of verbs. Too elaborate a representation becomes at this point not only difficult to follow, but I think inevitably more language specific. Our goal is still aimed at a universal representation.

4.3.4 Implication. Implication is logically stated as "If P, then Q"; here it is represented symbolically as (P > Q). It is usually the case in Ngambay that the predication P is a Conditional Margin and the predication Q is a Nucleus (clause, sentence, or base), and that these are joined by ndaa 'then' in the surface structure.

In looking at the subdivisions that Conrad has proposed, one is struck by the fact that all three (Realization, Frustration, and Causation), although having logical implication in common, do seem to be quite separate as to the surface structure encodings used to state their common Deep Structure.

In the Index, Realization is for the most part the Deep Structure of Conditional Margin + Nucleus, but also of Result or Concessive Margin. Under the subdivision Frustration, the most common surface forms are Antithetical Sentence and Concessive Margin + Nucleus. The last subdivision, although labelled Causation, represents Reason, Result, Purpose, and other surface encodings.
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Causation as such appears to be a departure from the classification scheme used in the earlier discussions. On the basis of Longacre's handling of the distinction between Explanation and Implication (1970:795, figure 6, under Section 31.5 p. 801) and the differences between Implication and Teleological Margins (1970:786; 1968:2.35,41), Causation should be split internally into subdivisions. On the basis of the argument given below, it should not remain a subdivision of IMPLICATION but share equal rank. It is labelled as IV B EXPLANATION in this description.

(a) Realization

(1a) Hypothetical (P⇒Q) Conrad, here (P > Q)

Conditional Margin + Nucleus

L47A4 (Pac > Qab)

boo lee deou mbat kuga l'impôt ndaa, see dl bba d-a
if person refuse to pay tax then what -- they will
ra sea wa
do with him?

'If someone refuses to pay taxes, what will they do to him?'

J561A2b (Pab > Qab"

boo lee inga voiture el ndaa, maji kari aou qe camion le
if you find car not then good for you go by truck of
njesukje ese camion je ge aar toreoud ge
one market's or trucks which stand break road there which
woji do commissariat le
face on station (police) the

'If you don't find a car then, take a truck at the market or a
truck at the crossroad opposite the police station.'

(Here b and b" indicate synonyms; they are alternate forms of
transportation.)

J462A2 (Pac > Qb) or ([Pac >> Rac] > [Qb >> Rbc])

boo lee i sang loo qe mba kodo neje jî-g
if you search place in order to carry things hand-in-it
Sentence Structure

yaan ndaa, ngannje bula d-aar kene-g mba kodo neje much then boys many they-stand in-there for to.carry things
lei karl be to
of.you give.you yet--

'If you are looking for a way to carry your purchases then, there are many boys standing in the market to carry your things for you.'

(Here the two purpose Margins are an integral part of the sentence.)

J451A4 (Pa >[Qa ^ Ra])

boo lee l ndg! ndogo da ese kanji ndaa, aou loo if you desire to buy meat or fish then go place
suk-d qe ndo bba a kinga ndogo bel market-there at day and you will find to buy yet

'If you want to buy meat or fish then, go to the market early and you will still find some to buy.'

(The use of bba could be interpreted as encoding result.)

L47B2 ([Ea > Ec] ^ [Ea > Ec])

boo lee to bbee ge Mairle to kene-g ndaa, laree to if is village which city hall is in-it then price its is sak kara dia tol n n boo lee bbee thousand one head its hundred (1,500) but if village
ge Mairle goto kene-g ndaa, laree to which city hall not exist in-it then price its is sak kara
thousand one (1,000)

(The topic is the personal head tax and its determination.)

(ib) Actual (or Accomplished; see Ballard, et al. 1971a:113, footnote).

Nucleus + Result Margin P \rightarrow Q
Sentence Structure

L16A1  (PU → Qa)
jeen j-aou n-ra suk qendo rad ya saar ndaa, bacina
we we-go we-do market at day promptly truly until then now
m-dao yaan
I-be-fatigued much
'We went to the market early (and have been there) until (now),
so now I am very tired.'
(I use U here; if he had said the others, U-a, are tired but
I, a, am not, it would be necessary.)

L884  ([Ea ∧ Pa] > Qba)
woyo, njendogokuman le to deou ge majl, yeen ar neje
yes one sell medicine the be person who good he cause thing
lal aou majl, ndaa deouje lai d-am meen dee dea-g
all go good then persons all they-put inside them on him-there
'Yes, the pharmacist is a good man, he is reliable, so everybody trusts him.'

(ii) Contrafactory [P ⊃ Q] ∧ P ∧ Q only (Ballard, et al. 1971a:115)
Concessional/Conditional Margin + Nucleus P → Q

(L28A3 see société ge rang ndogo bin neele to wa)
( ? company which other buy cotton here the is ?)

L28B3  (Pab → Pca) ∧ (E → (P))
boo lee deen ndgîl ndogoqe Cotonfran el kârâ, deou ge
if they desire to sell with Cotonfran not even person who
rang a ndogo se dee el, nê lee rîrî kârâ Cotonfran
other will buy with them not but if whatever even Cotonfran
ya kârâ ba bba
truly even only --
'Even if they do not want to sell to Cotonfran, no one else will
buy (it) -- but even if anyone, it would be only Cotonfran.'
Sentence Structure

(L28A4) deen ndogo to ge mee dee ndigi el wa)
( they sell as inside them desire not ? )

L28B4 (Fac → (Qba ? (E)))

boo lee deen ndigi laree ge Cotonfran woji el ndaa,
if they desire price.its which Cotonfran show not then
deu a ndogo se dee el saar Cotonfran ya k'ara ba
person will buy with them not until Cotonfran truly even only
'If they do not like the price set by Cotonfran, no one will deal
with them unless it's Cotonfran.'

(W1) Warning (P ≡ Q) → P → Q

Conditional Margin + Result S. (P → Q).P.Q; (P > Q).P.Q

J432A2 (Fab → Qab' → Ra)

boo lee l inga mann tuyau el ndaa, maji karl ole mann
if you find water fauset not then good for you boil water
ge to mee bwa-g bba al bel
which be in well-there and drink yet
'If you don't have tap water then, boil the well water before you
drink it.'

J401B3 (Fac → Qac)

boo lee l ger lar koga kel le el bel ndaa, maji karl
if you know price to rent house the not yet then good for you
deji laree kette oo bba
ask price.its first you see --
'If you don’t know the rental price of the house, you had better
ask beforehand so you know.'

J441B2 (Ea ↔ (Ea → Qba)

to mba ger ne lar neje kette bba mbata boo
is for to know by this means price things first -- because if
Sentence Structure

```
lee bee el ndaa, loondogoneje ge loo sug-d
   thus not then place.sell.things which be place market-there
a kedere sei yaan
will be hard with you much

'It is so you know the price beforehand, because if you don’t, the stalls in the market will give you a hard time [bargaining].'
```

J441B3 (Pab → Qac)

```
woyo, bee ya tobei boo lee njenendogo go! to ge
yes thus truly further if one.thing.sell see you that
  l to mbaa ndaa, a qe kwoji lar
  you be stranger then he will be about to show price
  ne lea yaan to
  thing of him much

'Yes, that is the way it is, and if the clerk sees that you are a foreigner then, he will immediately raise the price.'
```

(iv) With universal quantifier of temporal or participant

(Py≥Q; P(a)≽[Qa ≠ Qba])

Conditional/Concessive Margin + Nucleus

Pa/Pt > Q, Conditional; P(a)≽[Qa ≠ Qba], Concessive

J571B2 (Pa > E)

```
boo lee i ndgi kaou mbaa yaan yaan ndaa, yeeje neele
if you desire to go trip much much then these here the
bba to majl
 -- be good

'If you are going on many trips, these (motorbikes) are good.'
```

J591A2 (Pa > E)

```
boo lee i ree qe kar ge siri mba shi ce ci saar
if you come at hour which seven for to sit with us until
```
Sentence Structure

as kar kara ndaa, yee bba as

equal hour one then this -- be.equal

'If you come at seven and stay for an hour, that will be sufficient for any one day.'

L34A5 (Pab > Qac)

boo lee I ndigi kajì rol ndaa, compriméje neele,

if you desire to heal body your then pill here the
taa as go! joo qe ndo kara kara lal ya

take equal time two by day one each all truly

'If you want to get well then, take these pills two a day every day.'

(everyone wants to get well)

L39A5 (Pb > Qac)

boo lee lel ula el ndaa, see a ra ne ban wa

if wind blow not then ? you will do thing how ?

'If the wind doesn't blow then, how will you do it?' (The wind does not always blow when one is ready to separate the chaff.)

J302A2 (Pac > E(a)c >> (Pa)c)

boo lee Inga as mba keaou ne cinéma-g ndaa,

if you have equal for to go with movie house there then

as mba ndogo ne kido kal ya to

equal for buy with beer to drink truly also

'If you have enough (money) for the movie, you have enough for beer.'

(v) Contingency [P $ P] =>Q; P Q

Reason/Result Sentence

[P $ P] > Q;: P > Q

J441B2 (Ea > Ea → Qba)
Sentence Structure

to mba ger ne lar neje kette bba mbata boo lee be for know by. this means price things first and because if
bee el ndaa, loondogone je ge loo sug-d this not then place set things which be place market there
a kedere sel yaan will be hard with you much

'It is so you know the price beforehand, because if you don't, the stalls in the market will give you a hard time [bargaining].'

J361A2 ([Pab . Eaa] → Qa > Ea)

boo lee i unda ventilateur ese l to sange dol-g if you put electric fan or you lay net on you there
ndaa, a la sel karl to bbl maji then will aid with you to allow you lie down sleep good

'If you have a fan blowing on you or you have a mosquito net over you then, you will sleep well.'

Discussion of IMPLICATION

(a) Realization. There is really no way to compare the logical representations of Implication in Inibaloi and Ngambay; rather the problem lies in evaluating the reality of the subdivisions of Realization and Frustration. Each of these has several subdivisions, some of which are quite reasonable; but others seem to be dubious.

Actually Ballard has given very little data on which to base the category Implication; two conditional margins and two cause margins are discussed briefly on pages 83 and 84, but only one instance each of Contingency (p.83), Reason (p.83), Result (p.83), and Direction Sentences (p.81) are given. Purpose and Concessive Margins are not illustrated.

In discussing each of the categories, the emphasis will be on whether or not the evidence from Ngambay will justify such a sub-subcategory.

The first subdivision under Realization is (1) Hypothetical; this Deep Structure is to represent the surface structure Con- ditional Margin plus Nucleus. This is by far one of the most
Chart 11
Comparison of Logical Representations for Implication

<table>
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<tr>
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<th>Deep Structure, Ngambay</th>
<th>Surface Form, Ngambay</th>
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<tr>
<td>I. Realization</td>
<td>(a) Realization</td>
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<td>(1) Hypothetical</td>
<td>(1a) Hypothetical</td>
<td></td>
</tr>
<tr>
<td>( P \supset Q )</td>
<td>( P \supset Q ) but also ( Pac \supset Qab; Pab \supset Qab' )</td>
<td></td>
</tr>
<tr>
<td></td>
<td>( Pac \supset Qb; Pa \supset [Qa \cdot Ra] )</td>
<td></td>
</tr>
<tr>
<td></td>
<td>([Ea \supset Ec], [Ea \supset Ed] )</td>
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<tr>
<td>(1b) Actual</td>
<td>(2) Contrafactual</td>
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</tr>
<tr>
<td>( P \rightarrow Q )</td>
<td>( PU \rightarrow Qa; [Ea \land Pa] &gt; Qba )</td>
<td></td>
</tr>
<tr>
<td></td>
<td>( PU \rightarrow Qa; [Ea \land Pa] &gt; Qba )</td>
<td></td>
</tr>
<tr>
<td>(2) Contrafactual</td>
<td>(2) Contrafactual</td>
<td></td>
</tr>
<tr>
<td>( P\supset [P \supset Qb] \supset P \supset Q )</td>
<td>([Pab \supset Pca], [E \supset (p)] )</td>
<td></td>
</tr>
<tr>
<td></td>
<td>( \overline{Pa} &gt; [\overline{Qb} \supset Qac] )</td>
<td></td>
</tr>
<tr>
<td>(3) Warning</td>
<td>(3) Warning</td>
<td></td>
</tr>
<tr>
<td>( (P \supset Q) \land \overline{\overline{P}} \land Q )</td>
<td>( \overline{Pab} &gt; [\overline{Qab} \cdot Ra]; \overline{Pa} \supset Qac )</td>
<td></td>
</tr>
<tr>
<td></td>
<td>( Ea \supset [Ea &gt; Qba]; Pab \supset Qac )</td>
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<tr>
<td>(4) With universal quantifier of temporal or participant</td>
<td>(4) With universal quantifier of temporal or participant</td>
<td></td>
</tr>
<tr>
<td>( \forall t \supset Q: \forall (a) \supset [Qa # Qba] )</td>
<td>( Pa &gt; E; Pab &gt; Qac; \overline{Pb} &gt; Qac )</td>
<td></td>
</tr>
<tr>
<td></td>
<td>( Pa &gt; E; Pab &gt; Qac; \overline{Pb} &gt; Qac )</td>
<td></td>
</tr>
<tr>
<td>(5) Contingency</td>
<td>(5) Contingency</td>
<td></td>
</tr>
<tr>
<td>([P \neq P] \supset Q; P \supset Q )</td>
<td>( Ea \leftrightarrow Ea &gt; Qba; [Pab \land Ea] \supset Qa \rightarrow Ea )</td>
<td></td>
</tr>
</tbody>
</table>
Sentence Structure

common surface forms in conversation, and it occurs often as a more complicated logical representation (as some of the examples illustrate). That there is a need to distinguish "accomplished implication from hypothetical" is admitted by Conrad (Ballard, et al. 1971a:113, footnote 15), but he does not utilize this category because there is no difference in surface structure. In Ngambay there are Nucleus plus Result Margin/Sentences which I feel can be classified as a separate Deep Structure, 1.,(1b) Actual (that is accomplished).

The few Contrafactual examples are quite complex, involving both Concessional and Conditional Margin plus Additive Sentence, Antithetical Sentence and dependent relator clauses (relatorsaar).

(3) Warning is in most instances simply a Conditional Margin plus Result Sentence. But in neither sub-subcategory do I find the joining of predicates to be as uniform as Conrad's representation would indicate.

(4) The use of a Universal quantifier of temporal or participative is quite frequent; it usually involves a Conditional or Concessive Margin. The quantifier is not always overtly expressed, and so one must interpret from the cultural context.

Examples of Contingency in Ngambay are Reason or Result Sentence, with a Conditional Margin plus Nucleus in only one example. Only one example of Contingency Sentence is given on p. 82 of Ballard, et al. (1971a); unfortunately, Inibaloi data do not appear in Longacre (1968), and there the use of the word 'contingency' is limited to a chart label for a category or a single surface sentence type (pp. 189, 204, 214, and 215). It might be true that the particles ampot ... asan denote a certain surface sentence type, but it could easily be included as a subdivision of Temporal or Conditional Margin. The evidence is not there; Longacre has said as much in Ballard, et al. (1971a:79). But see Ballard, et al. (1971b).

(b) Frustration

We have separated Causation from IMPLICATION and given it a separate and equal classification, IV B EXPLANATION, on the basis of differences in the surface structures used to encode causal relationships. But the multiplicity of representations for frustration is even more in need of revision.

The use of the symbol \( \wedge \) to indicate conjoining in previously discussed Deep Structures becomes inconsistent when used
to join implicative conditions or presuppositions to sentences and margins which have a dominant conjoining relationship. If Conrad uses \((P \Rightarrow Q)\) 'P implies Q' for Conditional or Concessive margin with the additional statement \(P \land [P \Rightarrow Q] \land [\neg P \Rightarrow Q]\) to indicate the pairing of the alternatives, should not Contrafactual be written \(P \Leftrightarrow Q\), with the information \([P \Rightarrow Q] \land [\neg P \Rightarrow Q]\) occurring as a footnote? That the optional positive/negative value of the predicates can give four possibilities as per definition of 'P' on page 115 is a secondary matter which, when included as a major part of the representation, is confusing. By making his logical representation so specific, I believe Conrad has defeated his intent at universality (or does Inibaloi really employ all these possibilities?). The explanation for this "over-differentiation" of all the possibilities could be that actual examples were not furnished by Ballard. If these had been provided, certainly some restraint would have been in evidence. As for context, there is no need to imply that all "Frustration" occurs in discourses whose basic "genre" is argument or persuasion.

Under Frustration, in particular, the examples for Expectancy Reversal and Conflicting Premises (2.8.5, 2.8.6, and 2.8.7) are all Antithetical Sentences in which the primary relation is conjoining. Here the presuppositions are designated by the use of parentheses. If what one is attempting to do is to state the logical relationship, would it not be better to give the presuppositions as secondary restrictions? To include Antithetical conjoined and Concessive Margin + Nucleus in the same logical representation is to overburden and complicate an intended simplification. Antithetical Sentence and Concessive Margin + Nucleus have different logical representations.

I would represent the examples on pages 106-7 2.8.5 \((P \Rightarrow Q), P \land Q\) as \(P \land Q\) \(\land (P > Q)\) and 2.8.6 not as 2.8.5 in Ballard but as \(P \land [Qb \lor Cb] \land [\neg Pa \land Q]\) \((Qb > Qb \lor Cb)\) (it is the same location here represented by synonym that is implied), 2.8.7 not as \((P \Rightarrow Q) \land (R \Rightarrow Q) \land P \land R\) but as \(P \land Pa \land Ec\) \((Ec > Pa)\).

The following section of examples under the category Frustration and its subdivisions is not intended to be a part of the taxonomy, but is an illustration of the loss of generality that occurs when the semantic interpretation is relied on too heavily.

(i) Expectancy reversal \((P \Rightarrow Q) \land P \land Q\)
Sentence Structure

Antithetical Sentence
J581B1  \( \left( E \land E \right) \) Parallel contrasting
\begin{align*}
\text{kinga deou karee ndooi ta ngambai to kedere} \\
\text{to find person to allow him to teach you word Ngambay be hard} \\
\text{el, nè kinga deou ge ged-ged ge meee to do} \\
\text{not but to find person who really who inside his be on} \\
\text{ndoo ne-g bururu le to kedere ya} \\
\text{teach thing-on it thoroughly the is hard truly}
\end{align*}
'To find a teacher of Ngambay is not hard, but to find someone who really wants to teach thoroughly is truly difficult.'

L54A5  \( \left( \widetilde{\text{Tab}} \right) \rightarrow \text{PU} \) Counter balance
\begin{align*}
\text{nè deouje lal to bbi} \\
\text{but persons all lie down sleep}
\end{align*}
'(You and I are awake), but everybody should be sleeping.'

L34B2  \( \left( \text{P(b)}a \land \overline{\text{Qca}} \right) \)
\begin{align*}
\text{le sem ya, nè rokom le or dom-g el bei} \\
\text{aid with me truly but sickness the lift on me there not yet}
\end{align*}
'(The medicine) has helped me really, but I am not well yet.'

Concessive
L65
\begin{align*}
\text{lee m-aou kara m-a kinga-l el mbata bacine to kar so} \\
\text{if I go even I will find you not because now is hour four}
\end{align*}
\begin{align*}
\text{mban} \\
\text{already}
\end{align*}
'Even if I go I won't find you because it is already four.'

J571B1  \( \text{\left( Pac \rightarrow \left( \text{Pac} \land \overline{\text{Pac}} \right) \right) } \) Denied alternative
\begin{align*}
\text{I a kaskem ndogo odoro ya nè laree bba yaan lee ge} \\
\text{you will be able to buy car truly but price its much if --}
\end{align*}
Sentence Structure

Renault quatre kara a to bee ya to
Renault four even will be thus truly also
'You could buy a car all right, but it's expensive; even the Renault Four will be really expensive.'

(ii) Conflicting Premise \((P \supset Q) \land (R \supset \overline{Q}) \land P \land R\)

Antithetical Sentence

J481A1 \((E \land \overline{E})\) Counter balance
kubuje ge maji le to makaja-g yaan, nê laree bba clothes which good the be store-there much but price.its --
to yaan
be much
'There is much good cloth in the store, but it is costly.'

J28P5 \((P \land P(U-a))\) Acknowledged exception
deneje le kara, d-uso ne nan-d to, nê ngannje women themselves they-eat thing each.other-there but boys
ge tog asena ge basaje d-uso ne nan-d who.be old equal with young.men they-eat thing each.other-there
'The women eat together, but the boys who are men eat together.'

J502B2 \((P(a) \land Q(b))\) Acknowledged exception
ta française ese ta ngambai ya joo bor, nê l00 ge nanje word French or word Ngambay truly two beside but sometimes yeen pele nan-d to
he mix each.other-there
'[Use] French or Ngambay or both, but sometimes he mixes them together.'

Concession

L65
lee m-a111 ngwood yaan bba k-nga-i kara i a teen raga
if I-run fast much -- to-find-you even you will arrive outside

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Sentence Structure

mban ese a kudu ta bureau lel mban to
already or will shut door office of you already

'Even if I run very fast to find you, you will have gone away or will have shut your office door already.'

L65

lee bee kara l a kar mee' ti mbiti dom-g ndaa,
if thus even you will give inside you pity on me on it then
m-a rai merci
I will do you thanks

'If you will have pity on me then, I will be very grateful.'

Discussion of Frustration

The use of Antithetical Sentence and Concessive Margin plus Nucleus as surface structures to indicate certain subtypes of Deep Structure Frustration seems well motivated.

The subdivisions Expectancy and Conflicting Premises are evident in Ngambay, but it is only by analyzing the semantic intent of the speaker that these can be classified under IMPLICATION.

The logical representation given by Conrad does not seem to correspond to any Antithetical Sentence but only to Antithetical Sentence with Concessional Margins.

As for the Deep Structure sub-subcategories Surprise and Mistaken Idea, I find them somewhat less justified than Expectancy Reversal and Conflicting Premise, but again the only extensive references to examples are under the broader title Frustration: Sections 2.8.5, 2.8.6 (Expectancy Reversal), and 2.8.7 (Conflicting Premise). Here the examples are mostly Antithetical sentences. Where are the Concessive Margin examples? There are some mentioned in Longacre (1968:2.46-47). It is quite likely that the information needed to provide justification for such a claim for a Deep Structure sub-subcategory will eventually be published by Ballard (see Ballard, Conrad, and Longacre 1971b, which I have not had a chance to examine thoroughly), but in the meanwhile I must view the subdivision Frustration as overextended and emotion-
Sentence Structure

ally labelled.

Antithetical examples classified as Expectancy Reversal and Conflicting Premise can be handled under the Contrast subdivision of Conjoining, as I have set up on the basis of Longacre's division of Antithetical in (1970:797). Concession examples for the two Deep Structure Subcategories can be difficult to handle. I certainly do not have enough examples to be sure of their deep structure; examples are presented here because only one of them fits into the second logical structure mentioned under Realization with Universal quantifier of temporal or participant, but they might be included as a sub-subcategory of (1) Hypothetical.

In conclusion, at this point the subdivision "Frustration" is not well justified on the basis of the evidence or possible alternative analyses and logical representation.

When we represent causal relationships, on the other hand, the implication is primary (not the conjoining), so I have had to select a variety of symbols to represent the relationships which are not sufficiently or accurately differentiated ("under-differentiated") by $P\rightarrow Q$ or $P\rightarrow P\rightarrow$ and confused by the use of the conjoining symbol $\wedge$. It is far better to state the specific implication and list the presupposition in parentheses afterward.

One result of incorporating this change is to allow a given logical representation to represent longer strings which include more than just implication (more than one primary relationship). (See Chapter 5.)

4.3.5 Explanation

Having separated Conrad's subdivision Causation from IMPLICATION, what are the differences in the surface structures used to encode causal relationships? "Reason and Result sentence are related inverses", is what Longacre says (1970:801). His use of 'for' is my equivalent of 'because' in the Reason sentence of English as he has defined it there. It, as he says at the beginning of Section 3.1.5, "expresses logical relation of a weaker order than implication."

I would propose separating cause and result from reason. Notice, Longacre and Ballard use Cause Margin to denote a margin whose relator is translated 'because', whereas this is a Reason Margin for me with a Cause Margin relator, being the verb 'to cause' in Ngambay. On the basis of this it is in order to split
Sentence Structure

and re-label his category "Efficient cause" into those logical relations, of a weaker order than implication which proceed from left to right as Efficient Causation, but label those which go from right to left or from the second to the first as Sufficient Causation. Further, I would change the symbolism as has already been done with Conditional Margin under IMPLICATION.

Conrad's ⇒ I write as > for Implication in general. For Result and Cause, weaker forms of implication, the symbols → and ↔ are used. I use ↔ for Reason. Finally, I would use Conrad's ⇒, not as a cover symbol for all forms of implication, but to indicate Purpose (although for ease of typing, >> has been substituted).

Since EXPLANATION is a major Deep Structure in my revision of the Index, the examples will be presented under the revised subdivisions.

(1) Efficient Causation

P > Q

Nucleus + Cause Margin

J501A2 (Pa ∧ Qab ⇒ Rabca)

see i ger to ge yeen ra kula kette bba i unnee aree
? you know that he do work before and you take him cause him
ra kula lel wa
do work of you

'Did you know if he had worked before you hired him?'

J531B2 (Pabc ⇒ Qac)

tobel) om mann meee-g tar-g aree

further) pour water inside ite-there height-there cause it
rusu to

be full

'And, pour enough water in it to fill it to the top.'
Sentence Structure

J522B3  (Pa > Qabc  Rbc)
toge meel ndigi, nè i a tura ri neje neele
as inside you desire but you will read name things here the
karee oo kette bba
to cause him he see first --

'As you wish, but you should read the names of these things so
that he understands [before he goes to the market].'

J542A2  (Pac  Qbcd)
wah, m-a karl iar karl aou ndogo ne savon
no I will give you money to allow you go buy with soap
ge boi ge i aou ndee le bel
which big which you go seek it the yet

'No, I will give you the money so that you can go buy the big bar
of soap which you are looking for.'

J491B3  (Pab  Qb  Rb)
i a bbar njepouse bba karee odo aou ne arl
you will call one cart cause him carry go with give you
'Call the cart-man so that he will carry (your things) for you.'

(ii) Sufficient Causation

P  Q

Nucleus + Reason Margin

J232A2  (Pa  Q)
m-a kor derngel mbate kaar kel lem ge kara le
I will prepare brick because wall house of me which one the
aou tö
go break

'I am going to make bricks because one of the walls is breaking.'
Sentence Structure

J46282  (Pac ↔ Qba)

ma ndigi kodo neje dom-g el, mbata deouje dea
I desire to carry things head. me-on. it not because persons on. it
kogem
mook-me

'I don't want to carry things on my head, because people laugh.'

J422A1  (Pab ↔ Qbc)

see i a kaou sem kametag nee wa, mbata ma m-oo
? you will go with me afternoon here? because I I-see
kel le maji
house the be. good

'Will you go with me this afternoon? I saw a good house [to rent].'

J313B1  (Pac ↔ [Ec → Qad])

lapala le, d-om neje meen-g kette lem, qe
airplane the they-put things inside. its there before -- and
gogo lem to, mbata neje to yaan ndaa, deen tor
after -- also because things are much then they again lift
chaiseje ge nanje
chairs some

'They put stuff in the front and in the back; because there is so much they keep removing seats.'

L57A1  ([Pabc ↔ Qbd] ∨ Rabc)

ma m-arli ne neele, mbata i ra kula yaan, yeen
I I-give. you thing here. the because you do work much this
ba ma la sei do-g
-- I aid with. you on. it

'I give you this because you did so much work; I got this for you.'
Sentence Structure

Reason Sentence

J222C2 (Previous Sentence ↔ Pb >> Qbc)
mbata deouje bula yaan d-aou mba too mann to
because perceon many much they-go for to draw water also
'Because many people were there to get water.'

J402B2 (P.S. ↔ Pac)
mbata ma ndigl kar mee ge nje kom-g munta
because I desire that inside its which one put there three
le, toge loo to mbaaje
the as place be travelers
'Because I want to have one [house] with a third room for guests.'

J412A3 (P.S. ↔ Pb >> Qbac)
mbata ta-ta njekeiije le d-e gol do ro dese bba
because usually one house s the they will prepare body their --
mba ari laphia bel ...
for give you greeting yet ...
'Because usually the occupants will put something on in order to
greet you.'

J572A2 (P.S. ↔ (Pcd → Qd))
mbata koor and kanneng ndaa, a karee bbuga kalang
because dust enter in it then will cause it be old quickly
'Because dust gets in it [a used motorbike], [the motor] wears quickly.' (The margin itself is a Nucleus + Result Margin.)

J572A3 (P.S. ↔ Pc)
mbata yeen ge leou ge bbuga mban le, kea
because this which travel far which old already the chest its
bbar yaan
call much
'Because one with a lot of miles on it is old already, the motor
Sentence Structure

makes a lot of noise.'
(Here is a sentence topic as Inner Periphery.)

(iii) Final Cause
P >> Q

Nucleus + Purpose Margin
J231B3 (Pac >> Qc)

deouje d-aou ta mann-g mba kinga mann ta-ta
persons they-go mouth water for to find water there usually
'People usually go to the [common] water faucet to find water.'

J371B3 (Pab >> Qb)

see loo ge ra bba l bbar baukuraje lel kene-g
? place which where -- you call friends of you in it
mba ndam se deee wa
for play with them ?
'Is there a place to which you can invite your friends to relax?'

J462A2 (Pa >> Qc)

boo lee ) l sang loo qe mba k-odo neje j1-g
if you search place in order to carry things hand in it
yaan (ndaa
much then
'If you are wondering how to carry many small things, ...'

J359A2 (Pb >> Qb)

boo lee ) l ree qe kar ge siri mba shi se ci
if you come at hour which be seven for to sit with us
saar as kar kara (ndaa, until equal hour one then
'If you come at seven o'clock and stay for an hour, ...'
Sentence Structure

J292B1 [Pb \ Qb] >> Ra

odo twaje om raga mba kar cl j-ishl kenneng
'Carry the mats outside so we can sit on them.'
(a juxtaposed nucleus)

Nucleus + Reason Margin (here, reason + purpose/mbata= mba)

J223A2 (Pbca >> Qac)

bbar dee am mbata ma ndigi kula dee ta
call them for me because I desire to say them word
'Call them for me because I want to say something to them.'

J492A4 (Pabc >> (Q))

m-a karl sak mi mbata kag shi joo
I will give you thousand five for wood sit two
'I will give you 5000 for two chairs.'

L46B1 (E >> Qa ⇒ Ra)

ginnee to mbata toji deouje kar dee d-oo to ge
origin.its is for to show persons to allow them they see that
kel neele kido to ke-n-g
house here the beer is in it
'The reason for it is to show people that there is beer in the
house.'
(Here the complement of the Descriptive Clause is a Reason
Margin, used to indicate purpose, which has a Cause Margin within
it.)

J441A3 (Pb >> Qac)

see l pa bee mbata m-a ndogo ne qe gursu wa
? you say thus because I will buy thing with guruu ?
'You said that so that I would buy things cheaply using native
currency.'
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Discussion of Explanation

As is evident from looking at the comparison of logical symbolic representations, the Deep Structure Reverse Index does not specify the terms (actor, goal) in detail, if at all, whereas the symbolic representations of Ngambay indicate a wide variety of orders and changes of order of the specific terms in each clause and between clauses. The presence or absence of certain terms in one clause or the other is of even more interest. Is there a pattern in each of the sub-divisions or just in the Deep Structure EXPLANATION as contrasted to CONJOINING or IMPLICATION? Further analysis will be required to discover such patterns.

An additional observation is that some of the examples have a second Deep Structure as the nucleus, usually CONJOINING but sometimes IMPLICATION, 1. Realization (1b) Actual (Result). This follows a general pattern in other discourse types which are predominantly persuasive or argumentative in nature ("Exhortative Discourse").

The difference between the examples under Efficient Causation and Final Cause appear to some to be insufficient to justify separate categories. (Both categories seem to be concerned with instances of "Purpose".) It is admitted that in the English translation one could substitute 'for' in place of 'cause to' or 'allow'. This mayblur a distinction in Ngambay which is indicated by the use of ar 'cause', but this is not a question of justifying a surface distinction whether in Ngambay (ar vs. mba) or in English (cause/allow vs. for); rather, it is a problem of the sufficient justification of two separate deep structure subcategories. A Deep Structure is justified by both surface structure and semantics.

As Longacre has pointed out, there is a great deal of semantic similarity in the "explanatory" structures. But here there is a change of actor (from Nucleus to Margin) in those examples which have Cause Margins, whereas this does not seem to be the case with the Nucleus + Purpose Margin. (See pages 97 and 99; 166 and 170 --note exception J292B1.)

What I have done here is possibly to over-differentiate semantically in order to preserve or because of a difference in surface form (I have never seen Cause Margin preposed, but it is not uncommon to prepose a Purpose Margin.) On the other hand, I have combined under one Deep Structure subcategory, Final Cause, surface forms which are assumed to be related both in similarity of relator and semantic intent. (Reason Margin mba and Purpose Margin mba when both are conveying the intent of purpose are
Sentence Structure

capable of being preposed.)

At this point I prefer to over-differentiate on the basis of surface structure, as Conrad has done in the Index (p. 113), separating cause and purpose. (See also the discussion of the two Cause Margins in Inibaloi, Ballard, Conrad and Longacre 1971a: 83.)

4.3.6 Alternation

The Deep Structure ALTERNATION is logically represented as the disjunction of two predications (P ∨ Q).

Conrad has separated exclusive disjunction ("with excluded middle") from inclusive disjunction ("without excluded middle"). He had chosen the symbol ≮ for exclusive disjunction, leaving ∨ to represent only inclusive disjunction which may occur with a series of more than two predications. He further divides what he labels as the subdivision "with excluded middle" into the categories: (1) by Negation (or predicate) and (2) by Antonym (or of some element—predicate, actor, or other).

In contrast to Inibaloi and in similarity with the New Guinea language cited in footnote 16 on page 113, there seem to be other surface encodings of the Deep Structure ALTERNATION. In Ngambay they are Itemized Sentence and possibly Antithetical Sentence but not Juxtaposition-Paraphrase, as is mentioned in the exposition of Alternative Sentence (Ballard, Conrad, and Longacre 1971a:107).

Alternative Sentence

There are only twelve instances of Alternative Sentence consisting of two bases and one of three or more connected by ese 'or'. Two thirds of these are the conjoining of different predicates having the same actors in both halves. The other third conjoin two bases with the same predicate but different actor or other contrasting element. The bases may be independent clauses or simple sentences, although there is one instance of a dependent clause as a second base.

* F. Householder has commented that Conrad's use: "With excluded middle" means 'A or B, but not both'; "without excluded middle" means 'A or B, or both'" (personal communication).
Sentence Structure

The Alternative Sentence is not used to link synonymous clauses or clauses which are paraphrases of each other. There are some instances of ellipses in the second base, but usually just the absence of the subject pronoun, as in the Itemized Sentence. The latter is the more common surface encoding for three or more alternatives.

V ALTERNATION

(a) With both excluded (exclusive disjunction)

(i) By Predicate Negation Pa ∉ Pa

This would be 'ese ... el, ese ... el.' It is used in this form and with Itemization, 'ese ... el lem, ese ... el lem to.' In translation it would be the equivalent of "neither ... nor." There are no examples of it in the texts.

(ii) By Antonym Pa ∉ P'a, Pa ∉ Pa', Pax ∉ Pax'

Alternative/Itemized Sentence

L2A2 (Pa ∉ P'a)

tel d-aou bbee le dee, ese d-ish! Moundou ya lal wa return they-go village of them or they-sit Moundou truly all? 'Do they go back home or do they stay in Moundou all the time?'

J2BP1,2,3 (Pat ∉ Pat"

ngannje d-In loondoone-g d-aou kelje le dee boys they-come place.learn.thing-there they-go house of them

-- is.yet men some they-hit edge work of them

qe mili, ese nje ge rang d-unda ngang kan dee qe at noon or one other they-hit edge that.of them at

kar ge kara lem to

hour which one -- also

'The boys come from school and go home, and some men stop work at noon; others quit at one o'clock.'
Sentence Structure

Itemized Sentence

L183  (Pa ≠ Pa")

nje ge nanje teen qe kar ge dog giree kara lem, some arrive at hour which be ten add it one
 njẹ ge rang teen qe kar ge dog giree joo qe gesee lem to
 one other arrive at hour ten add it two and half its.
'Some arrive at eleven; others arrive at twelve thirty.'

L581  (Pat ≠ Pat")

loo suk bba deen ndogo kubu kula dinganje asnan ge chemise
place market -- they sell cloth work men such as shirt
 ese pantalon kene g lem, loo qe nanje ndogo kubuje neele
 or pants in it some sell clothes here the
'The market stalls, they sell men's work clothes such as pants
or shirts; some sell store clothes.'

(b) Without both excluded (inclusive disjunction) ∨

Alternative Sentence

J2382  (Pa ∨ Qa)

i a kin tar killa qe er ese a kudu ta you could come from high to throw with rock or could close mouth
 kei le bba
 house of you --
'You could have gotten up and thrown a rock or closed your door.'

L6382  (P ∨ Q)

loo ge) loo nunga yaan ese kagje ge nanje unn kudu pudu
when place be hot much or trees some begin to flower
 (ndaa,
 then
'When it gets hot or some trees begin to bloom, ...'

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Sentence Structure

J562A3 (Pa v Qb)

see d-a koga qe lar kanda wa, ese see a kaou sel?
? they-will pay with money how.much?
or? will go with.you
as kar kanda bba mba teen Fort Lamy wa
equal hour how.many -- for arrive Fort Lamy?

J26P3 (Pax v Pay)

neje ge nanje asena qe, klrje qe koje bee le d-in
things some such as firewood and millet thus the they-come from
ne do bbeo ge rang ese d-in ne wala
with on village which other or they-come from with brush
bba ree nee
and come to here

'Some things such as firewood and millet, they bring from other
villages or from the bush, coming here with them.'

Itemized Sentence

J313B1 (Pacx v Pay) ellipsis

mbata jeen j-odo neje ne do ci lem, j-odo qe
because we we-carry things with head us we-carry with
kundalaje le ci
bicycles of us

'Because we carry things on our head and on our bicycles.'

J432A4 (Pa v (Pa)) ellipsis

banelle I ndigi réchaud qe gas to kene-g lem, frigo qe
perhaps you desire heater which gas be in-it freezer which
aou qe pétreole lem to
go with kerosene

'Perhaps you want a gas heater or a freezer that runs on kerosene.'
Chart 13
Comparison of Logical Representations for Alternation

Deep Structure Index

V. Alternation

1. With excluded middle
   (exclusive disjunction)
   (1) By negation
   (2) By antonym

2. Without excluded middle
   (inclusive disjunction)

Deep Structure, Ngambay

V. Alternation (4.3.6)

(a) With Exclusion of Both

(2) By Antonym

Pa ≠ P*a
Pa ≠ Pa*
Pa ≠ Pax*
Pa ≠ Pa; Pat ≠ Pat*
Alternative/Itemized S

(b) Without Exclusion of Both

Pa v Pb v ... v Pn
Pa v Qa; P v Q
Pa v Qb; Pax v Pay
Pacx v Pay
Pa v Pa
Alternative S
Sentence Structure

Discussion of Alternation

One would expect to find the Deep Structure ALTERNATION in all languages, since it is basic both to formal logic and to natural language, but can all the forms of alternation be found in any one language?

For instance, there are no examples of Pa ≠ P'a with exclusion of both (hot-not hot) in the Ngambay texts which were utilized. Is this a lack due to the dialogue nature of the text material, or the lack of the use of such a logical form in Ngambay? On the other hand, it is not uncommon to express alternation in terms of antonyms of the terms and predicate of the first base. Often this occurs in the surface form as an Itemized Sentence with no surface conjunction ese 'or'.

When alternatives are taken together, that is inclusively (both), the only logical form that does not occur is the repetition of the predicates with different terms (agents). This form is encoded usually in a Coordinated or Itemized Sentence with one additional term other than the agent which differs from base one to base two. The ellipsis of the nondiffering term in the second base is quite common.

4.3.7 Amplification

Conrad has set up the Deep Structure AMPLIFICATION to handle two logical representations: 1. Existence-predication (∃ Pa ∧ [Qa ≠ Qba]) and 2. Predication-equation (Pab ∧ Ebc). He lists the surface encodings Introduction and Addition Sentence for the first and Identification for the second (p.114). There are two examples of Introduction Sentence on page 81 and the other, number two Section 2.7.5 on page 102 under the topic of 2.7 Addition Sentence; there is also an Identification Sentence example shown on page 81. In Table VIII Addition Sentence, the Deep Structure subdivision "Existence-predication" is listed as ∃ Pa ∧ [Pa ≠ Pba] (Cf. Introduction Sentence). Is this consistent with the Deep Structure Reverse Index? (See also Table III Identity-equivalence.)

One might ask if it would not be possible to include the surface encoding Sentence Topic Margin + Nucleus or even Initial Sentence Conjunction + Nucleus.

I have found some Juxtaposed Sentences which correspond to the logical forms proposed by Conrad, but I find even more interest-
Sentence Structure

...ing the fact that all Subject and Object Sentence Margins + Nucleus can be logically represented by the existential-predicate logical form, except for one which is Predication-equation. Some of these are listed below.

Further, Initial Sentence Conjunction + Nucleus seems to apply to Additive Sentence, Reason Sentence, and Result Sentence, although this possibility is not mentioned as occurring in Inibaloi. ("Detailed presentations of the Sentence Topic tagmeme are available for ... Inibaloi (Lee Ballard), ... " Longacre (1968:2.25, 27-28).)

Initial Conjunction is noted as functioning "as a link between steps in a "PROCEDURAL PARAGRAPH" between TEXT Expo ... or between RESULT and REASON in an EXPLANATORY PARAGRAPH." (p.15). It is not difficult to carry this over to the discussion of Ngambay dialogues, on the basis of the analysis of DIALOGUE PARAGRAPHS (Longacre 1968:1.160-88)(see Chapter 5 below).

Additive, Reason, Result, and Juxtaposed Sentences.

...As mentioned previously in the discussion of III TEMPORAL, 1. Overlap and 2. Succession, the Additive Sentence may quite commonly indicate simultaneity or succession with or between two clauses, sentences, or bases. There are other examples of the use of tobei 'is.yet' as an Initial Sentence Conjunction (Outer Periphery) in which consideration of time is not the prominent feature. There are examples in which tobei is used by the speaker to continue his own pattern of thought after being interrupted by another speaker whether or not he acknowledges what the other speaker has said. There are instances when a speaker uses this link to add to what has just been spoken by another speaker. These constitute a Deep Structure which could be called Amplification.

...The same use of a sentence conjunction as medial and initial occurs for mbata 'because'. We have already discussed Reason Margin + Nucleus and Reason Sentence under the Deep Structure IV B EXPLANATION 2. Sufficient Causation. There are, however, a number of Reason Sentences (that is with Initial Sentence Conjunction) that are not causal in their implication but rather additive or responsive. Often they are preceded by an affirmative, negative, or confirmative Outer Periphery. There is another form which is significant for the point in question, although it does not occur in the Dialogue texts. In narrative texts there is a phrase which acts as a paragraph link but is also used to link sentences: gelee ge nee bba 'reason.its which.be here --' "for
the previous reason".

The same pattern of dual use seems to hold for the Result Sentence. That is, there are Result Sentences which are not classifiable under IV A IMPLICATION, nor under III TEMPORAL 2. Succession (as ndaa is used in narrative text material—no examples in Dialogue texts). The pattern is not entirely clear at this point, and I have given examples of both initial and medial use of bee 'thus', ndaa 'then', and bee ndaa 'therefore'. These are used more as a paragraph link in narrative text, but they are mentioned here for the sake of completeness.

The last surface encoding which I have classified as having Deep Structure VI AMPLIFICATION is a group of Juxtaposed Sentences in which the clauses are punctuated by pauses or particles as if they were simple sentences. Its most frequent form is that of a series of questions, which may or may not be linked. The initial interrogative particle (see) may appear at the beginning of each clause, but the final interrogative particle (wa) may occur only at the end of the last clause of the series. The other most prominent encoding is the immediate repetition of the topic of the previous clause as amplifying some aspect of its significance to the hearer.

I have tried to expand this category AMPLIFICATION to include some of the surface structures and logical representations which Longacre et al. have undoubtedly considered but could not discuss in an article-length presentation such as Ballard, Conrad, and Longacre 1971a (but see Ballard, Conrad, and Longacre 1971b).

(a) Existence-predication  \( Pa \land [Qa \lor Qba] \)

Juxtaposed Sentence

L21A1  \((E \land P \land P)\)

deouje neele to naje wa see nje ge ra bba d-ula kubu

person. here. the be who. s ? ? one be where -- they-wear cloth

njeroje ro dee-g nee wa see dee to gendarmje wa

one. war. a body their-on-it here ? ? they be police ?

'Who are these people? Where are they from? They wear army uniforms? They are police?'

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Sentence Structure

(b) Predication-equation  \( \text{Pab} \land \text{Ebc} \)

Juxtaposed Sentence

J40182  \( \text{Pa} \land \text{Ea} \)

\( \text{see} \) \( \text{i} \) \( \text{ndigi} \) \( \text{kel} \) \( \text{ge} \) \( \text{ban} \) \( \text{wa} \), \( \text{see} \) \( \text{kel} \) \( \text{ge} \) \( \text{mee} \) \( \text{?} \) \( \text{you} \) \( \text{desire} \) \( \text{house} \) which \( \text{how} \) ? \( \text{?} \) \( \text{house} \) which \( \text{room} \).its \( \text{joo} \) \( \text{a} \) \( \text{kasi} \) \( \text{wa} \) \( \text{two} \) will \( \text{be} \).equal.you ?

'What size house do you want? Will a two room suffice?'

L25-2  \( \text{B2} \)  \( \text{Pa} \land \text{Ec1} \)

\( \text{bele} \) \( \text{m-a} \) \( \text{kaou} \) \( \text{loo} \) \( \text{ndam-g} \). \( \text{ndamje} \) to \( \text{loo} \) \( \text{suk-d} \)

\( \text{tomorrow} \) \( \text{I-will} \) \( \text{go} \) \( \text{place} \) \( \text{dances-there} \) \( \text{dances} \) \( \text{be} \) \( \text{place} \) \( \text{market-there} \)

\( \text{lem} \) to \( \text{ta} \) \( \text{Préfecture} \) \( \text{lem} \) to

\( \text{--} \) \( \text{be} \) \( \text{mouth} \) \( \text{statehouse} \) \( \text{also} \)

'Tomorrow I am going to the dances. They are held in the market and at the entrance to the statehouse.'

L2683  \( \text{Pa} \land \text{Ec} \)

\( \text{deouje} \) \( \text{kara} \) \( \text{kara} \) \( \text{lai} \) \( \text{tea} \) \( \text{tor} \) \( \text{nan} \) \( \text{loo} \) \( \text{tura} \). \( \text{récitation-g} \)

\( \text{persons one each all take turn each place read recitation-in.it} \)

\( \text{kuree} \) \( \text{eou} \) \( \text{as} \) \( \text{kar} \) \( \text{munta} \)

\( \text{duration.its be.long equal hour three} \)

'Everybody took turns at the reading; it lasted three hours.'

J492A1  \( \text{Pa} \land \text{Ec} \)

\( \text{ma} \) \( \text{ndigi} \) \( \text{ndogo} \) \( \text{kagshi} \) \( \text{kara}, \) \( \text{see laree} \) \( \text{kanda} \) \( \text{wa} \)

\( \text{I desire to buy wood. sit one} \) ? \( \text{price.its how much} \) ?

'I want to buy a chair. How much does it cost?'

J352A2  \( \text{Pa} \land \text{Ec} \)

\( \text{yee ge} \) \( \text{kara} \) \( \text{bbaree} \) \( \text{le} \) \( \text{Logone}, \) \( \text{yee ge} \) \( \text{rang to Chari} \)

\( \text{this which one call it the Logone this which other be Chari} \)

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Sentence Structure

'One they call the Logone, the other Chari.'

Sentence Topic Margin + Nucleus (Subject)
L7A3  (Pa × Ea)
ne ge rang ge deen ra beile, yee bbe to gâteau
thing which other which they make yet the this -- be oake
'Another thing which they make is pastries.'

L23A1  (P × E)
paje ge neele, see to pa ginnka wa
song.e which here.the ? be song origin.elder ?
'These songs, are they from the past?'

L282A1  (Pa × Eb)
douje ge ra kula Centre Social-g le, kula ra dee to
persons who do work Social Center—there the work do them be
ddi wa
what ?
'People who work at the Social Center, what do they do?'

Sentence Topic Margin + Nucleus (Object)
J472B2  (Pb × Qab)
réchaud ge i pa taree le karai, m-oo to
heater which you say affair.ite the even I-see also
'The heater which you were talking about, I saw it also.'

L16A4  (Pb × Qab)
da ge ndiri nu le, ndo kara, j-a ndogo be
meat which cook there the day one we-will buy yet
'The meat which is cooking there, someday we will buy some.'
Sentence Structure

J402A2  (Ec ^ Qac)
see qe mba ddi bba kei ge meee munda bba, i ndigi wa
? or what house which room its three -- you desire?
'Why do you want a three-room house?'

Initial Sentence Conjunction + Nucleus

Additive Sentence

L7A3  ( ^ (E) c ^ Ec)
tobel ne ge rang ge deen ra bei le, yee bba to
is yet thing which other which they make yet the this -- be
gâteau
cake
'In addition, another thing which they make is pastries.'

J441B3  ((Outer Periphery) ^ Pab => Qa)
woyo, bee ya tobei boo lee njenendogo ooi to ge
yee thus truly further if one thing sell see you that
i to mbaa ndaa, a qe kwoji lar ne
you be stranger then he will be about to show price thing
le a yaan to
his much
'Yes that is the way it is; if the seller sees that you are a
foreigner then, he will immediately raise his price.'

Reason Sentence

J362B2  (E <=> Pa)
to maji yaan mbata ma m-ai nje ge nanje Fort Lamy mban
is good much because I I drink some Fort Lamy already
'It is very good [beer]; I had some in Fort Lamy.'
L26B2 \( \leftrightarrow \) Pa

woyo, mbata ma m-aou loo ra récitation-g kal nee
yes because I I-go place do recitation-there last.year here
'Yes, because I went to the occasion this past year.'

L27A5 \( \leftrightarrow \) Pa

bee ya, mbata Président Tombalbaye a qe kaou kenneng
thus truly because President Tombalbaye be.about to.go in.it

L57B1 \([\text{Outer Periphery \& Outer Periphery}] \leftrightarrow \text{Ec}\)

maji ya, merci yaan, mbata ne neele to ne ge
good truly thanks much because thing here.the is thing which
m-aou ndee e yaan
I-go seek.it much

'Very good, thanks a lot for this because I have really wanted it.'

Result Sentence

J321B2 \( \rightarrow [\text{Pa t‡ Qc}]\)

bee ndaa loo ge l tel rul ge doj! gel neele ndaa,
thus then when you turn body.your on hand left here.the then
see reou neele aou ge ra wa
? road here.the go toward where ?

'Therefore, when you turn to the left then, where does this road
go?'

J522B1 \( \rightarrow [\text{E} \gg \text{P} \gg \text{Q} \gg \text{R}]\)

bee ndaa, to maji mba ngina mba ra ndo ge rang-d bba
thus then is good for to.wait for to.do day which other-on.it --
mba tojee neje ge rang bei
for to.show.him things which other yet

'Therefore, it would be good to wait to do this some other day,
to show him other things later.'
Sentence Structure

J472B4 (→ Pa)
ndaa m-a ndogo ya
then I-will buy truly
"Then I will certainly buy it."

LI6A3 (Pa → Qc)
ndo ge kar os yaan bba i dao yaan, bee ndaa
day which sun pierce much — you be fatigue much thus then
thé ge nunga bba a sane dao le rol-g
tea which hot — will scatter fatigue the body your-in it
"On very hot days, you will be very tired; therefore hot tea will disperse the fatigue from your body."

Discussion of AMPLIFICATION

Since what I have classified as AMPLIFICATION in Ngambay is a variety of surface forms, it is not surprising to find a greater variation in the logical representations than in Inibalo1. But since the logical representations of Object as Sentence Topic, Reason Sentence, and Result Sentence differ quite radically, why should they be included here together? The answer is simple: AMPLIFICATION is the best if not the only Deep Structure out of a choice of seven. Would this seem to indicate that other Deep Structures are needed? Yes, at least for Ngambay. But more likely the additional factor to be considered is more important. Some of the relators, tobe1 'further', mbata 'because', bee 'thus', and bee ndaa 'therefore', are functioning on the paragraph level, that is, linking sentence (multiclauses) to sentence (multiclausal). In this particular Dialogue text material these sentences appear as Answer, Response, or Evaluation by the same speaker or by the other speaker(s), and so are not in the close continuity that would be found in Narrative Discourse. (For a full discussion of this see Chapter 5, where the matter is taken up in detail.)

4.3.8 Reporting. As the title of this Deep Structure indicates, the logical forms of the first predication give the clue as to how to interpret the second predication. Three forms are proposed:
1. Speech (wP ∧ Q); 2. Awareness (aP ∧ Q); 3. Metalanguage (cP ∧ Q).
Chart 14
Comparison of Logical Representations for Amplification

**Deep Structure Index**  Deep Structure, Ngambay  Surface Form, Ngambay

VI. Amplification

1. Existence-predication
   \[ \exists p_a \land q_a \neq q_{ba} \]
   (a) Existence-Predication
   \[ E \land P \land P \]
   Juxtaposed S

2. Predication-equation
   \[ p_{ab} \land e_{bc} \]
   (b) Predication-Equation
   \[ p_{ac} \land e_{ca} \]
   \[ p_{ac}; p_{ac} ; p_{ac} ; p_{ac} ; p_{ac} \]
   Juxtaposed S
   \[ P_{aeb} \text{ Subject} \]
   \[ P_{bqab} \text{ Object} \]
   \[ E_{c}, Q_{ac} \]
   \[ (E)_{c} \land E_{c} \]
   Initial S. Conj. + Nuc
   \[ \neg p_{ab} \rightarrow q_{ac} \]
   Additive S
   \[ \leftrightarrow p_{a} \]
   Reason S
   \[ \leftrightarrow E_{c} \]
   \[ \rightarrow [p_{a} \land q_{c}] \]
   Result S
   \[ \rightarrow [E \rightarrow P \rightarrow Q \rightarrow R] \]
   \[ \rightarrow P_{a} \]
   \[ \neg p_{a} \rightarrow q_{c} \]
Sentence Structure

These three are representative of three surface encodings: Direct Quotation, Indirect Quotation, and Indirect Question. The wP denotes 'reported speech' without implication as to the resulting action or lack of it; the aP denotes 'awareness', and the cP a calling or naming relationship (Ballard, et al. 1971a:116).

Discussion of Reporting

At present this major Deep Structure, although possibly much less complex in terms of analysis than say TEMPORAL, is not as amenable to analysis because of the lack of examples and the difficulty of resolving the question as to whether or not to base the analysis on the prequotation ("speech formula") or on the particular pronoun used within the quotation.

It is obvious that the logical apparatus is insufficient, so the examples have been presented without logical representation or the comparison of representations.

Direct/Indirect Quotation

I use as a guide the following quotation concerning the nature of the surface encoding of Quotation Sentences:

Quotation Sentences resemble clause structures in that the Quotation tagmeme can be considered to be the object of the preceding verb (which in Direct Quotation is a verb of speech). Nevertheless, there are good reasons for handling such structures on the sentence level rather than at the clause level: (1) The sheer length and variety of grammatical structures that manifest the putative Object are unparalleled in clause structure elsewhere. (2) The balance of the clause characteristically constitutes a rather restricted and specialized structure (the Quotation Formula), that gives the appearance of special variants of clauses conditioned by occurrence in higher level (i.e., sentence) slots. ... Longacre (1968:2.165).

I have noted that there is also a form of Direct Question without a formula preceding it.

The usual sign of quotation is pana 'saying'. It may be used alone as a verb, but it is preceded usually by one or more quotation formulas or verbs of speech action: tel illa kenneng
Sentence Structure

(return throw-it on it) 'replied'; ula 'say'; deji 'ask'. Direct Quotation normally requires the formula pana, but it can be absent.

Indirect Quotation uses pana, but the following pronoun subject may be the special pronoun used with Indirect Quotation: n 'I' and neen 'he, they'. There is a further substitution for pana to indicate indirect quote, to ge 'that'. It is used with m-o0 'I-see' and ma m-enji 'I think'. Longacre's experience confirms this:

Furthermore, in many languages, the Indirect Quotation employs Quotation Formulas that are not confined to verbs of speech but which may include such verbs as 'know', 'believe', 'think', 'feel', 'observe', or even 'want'.
(1968:2.171)

(a) Speech

Direct Quotation wP ~ Q

L5983
d-a sang mbata ta kenji le dee a k-ula dee
they-will search because word think of them will say them
pana, ku le to loo ge kul loo ge d-askem
saying forest the is place which cool place which they-can
kinga mann kene-g ya
find water in-there truly

'They will search because their thoughts tell them saying, "The forest is the cool place in which water can be found."'

L5984

loo ge manje loo nunga yaan, deouje pana, bogene ndi a
sometimes place be. hot much persons say today rain will
ker mbata ndi ll dara yaan, yeen bba to ne toji
drop because rain cloud sky many this -- be thing show you

'Sometimes when it is very hot, people say, "Today it will rain because there are many rain clouds in the sky; this is what will show you."'
Sentence Structure

L59B5
d-ulam pana, to mann bba shi ree bula
they-tell.me saying be water -- ait come.to many
'They tell me, "Much water [rain] is on its way."

Direct Question

J411A3
m-a dejl deou kara koo, see m-a tel qe kar ge
I-will ask person one to see? I-will return at hour which
ban bba qe mba kingâ wa
how -- in order to find him?
'I will ask someone to know, "At what time should I return in
order to find him (here)?"'

Indirect Quotation

wp Q

L25-2 A4
deu kara ulam pana,dee d-a bbari mba kari
person one tell.me saying they they-will call you for to cause.
laa
you to dance
'One person told me, "They would have called you to dance."'

L25-2 B4
bee ya, m-ar m-oo njendamje ndaa, loo ge deou kara
thus truly I-stand I-see one dance.s then when person one
laa tilla kem ndaa pana, m-ree laa se neen
dance again.put eye then say I-come dance with him
'That's right, I was standing and watching the dancers then;
when one of the dancers came repeatedly before me he said [that]
I should come dance with him.'
Sentence Structure

**L27A2**

deen pana, n-a kaije mann dann kara el n-a ro neen
they say they-will drink water in sun not it-will body them
a to eenje
will hurt them
'They said [that] they wouldn't drink water during the day; it would sicken them.'

**J22 1B3**
yeen ulam toge deou l sangee le aou mba sang mann
he tell.me that person you search.him the go for to.search water
'He tells me that the person you are looking for went for water.'

(b) **Awareness**

Indirect Thought  aP ^ Q

**J432A1**
m-oo toge a to maji mba kari inga mann tuyau
I-see that will be good for to.cause.you find water faucet
bba
--
'I think that it would be good for you to find a faucet.'

**J422A3**
ma m-doo ged el, nè m-oo toge mee kei kara kara ndaa,
I I-see surely not but I-see that inside house one each then
kembole to kenneng ya
window be in.it truly
'I am not positive, but I saw that inside each room there was at least one window.'
Sentence Structure

J261B2
ma m-enji toge laree a to gursi ro munta
I I-think that price its will be gursi ten three
'I think that the price will be thirty gursi.'

J402B1
ma m-enji toge a to kei ge mee joo ese munda
I I-think that will be house which inside its two or three
'I think that it will be a house with two or three rooms.'

L63B2
loo ge loo nunga yaan ese kagje ge nanje unn kudu pudu
when place be hot much or trees some begin flower
ndaa deouje ger toge ndi a ker
then persons know that rain will drop

'When it is hot or some trees begin to bloom then, people know that it will rain.'

4.4 Longacre's Reappraisal

A reappraisal of the Taxonomy of Deep Structures appears in
the third chapter of Longacre (1972).

I think it is in order here to summarize the differences be-
tween this most recent work and the Deep Structure Reverse Index
of Conrad, since Longacre has made some revisions; on the whole,
there is an expansion of the Deep Structure categories. I will
try to evaluate the direction and significance of these, starting
with the least complicated.

The ALTERNATION and REPORTING Deep Structures remain unchanged.
The Deep Structure label DEIXIS replaces AMPLIFICATION incorpo-
rating its logical representations. This DEIXIS category has new
labels for its subdivisions, Introduction (Existence-predication)
and Identification (Predication-equation). TEMPORAL Deep
Structure is expanded to include a fourth logical possibility
under Overlap (4) Punctiliar-punctiliar and under Succession (4)
Span-span. There is a slight modification of the symbols; the
period representing punctiliar now occurs after instead of below

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the predicate (formerly p ; now P.). One significant statement appears in the introduction to the discussion: "choice of lexical items indicates a real-world chronological sequence." (p.62)

CONJOINING, 1. Coupling contains a longer list of possible logical symbolic representations; these are just what might be expected when an attempt is made to list all the possible orders and combinations of terms (a,b). CONJOINING, 2. Contrast remains almost the same. As pointed out in the discussion of Ngambay, there are a large number of different types of antithesis which warrant separate representation other than just on the basis of antonym and negation. Longacre has discussed this in more detail.

ILLUSTRATION, a new Deep Structure category contains two subdivisions: 1. Comparison "the repeated verb is understood although not supplied" (1Pa ⊃ Pb) "I" for likeness; 2. Exemplification (P(U) ⊃ P(a) ⊃ (a ∈ U)) (example "Choose a good name, (choose) Michael.").

IMPLICATION incorporates a change in that 1. Realization is relabeled 1. Conditionality. The symbolic representation of (3) Warnings is revised to incorporate "o-P", which is an "inflected Predicate" ('o' for obligation); the reader is referred to the section on Increment Calculus 3.2.3 (p.81), with the added stipulation "the undesirability of the result Q must be inferred from lexical choice and context of situation" (p.67). (2) Contrafactual is described as "Hypotheticality plus Efficient Cause" and (5) Contingency as temporal reference plus implication. Under Frustration, (1) Surprise is done away with, but the other categories remain the same—except for (2) Expectance Reversal, which is now divided into four subdivisions on the basis of the concept of "Expectancy Chain" (see also Ballard, et al. 1971a:78). (i) Frustrated Succession is indicated by the string of symbols (P⊃Q).P.R.Q.S. (ii) Frustrated Intent is represented by the same string with the addition of the increment symbol "i" before the Predicate "P" giving "i-P"; (iii) Frustrated Obligation by (o-P), and (iv) Frustrated Facility by (f-P). In 3. Causation (3) Intent is dropped and replaced by Circumstance (cP.[cP⊃Q]).


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Sentence Structure

Summary

On the whole these changes can be considered to be minor ones. Several Deep Structures show little or no change and so are still vulnerable to the criticism and revision suggested above in the body of this chapter under each Deep Structure. The additions of DEIXIS and ILLUSTRATION, I regard as helpful, but I question the universality of the latter. The inclusion of 5. Amplification, 6. Contraction, and 7. Summary under PARAPHRASE instead of as a separate Deep Structure such as AMPLIFICATION would not be useful for describing Ngambay.

The expansion of Expectancy Reversal under IMPLICATION, 2. Frustration brings in another dimension, that of "Increment Calculus"; I will have a few words to say about this below. 3. Causation remains a disappointment, as apparently there was no attempt to justify or differentiate clearly the sub-sub-categories listed. I feel that the representation for Ngambay is an improvement.

Conclusion

I have attempted to develop my analysis of Ngambay along the lines previously mentioned. Because Longacre is dealing with so many languages at the same time, it is necessary that someone follow up with a more detailed analysis not only of a particular language independent of those used to formulate the Deep Structures, but also languages that are very closely related (the Sara family— Ngambay, Mbay, Majingay).

The work I have presented in this chapter is the preliminary attempt to what I hope will be a very careful, detailed, and fully justified Deep Structure Taxonomy of the major languages of the Sara family.

Prospects

Longacre sees the taxonomy of Deep Structures as being based on the "distribution of negatives, antonyms, synonyms, and words from the same semantic domain." (p.51)

To account for these he proposes four levels: 1. Predicate Calculus (clause); 2. Statement Calculus (interclausal), and Calculi of (3) Repartée and (4) Increment.

We will deal with (3) Repartée in Chapter Five; Increment
Sentence Structure

is primarily concerned with the Verb Phrase and Modal or Auxiliary. It is the next area that needs to be developed, as Fillmore (1968), Chafe (1970), Longacre (1972), and others have shown. Chafe calls this "inflection"; I have found it to be a necessity to develop a calculus of Verb Phrase to describe temporal Deep Structures.

Longacre (p. 51) gives his general view in answer to the question of how the universal deep structures which he catalogues relate to the particular deep structures of a specific language. He suggests the following program:

(1) Continue to enrich the general apparatus of deep structures in the light of further study of the world's languages.
(2) Work up a shortened variant of the universal apparatus for each language studied. The shortened variant will be the deep structures which are relevant to that particular language.
(3) The Deep Structures of any given language are the only structures required to describe it.

Added Comments

Transformational generative grammar assumed that grammar was independent of meaning. G. Lakoff (in Introduction to the version of Linguistic and Natural Logic to appear in J. Mehler (ed.), Handbook of Cognitive Psychology, 1971:11) comments that it has been discovered that the general rules governing the distribution of grammatical and lexical morphemes were dependent on (1) the logical structure of the sentence, (2) the contexts in which the sentences could be appropriately used, (3) the content conveyed by the sentence, and (4) the uses to which the sentence could be put, whereas it had been assumed that rules of grammar could be stated independently of these.

The Deep Structures of Lakoff are logical categories. But this is accompanied by the feelings of the "ordinary working grammarian" who feels that he finds himself in the "age of what we might call the New Taxonomy, an era of a new and exuberant cataloguing of the enormous range of facts that linguists need eventually to find theories to deal with". (C. Fillmore, On Generativity, in Goals of Linguistic Theory, S. Peters, 1972:16.)
5. PARAGRAPH

0. Introduction. One of the more important developments of the late sixties and early seventies has been the growing recognition on the part of both tagmectists and transformationalists of the necessity of a larger context for the analysis of the structure of the sentence. That is, sentences do not exist without being a part of a larger unit such as a "Paragraph, Discourse", or governed by "Rules of Conversation, and Presuppositions."

Consideration of context has always been emphasized in the process of translation. Recently in a manuscript entitled "Introduction to Semantic Structure", Nida (1971) has attempted to define several types of discourse, not on the basis of structure but rather on the basis of semantic types: (1) narration, (2) exposition, (3) dialogue. Nida includes "instruction (procedural)" with narrative, and he notes that it has been the type most extensively studied.

He makes, however, a special effort to distinguish dialogue from general conversation; the latter "simply combines certain features of narration and exposition" (p. 240), but in a highly structured form. On the other hand, dialogue for him corresponds to three types of speaker-responder situation in which "answers to questions are obviously dependent on the form in which the questions are posed." (p. 241)

In presenting Discourse Structure, Longacre (1968:1.1) posits seven postulates which govern his structural approach. The first four concern the recognition of a finite number of types of paragraph which may occur within it.

The last three deal with the fact that both grammatical and lexical ties exist between units within a given discourse type. Their presence and the extent to which they are utilized is quite variable. Longacre distinguishes (1) Narrative, (2) Procedural, (3) Expository, and (4) Hortatory as separate types of Discourse.

Further, Longacre contrasts DIALOGUE PARAGRAPHS (1968:1.160-88) with NARRATIVE and PROCEDURAL PARAGRAPHS. The primary difference is the switching or interaction between speakers. He goes on then to describe the SIMPLE DIALOGUE PARAGRAPH, which is based on an "exchange" defined in terms of "lexical" pairs denoting the initiation and conclusion of such an exchange. His basic three are "QUESTION-ANSWER", "PROPOSAL-RESPONSE", and "REMARK-EVALUATION."

He describes the same exchange in grammatical terms for all
three "lexical" types. These he labels as SPEECH 1 (SP₁) for the initiation and SPEECH 3 (SP₃) for the conclusion; SPEECH 2 (SP₂) is utilized to indicate a deviation or digression from the regular pattern (a "counter"). He points out that many dialogues have additional outer and inner periphery such as he described under Narrative Paragraphs and on the Sentence level. He labels those which do not effect the exchange as SPEECH 0 (SP₀). SPEECH 4 (SP₄) is added to designate those utterances which terminate the possibility of further exchange(s) on that particular topic.

Longacre thinks that the use of SPEECH 2 (continuing utterance) is justification for setting up a COMPLEX DIALOGUE PARAGRAPH in which SP₂ is "lexically" a counter SP₁ which avoids the implication of the exchange. He states that "any lexical variety of SP₂ can follow any variety of SP₁ or SP₂" and further "that the resolving SP₃ must match the immediately preceding SP₁ and SP₂."

His quest for universal application of the above exchange leads him to state "there seems no reason to believe that the dynamics of dialogue in English is in any fundamental way different from that of Philippine languages;" (p. 166) "the whole dialogue resembles then a game whose object is to maintain control of oneself and secure resolution of the dialogue by one's opponent" (p. 167).

In the preface of the New Guinea volume, Longacre (1972) makes reference to the result of the work in the Philippines as being a theory of discourse in which paragraph and sentence differ from their rhetorical counterparts in that in his theory they are defined as structural units.

He further states that the value of the New Guinea work lies in the large number of languages with relatively little influence by outside contact that have been examined concurrently by a large group of interacting investigators.

For those in the so called "Ivory Tower" status, Longacre's position creates some envy, even though the present focus of linguistic intellectualism is intensively and introspectively oriented rather than data oriented. Longacre characterizes the situation as follows:

The Philippine project made it clear that a group of dedicated investigators, working on the same set of problems and languages either related or in
the same linguistic area, and employing the same overall approach, constitute a 'critical mass' in which a chain reaction of discovery and theoretical development takes place. The same number of people working separately and scattered over a longer time horizon would not have the same advantage of mutual reinforcement and stimulation (1972.viii).

Two things are left out in the above description. One he has mentioned before: "that only a small amount of selected result are reported" (p. viii); the other is that the goals of such a project limit the scope of its ultimate usefulness. By this I mean that Longacre and his co-workers are dealing specifically with surface forms. Surface forms are important to the task of translating the Bible, which is a goal of the Summer Institute of Linguistics (for the history of interaction between linguistics and translation see Wonderly and Nida, Anthropological Linguistics 1963 Vol. I), but as for the value of such research to the quest for knowledge of the universals of human language, there is something that could have been done that was not reported as being attempted.

I for one would have expected Longacre to develop or expand or test his "taxonomy of deep structure propositions" on a group of New Guinea languages. What has been presented is an expanded version of the work with Ballard on the Philippine language InibaloI accompanied by examples from various New Guinea languages and English. In fairness it must be acknowledged that Longacre would want to do this, but was constrained to accomplish what he considers to be a more important goal. Perhaps later, we will have his results of applying Chapter Three in a more systematic way and with fuller presentation of the New Guinea languages.

Meanwhile I feel obligated to carry out a few unsteady steps in the direction of applying the deep structure taxonomy to the analysis of Dialogue Conversations. In this I suffer too in that my desire is to include a full investigation of the internal units of Dialogue Conversation Paragraphs at least for the total corpus of Ngambay which I have utilized so far.

In this monograph, primary emphasis has been given to describing the language and testing and expanding a mode of description (logical symbolic representation). It is necessary to go ahead to relate the description to the more comprehensive and basic unit,
the dialogue conversation, and even to some extent the combining of exchanges in conversational dialogue discourse.

This chapter is an attempt to illustrate and outline the next step in a quest for a suitable universal symbolization of deep structure for comparative purposes. In no way will it be complete and in many ways only exemplary and illustrative of what might or should be done.

It seems to me that the basic problem is to convey the patterns not necessarily in their most abstract form for each level (much obscure abbreviation) but rather in a form which more readily promotes comparison in view of a goal of stating universals.

5.1 Dialogue Paragraphs

"The Simple Dialogue Paragraph consists of a single Exchange (plus or minus peripheral material)"

A problem arises when carrying over the label PARAGRAPH into the analysis of dialogue (conversation), thus expanding it to include something which is structured rather differently. Further, in terms of the amount of periphery needed, it is a semantic rather than a lexical exchange.

I think that most Dialogue Paragraphs are of the compound variety, and therefore involve a number of Exchanges. If the simple dialogue or complex dialogue paragraph is reported within or separated from a narrative discourse, such labels seem to be appropriate. Such is the case with Longacre's example material.

My texts, on the other hand, are what I would call not Dialogue Discourse but Conversational Discourse because what is so evident about the exchanges between the speakers is that the subject, time, mood, all of the distinguishing criteria of the Narrative, Procedural, Expository, Hortatory, Dramatic, Activity or Epistolary Discourses of Longacre may be changed at the initiation of either speaker even though the particular series of exchanges is not yet completed. Witness the familiar "Let's change the subject" or "Let's not talk about that now" or "Let us talk about it now". In all of these the speaker is saying I still want to play the "game" but with an added rule or limitation. "Don't use that tone of voice with me, young man."

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The use of Complex and Compound by Longacre seems to be falling back into the past use of these terms with the sentence.

Longacre also mentions some second thoughts about Simple Unresolved Dialogue PARAGRAPH (1968:1.xxvi) in regard to non-verbal responses and the actuality of such unresolved paragraphs being in an exchange in a Compound Dialogue PARAGRAPH.

Conversational Discourse

The texts here are conversation which consists of from two to four exchanges. I had analyzed these primarily in terms of "lexical structure" and secondarily in terms of Longacre's "grammatical structure." I tried to go further with the analysis by describing the clause and sentence types which form the utterance of each speaker in the Exchange. But all of this was not a satisfactory solution, so as a temporary and in some way more consistent approach I have explored the possibility of applying the logical symbolic representation.

Because I am dealing with a large number of Conversations (approximately 80), I have calculated the frequency of co-occurrence of each semantic exchange, the frequency of certain sequences of exchanges, and some measure of the frequency with which the semantic and grammatical structures are out of phase. These results are not presented because they are not relevant to the presentation other than to say that the examples are representative.

What follows is a presentation of a limited number of examples (ten) which have been selected to represent the three basic "lexical" (semantic) Exchanges and their most common variations.

An expansion and changes of the symbolic presentation have been made in order to incorporate additional information necessary to trace the action and the actors in a series of exchanges (Conversational Discourse).

Rather than repeat the "Definition of Symbols" (Ballard 1971:114-17), I give here only the changes and expansions that are necessary.

The first major problem arises with the terms of the Predications. They have been designated as a, b, ..., n with x, y as spacial or temporal terms. I would recommend using the numbers
Paragraph

1, 2, 3 for first, second, and third person; (s, p) can be added for distinguishing singular and plural, although I have not found this necessary. These are to be written as subscripts immediately following the Predicate (the first designates the actor, the second the recipient: $p_{13}$ "I (give) him"). Nonhuman animate actor or recipient would be written as $p_c$; goal as $c$, $d$, $e$, etc. but not subscripted. "I give him (dog) a bone" would be written as $p_{1c}d$.

Temporal and spacial would be identified by 't' and 'l', but instrument would also be identified as 'i' (c, d), or if human as 'i' (1, 2, 3).

A focusing of 't', 'l', or 'i' in the surface structure would be indicated by placing them before the Predicate.

The same equivalent or synonym will be designated by the double rather than the single quote (as per Conrad and Longacre) which will be used to indicate non-equivalence, antonyms. (For me the symbol ' indicates something that is exactly a replica or parallel, whereas ' indicates a prime--something similar but recognized as different.)

The other major problem is to give greater distinction to individual predicates. One could utilize the transitive, intransitive, perceptive categories of surface structure. I find the distinctions of Chafe (state, process, action, and process-action) more perceptive, but in order to utilize them, the most prevalent (process-action) will be unmarked, and action predicate will be designated as $p_{ac}$, a stative predicate as $p_s$, and a process (a state that is changing) as $p(s)$.

"O" will continue to be utilized, but only as the second Predicate denoting Implication or Explanation, although if the same verb is repeated in the same exchange, Q will be used to designate it. "R" and "A" will be utilized if necessary to distinguish re-occurrences of the same predicate.

Examples of Question-Answer (Q-A)

J46-1

A1 see loo kinga menji to ra wa
B1 loo ndogo menji ie to gogo nu gir kei ndogo da-g
A2 tobei ngali ese ul ese ko, see d-unda rab to wa
B2 neje neele to par ge noin-g kette bee bel
Paragraph

A3 see loo ndogo da to ra wa
B3 loo ndogo da le to mee kei-g mbor loo ge menji to kene-g
     nê loo ndogo kanji to mbor loo ge kanji ge tutu to kene-g
     le to

EXCH 1

place to find beans is where ? SP1(Q)
place to buy beans the is after there behind SP3(A)
house buy meat

EXCH 2

is yet manioc or oil or millet, they put them SP1(Q)
where also ? SP3(A)
things here the are toward the front ahead thus yet

EXCH 3

place to buy meat is where ? SP1(Q)
place to buy meat the is inside house beside place SP3(A)
which beans are in it, but place buy fish is beside place
which fish which dried is in it the

'Where are the beans?'
'They sell beans behind the meat shed.'
'Where are the manioc, oil, and millet?'
'Those things are further to the front.'
'Where do they sell meat?'
'The meat shed is beside the place where they sell beans, but
the place where they sell fresh fish is beside the place where
the dried fish are (you can smell them).'

Semantic-Cultural-Lexical Analysis

J46-1

Here are three simple Question-Answer Exchanges asking for the
location of various objects in the market place. In the first, the
same sentence type (Equative) is repeated in the Answer, but the
infinitive in the phrase identifying the subject is changed to
anticipate the further action of the questioner (if he finds, he
will buy). The Question which begins the second Exchange focuses
on other commodities. The Answer focuses also on the commodities
as a collective whole ('things'). The questioner has varied the
structure of the Question, but the Answer follows the structure of
the first Answer. In Exchange three, the Question and Answer
parallel those of Exchange one, but the one answering anticipates
the need to differentiate between da 'flesh in general' and meat, also da versus fish kanji, and further he is very specific about the location of each.

Grammatical-Surface Analysis

J46-1

In the first Exchange, the Initiating Speech Act 1 and the resolving SP3 are grammatically Equative Locational clauses. The second Exchange is linked to the first, not only by tobei 'further', but by to 'also', which refers to the beans of the first Exchange plus the items in object focus of the Initiating SP1 of the second Exchange, which is a transitive CI-S with interrogative locative ra 'where'. The SP3 is a Locational CI-S with a directional phrase in the obligatory location slot. Exchange three begins with the same grammatical form as Exchange one, a single Locational CI-S, but the resolving SP3 is a two clause Antithetical Sentence consisting of two Locational CI-S with locational tagmemes modified by additional (more specific?) locational tagmemes.

Examples of Question-Answer (Q-A)

J24-1

A1 leb neele m-a kunda tole bba do kei-g lem
B1 see do kei boro lei le kedere maji ar kuree eou as ban bacine wa
A2 kuree eou as leb joo nga
B2 see ddi bba i ra mba ndogo ne tole wa
A3 ko lem to maji yaan laree bba ma ndogo ne tole
B3 see i a ndogo tole as kanda wa
A4 ma m-enji mba klinga as ro munta loo ge m-a kwoji kei bba m-a ger leee be

EXCH 1

year here, the I-will put sheet metal on house of me SP1(REM)
roof mud of you the hard good give duration its far equal SP0(Q)
how now duratior its length equal year two already SP0(A)

EXCH 2

what you will do for to buy with sheet metal SP2(Q)
millet of me is good much price its -- I will buy with SP3(A)
sheet metal
EXCH 3

you will buy sheet metal equal how much? SP1(Q)
I think for to find equal thirty when I will SP3(A)
measure house and I will know place it be yet

'This year I will put sheet metal on my house.'
'How long has your mud roof lasted?'
'It has lasted two years already.'
'How are you going to pay for the sheet metal?'
'My millet harvest was good; I will pay for it with what I sell.'
'How much sheet metal are you going to buy?'
'I think I will need thirty sheets; when I measure the roof I will know exactly.'

Semantic-Cultural Analysis
J24-1

The opening REM might be construed as a PROP. By placing the period of time in focus and using the future tense, the speaker has indicated that sometime before the rains begin and the planting is obligatory, he will put corrugated sheet on the roof of his house.

If this were a PROP, then the normal expected response would be either a counter proposition (PROP) or an RESP, but the second speaker's response is not even a counter question (Q) such as in SPI EXCH 2 (do you have the money?). Instead, the question asks the age and state of the roof; this is supplied without any additional remarks.

Exchange two begins with what could have been a counter question in EXCH 1, but here is a question of financing. The answer is, 'I had a profitable harvest.'

Exchange three accepts the fact that the money is available and inquires as to the total cost. The answer is an estimate plus an assurance that an accurate figure will be available when the roof is measured.

Grammatical-Surface Analysis

In Exchange one, SPI is a Transitive Cl=S with temporal focus and a locative phrase. In the Interrogative Intrans. State Cl=S which follows, the subject (roof) is in focus. The Answer is an Equative Descriptive Cl=S.

In Exchange two, SP2 is an object in focus in a Transitive
C1=S with Purpose M.; the SP3 is an Equative Descriptive Paraphrase S. which is followed by a more specific Transitive C1=S with Means in focus and emphasized (bba).

Exchange three begins with an Interrogative Trans. C1=S with a dependent Interrogative Equational C1 (as kanda). The SP3 is a Juxtaposed S.; the first base is a Perspective Clause with purpose relator mba substituting for to ge 'that'. The second base is a Temporal M. coordinated with emphasis on measure, not house or money, plus a Perspective C1 as nucleus.

Examples of Proposition-Response (PROP-RESP)

J45-2

A1 ar si njaaje lam-lam j-aou par ge loo sug-d 
    mba kaou koo neje lai ge to kenneng
B1 yeen bba i a koo neje ge bol-boi ge d-undé la
A2 tobei m-a kaskem main ne ta lar neje ge nanje lam-lam to
B2 unn kudee do neje ge laree to lam-lam ba bba

EXCH 1

let us walk a little, we-go toward place market
for to go to see things all which are in it
in this way you will see things which numerous
which they display them the

EXCH 2

is yet I can discuss with words price thing some
few also
begin on things which price its is small only -- first

'Let's walk a little; we will go to the market
place to take a look around.'
'This way you will see the many things which they display.'
'I can try bargaining for a few items.'
'Begin with the inexpensive ones first.'

Semantic-Cultural Analysis

J45-2

The initial Proposition is one which includes the other speaker; this is repeated by the same speaker, with a more specific goal.

The Response (anticipates?) the result of such action, but
Chart 15
Comparison of Representations for Question-Answer

J46-1
EXCH 1
A1 Q SP1 1 E C
B1 A SP3 1 E C

EXCH 2
A2 Q SP1 \( ^d e f P_3 \ 1 \)
B2 A SP3 [def] E 1

EXCH 3
A3 Q SP1 1 E g
B3 A SP3 1 E g \( ^1 \ E g' \)

J24-1
EXCH 1
A1 REM SP1 \( t P_1 c T_1 \ 1 \)
B1 Q SP2 1 c' \( ^2 \ P(\$) \)
A2 A SP3 E A<

Exch 2
B2 Q SP2 \( P_2 T_2 \gg Q c \)
A3 A SP3 \( d_1 E \ ^i d' d'' P_1 c T_1 \)

EXCH 3
B3 Q SP1 \( P_2 c T_1 \ ^d \)
A4 A SP3 \( P_1 (P) \gg Q \ ^d [P_1 T_1 e t= P_1 T_1 A_1] \)
is really nothing more than a repeat of the action with an exposition denoting the number and deposition of the things. Exchange two adds/opens a new dimension-bargaining. This might be interpreted as an REM since it appears to be a proposal about his own action, but it does involve the second speaker, and both realize this presupposition—to bail him out of a language problem and keep the price within reason. What he is saying is, "you will still be with me to help." The second speaker anticipates this and issues a warning.

Grammatical-Surface Analysis

The Paraphrase Sentence which opens Exchange one consists of an Exhortative Transitive Motion C1=S followed by an Intransitive Motion C1=S with directional phrase and purpose dependent clause (margin).

The response focuses Means, the previous proposal, and the result is a Perceptive clause. The object here is modified by two relative clauses which are independent of each other. The link between Exchange 2 and Exchange 1 is provided by tobel, which is more specifically a link for B to regain the lead in the conversation and continue his own thought. The C1=S is a Transitive with the Means/Instrument placed ahead of the object phrase. The Resolution is an Inceptive imperative in the verb. The assumed emphasis is placed on the modifier of the sentence adverb at the end.

Examples of Proposition-Response (PROP-RESP)

J29-1

A1 ngannje, avuje rage mba ndam
B1 jeen ndigi ndam nee
A2 bee ndaa shi je regege bba
B2 jeen j-a shi regege mba ndam ya

EXCH 1

children, go outside for to.play
we desire to.play here

EXCH 2

thus then sit quietly
we we-will sit quietly for to.play truly

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Paragraph

'Children go outside and play.'
'We want to play here.'
'Then be quiet.'
'We will play quietly.'

J26-2

A1 maji kari aou ndogo belignet mba kar ci j-uso
B1 kom, see m-a ree ne sem as kanda wa
A2 a ree ne kem gursi jinaikara
A3 os roi bbad aou ree nene maji kari ndogo bonbon el
B2 a-m bbol mba kom kenneng

EXCH 1

good for you go buy donut for give us we-eat SP1(PROP)
mother mine, I will come with equal how many? SP2(Q)
you will come with gursi nine (45CFA worth) SP3(A)

EXCH 2

hurry go come with but good for you buy candy not SP1(PROP)
give me sack for to put in it SP2(PROP)

'You had better go buy some donuts for us to eat.'
'Mother, how many should I get?'
'Come back with 45 francs worth.'
'Hurry up, get it done, but don't buy any candy.'
'Give me a sack to put them in.'

Semantic-Cultural Analysis

The Proposition of the first Exchange begins with a vocative followed by a command. The Response is a direct counter Proposition tempered by an expression of volition (desire). An acceptance of the counter Proposition provokes a requirement. The acceptance of this requirement terminates the Exchange (quiet outside).

Grammatical-Surface Analysis

The second Exchange begins with the conjunction that indicates that the previous Response is accepted as the result, but the Cl-S itself is an imperative. The terminating utterance is given finality by the use of the definite form of the subject pronoun.
Combined Semantic-Grammatical Analysis

J26-2

The Proposition which begins Exchange one is an exhortative Transitive Cl=S plus a purpose margin. The counter Question begins with a vocative which precedes an Intransitive Motion Clause plus an accompaniment margin. The Answer is a repeat of the Question with the accompaniment defined as to quantity. The second Exchange begins with a formula Exhortation (outer periphery) and a paraphrase which is a repeat of the Proposition plus another negative exhortation. The counter Proposition is a request for the means to carry out the original Proposition.

Examples of Proposition-Response (PROP-RESP)

J47-1

A1 neje ge lam-lam mba ndogo to bula yaan bei, nè m-dao yaan, m-askem kaou mba main ta lar neje kara kara el
B1 neje ge nanje ge i ndig! le to kei le Chachati ese to kei le Villoing to, ne see mba ddi bba aou kenneng ndogo neje el wa
A2 woyo, m-a kaou kenneng ya

EXCH 1

things which little for to buy are many very yet, SP1(REM)
but I-am fatigued much, I can go for discase word + (PROP)
price things one each not (in the market)

things which some which you desire the are house SP2(REM)
of Chachati or are house of Villoing, but + (PROP)
why go there buy things not ?

yes, I-will go in it truly SP3(RESP)

'I still have a lot of small things to buy, but I am very
tired, I can not bargain for each one.'

'Some of the things that you want are in Chachati's or
Villoing's; why don't you go there to buy them?'

'Yes, I surely will go there.'
Paragraph

Semantic-Cultural Analysis

J47-1

The opening Remark is followed by a two-part antithesis. The antithesis is a declaration of emotional state followed by the result of the speaker being in such a state.

The counter Proposition begins with a statement indicating that some of the previously mentioned items are available in stores at a fixed price rather than in the market (where one must bargain). The antithesis is directed toward by-passing the Proposition (buying things at a fixed price does not fatigue one). The Response is one of agreement.

Grammatical-Surface Analysis

The first Speech Act is an Antithetical Sentence, the protasis of which is an Equative Clause; the apodosis is a Stative Clause followed by a result clause without the result conjunction.

The second Speech Act begins with an Equative Clause; the topic of the previous clause is in focus in the apodosis of this Antithetical Sentence. The resolving SP is an affirmative reply in the future tense.

Examples of Remark-Evaluation (REM-EV)

J59-2

A1 deou ge njendoom ta ngambai le ree ta-ta ya, n'la jeen bba
    j-askem kwolj see ta ge ta ngambai le, el bel
B1 maji karl wa do gol ro-i kette bba karee ree bel
A2 see ma kwolj reou ne ge kem ra togeban wa
B2 taje ge i indigl ndoo le, i ya a sang loo mba ndang dee
    tobel i karee tura taje neele mba kunn ndla do magnétophone-g
    yee bba i a kaskem ndoo ne ta ngambil le, qe mba ger loo pea
    maji bel to

EXCH 1

person who be one teach me word Ngambay the comes regularly, but we-can discuss with him affaires with words Ngambay not yet
good for you take on time (prepare) body-your first and allow him come after

SPI(REM)

SPI3(EV)

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Chart 16

Comparison of Representations for Proposition-(Counter Proposition)-Response

| J45-2 | EXCH 1 | A1 PROP SP1 | P₁(Ac) \land P₁(Ac)₁ \gg P₁(Ac) \land R₁ \land c₁ |
| B1 | RESP SP3 | R Q₂ Tₜ c |

| EXCH 2 | A2 PROP SP1 | P₁ c" |
| B2 | RESP SP3 | P₂(Ac) c |

| J29-1 | EXCH 1 | A1 PROP SP1 | P₂(Ac) ₁ \gg Q₂(Ac) |
| B1 | PROP SP2 | Q₁(Ac) ₁ ' |
| A2 | RESP SP3 | \Rightarrow Q₂(Ac) |
| B2 | TERM SP4 | Q'₁(Ac) Tₜ \gg Q₂(Ac) |

| J26-2 | EXCH 1 | A1 PROP SP1 | P₂(Ac) P₂ c \gg P₂ ₁ (c) |
| B1 | Q SP2 | P₁(Ac) Tₜ c" |
| A2 | A SP3 | P₂(Ac) Tₜ c" |

| EXCH 2 | A3 PROP SP1 | P₂(Ac) \land P₂(Ac) c \land \overline{P₂} c' |
| B2 | \overline{PROP} SP2 | P₂₁ d \gg P₁ (c) d |

| J47-1 | EXCH 1 | A1 PROP SP1 | Ec Aₜ \land P₁ (S) \land \overline{Q₁}(A)c \gg R₁ c" |
| B1 | \overline{PROP} SP2 | E_c ₁ \land P₂(Ac) ₁ \land P₂ c |
| A1 | RESP SP3/4 | P₁(Ac) ₁ |
Paragraph

EXCH 2

I-will think.out way by which do thus how? words which you desire to learn the you will
search occasion for to.write them
is.yet you will cause him.read words here.the
for to.take voice on recorder
by this means you can learn word Ngambay the,
in order to know occasion sound.ite good yet

'My teacher of Ngambay comes regularly, but we can't discuss things in Ngambay with him yet.'
'Prepare yourself first and have him come later.'
'How will I go about finding a way to prepare?'
'Take the opportunity to write down the words you want to learn.'
'Have him record the words on the tape.'
'Using the recording for learning you will learn it well.'

Examples Remark-Evaluation (REM-EV)

J22-1

A1 ma m-sang ngokoin ge dingam ge lam 1e, see aou ra wa
B1 ma n-ger loo ge yeen aou kenneng el
B2 ngina nee lam bba m-a kaou deji ngokom ge tog koo
A2 ndaa yeen a ree bacine

EXCH 1

I search sibling.your who be man who be little the, SP1(REM) + (Q)
? he.go where ?
I I know place which he go there not SP3(A)
wai where little and I will go ask sibling.mine SP1 (PROP)
who is older to see
--------------
SP3(RESP)

he tell.me that person who you search him the
non verbal
then he go.to search water
SP1(REM)
then he will come.to now
SP3(EV)

'I am looking for your younger brother; where did he go?'
'I don't know where he went.'
'Wait here awhile, and I will go ask my older brother to
find out.'
'He says that the one you are looking for has gone to get water.'
'Then he will be coming back soon.'

Examples Remark-Evaluation (REM-EV)

J23-3

A1 tagene, loo ndul-g le byan lei non yaan
B1 ma m-oo el
A2 togero ya, i oo qe mbal le
mbata yee aar mee ndogo lem ge gwoji le
B2 i a kin tar killa qe er
esa kudu ta kei lei bba
A3 ma m-ar bisl lem bba tuba illa raga

EXCH 1

yesterday place night the sheep of you cried much SP1(REM)
I I-heard it not SP2(REM)
that is right you heard with ear-your not SP3(EV)
because it stood in court.yard of me + SP4(CON)
which small the

EXCH 2

you could have arisen thrown with stone SP1(Prop)
or closed door house of you
I I-allowed dog of me to chase him outside SP3(RESP)

'Last night your sheep cried a lot.'
'I didn't hear it.'
'That's right, you didn't hear it because it was in my courtyard.'
'You could have gotten up and thrown a rock or closed your door.'
'I let my dog chase him out.'

Examples of Remark-Evaluation (REM-EV)

J36-2

A1 m-ra rolel
C1 see ban bba l inga kido ge bbaree blère le el wa
A2 to majl yaan mbeta ma m-al nje ge nanje Ft. Lamy mban
C2 loo rea to Moundou
B1 woyu loo ra blère to Moundou ya, nè Gala le,
Paragraph

d-odo d-aou ne qe loo lal mee bbeekon ge Tchad
C3 deoujge njerakula kene-gl le, d-aln toldearomlsa to
A3 see kelrakula ge rang to nee wa
B2 wayo, Cotonfran to non kelrakido-g nu

EXCH 1

I-do body sweet (I am enjoying myself) SP1(REM)
how you find kilo which call-it beer the? SP2(Q)
be good much because I I-drink some Ft. Lamy already SP3(A)

EXCH 2

place make-it is Moundou SP1(REM)
yes, place make beer be Moundou truly, but Gala the, SP3(EV)
they carry they-go with to place all EXPO
in villages of Chad

EXCH 3

people who do work in it the, they men 180 SP1(REM)
factory which other here? SP2(Q)
yes, Cotonfran be before brewery there SP3(A)

'I am enjoying myself.'
'How do you like the beer?'
'I think it is good; I had some in Fort Lamy already.'
'They make it here in Moundou.'
'Yes, they make it here, but they transport Gala to all the
villages of Chad.'
'There are 160 people who work in the brewery.'
'Are there any other factories?'
'Yes, Cotonfran is right across from the brewery.'
Chart 17
Comparison of Representations for Remark-Evaluation

J59-2
EXCH 1
A1 REM SP1 \( P_3(\text{Ac}) \land \overline{P_{13}} \land c \ A_\succ \)
B1 EV SP3 \( P_2 \land P_3(\text{S}) \ A_\succ \)

EXCH 2
A2 Q SP1 \( P_{11c} \)
B2 A SP3 \( P_2^c \ T_\succ \Rightarrow Q_2c \)
\( \neg P_{23}c \ T_\succ \Rightarrow Q_2c \)
\( \uparrow P_2^c \Rightarrow Q_2 \ A_\succ \)

J22-1
EXCH 1
A1 REM SP1 \( P_{13} \land P_3(\text{Ac}) \ 1 \)
B1 A SP3 \( \overline{P}_1(\ P) \ 1 \)

EXCH 2
A2 PROP SP1 \( P_2(\text{Ac}) \land P_{13} \ T_\succ \)
B2 n.v. SP3 \( P_{3,1}[\uparrow P_3(\text{Ac})] \ c \)

EXCH 3
A3 REM SP1 \( P_{3,1}[\uparrow P_3(\text{Ac})] \ c \)
B3 EV SP3 \( \Rightarrow P_3(\text{Ac}) \ T_\succ \ A_\prec \)
Chart 18

Comparison of Representations for Remark-(Counter Remark, Question)-Evaluation

J23-3

EXCH 1

A1  REM   SP1                       \( P_c(Ac) \leq T \)
B1  \overline{REM}   SP2                       \( P_1(c) \)
A2  \overline{REM}   SP2                       \( P_2(c) \leftrightarrow Q_c(Ac) \)

EXCH 2

B2  PROP   SP1                       \( P_2(Ac) \wedge \neg P_2 \mathrm{id} P_2 \leftrightarrow \mathrm{e} \)
A3  RESP   SP3                       \( P_1 \mathrm{f} \rightarrow \neg Q_f \mathrm{c} \)

J36-2

EXCH 1

A1  REM   SP1                       \( P_1(S) \)
C1  \overline{Q}   SP2                       \( P_2 c \)
A2  A   SP3                       \( E_c \leftrightarrow P_1 c \neg A_c \)

EXCH 2

C2  REM   SP1                       \( 1 E_c, 1 E_c \)
B1  EV   SP3                       \( 1 E_c \wedge P_3 \wedge P_3(Ac) \)

EXCH 3

C3  REM   SP1                       \( P_3(S) \)
A3  \overline{Q}   SP2                       \( E_d 1 \)
B2  A   SP3                       \( E_d \neg 1 \)

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EVALUATION

One of the problems in any linguistic research is to choose goals that are compatible with the possibility of attaining them.

The Deep Structure Reverse Index has been utilized to derive a Deep Structure Sentence Taxonomy, but of what value is this for the analysis of Discourse or Paragraph?

The above dialogues are neither in the prose genre of Longacre (heavily narrative) nor within the narrow limits proposed by Nida (what I would call answers to direct questioning). They are the result of an attempt to put into writing what might be called casual conversation of the varieties that occur in the lives of people of a particular culture and strangers to that culture.

In everyday conversation the parties involved rely on both "lexical", semantic-cultural and structural clues to decipher what appear to be at times cryptic messages. The hearer on the basis of a common experience and vocabulary is assumed to grasp both the semantic network and the structural framework. This allows for the condensation and ellipsis that is so prevalent in everyday language.

Longacre has chosen to make the structural framework primary and utilize the semantic network as secondary, yet when he arrives at a difficulty he relies heavily on the semantic network. I prefer to start with the semantic network as primary and ask what structural framework or variation in structural framework can be used to support the network.

It would seem then that I am not trying to equate logical representation with a semantic network but rather with a grammatical framework.

More specifically I would ask: What are the logical representations which associate most frequently with Questions and Answers, with Propositions and Responses, and with Remarks and Evaluations? The first has already been recognized by Nida as a unit worthy of study. Secondly, I would ask what is it about a particular Question, Proposition, Remark that prompts something other than the expected Answer, Response, Evaluation? Is it that lack of specific information or delineation? Is it the logical form which is utilized to express the information?

By examining the logical symbolic representations of questions
when they are answered and when they are not, one could expect to come up with some clues as to the forms of questions which are easily recognized and those which are not.

It is evident that a symbolization of the surface structure will either be too cumbersome or too varied. What is it that is essential? Does the specific verb or verb type need to be symbolized? Do the roles of the actors need to be carefully delineated?

At this level, if one is going to compare patterns of internal units to make distinctions, then it is necessary to condense the representation (but by symbolization?).

As the symbolization is represented in the Deep Structure Index, it is not distinct enough (in particular the references to persons or agents, verbs and verb types would seem to be somewhat limited to begin with in a given Deep Structure).

Of what value is a detailed presentation of the surface internal units even if they are condensed?

This extension of the statement calculus to define the internal units of Paragraph or Exchange of Discourse seems to follow naturally. Whether or not it is viable or valuable will not be known until the research which is outlined here is carried out.
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