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A relational grammar of Ilocano

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The University of Texas at Arlington, 1987

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A RELATIONAL GRAMMAR OF ILOCANO

by

JOHN STEDMAN WIMBISH

**Presented to the Faculty of the Graduate School of
The University of Texas at Arlington in Partial Fulfillment
of the Requirements
for the Degree of**

MASTER OF ARTS IN LINGUISTICS

THE UNIVERSITY OF TEXAS AT ARLINGTON

May 1987

A RELATIONAL GRAMMAR OF ILOCANO

APPROVED:

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(Supervising Professor)

Wmif

La Banga

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To the Cabading family,
who adopted this linguist and
patiently helped in his first
attempts of communication in
Ilocano.

ACKNOWLEDGEMENTS

This study of Ilocano could not have taken place without the help and patience of the many Filipinos who shared their language with me. I especially appreciate Adolfo and Lita Cabading, who with their family, took me into their home and let me become as one of them. Too numerous to thank individually are the many Filipinos in Bagabag, Nueva Vizcaya who also listened and lent correction as I practiced. In the Dallas, Texas area I received immeasurable help from Mrs. Salley Dizon and Mr. Dionisio Lazo, Sr.

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The final responsibility for the analysis is, of course, mine.

Two important recognitions are saved for last. The first is to my wife, Sandra. Without her I might have finished earlier, in that I took time off to court and marry, but without her I would have lacked the encouragement and moral support that keep a project like this enjoyable.

And a final recognition is to God. I have thoroughly enjoyed studying what I recognize to be his creation, and have been amazed to see how he could develop a system of such complexity, yet of such simplicity and order. Without his creation of language there could be no study of linguistics. And without the motivation of translating his message about himself I would not be interested in the study of language in the first place. Because of him I have enjoyed a lot of sheer fun and excitement in conducting this study. In addition I have known his encouragement,

and even received some solid direction in the course of this study. In America we try to separate religion from life, but if religion IS life, how (or why) should it be separated?

March 23, 1987

ABSTRACT

A RELATIONAL GRAMMAR OF ILOCANO

John Stedman Wimbish, M.A.

The University of Texas at Arlington, 1987

Supervising Professor: Gary F. Simons

This thesis is a grammar of the Ilocano language, a major language spoken in the Philippines. The theory of Relational Grammar is used in the analysis and presentation of the language data.

Philippine languages are known for their 'focus' system, a system which allows any of the nominals in a clause to receive a special prominence through various syntactic marking. In recent years this focus system has been used to challenge the foundations of Relational Grammar, namely, the claim that the grammatical relation 'subject' is universal in language.

This thesis addresses this issue, first by presenting two analyses from within the theory to account for the Philippine data, and then by

choosing the better analysis to present the Ilocano data. This thesis claims that Ilocano, and other Philippine languages, are best analyzed under an Ergative-Absolutive system.

A final section of the thesis reports on the use of a computer program, written especially for this project, that was used to test the rules derived from the analysis on natural language data.

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TABLE OF ABBREVIATIONS

1	Subject relation	Pronouns	
2	Direct object relation	1,2,3	person
3	Indirect object relation	s	singular
ABS	Absolutive	p	plural
AffV	Affiliate voice	d	dual (plural)
Apt	Aptative aspect	e	exclusive (plural)
APV	Antipassive voice	i	inclusive (plural)
ART	Article		
Ben	Benefactive relation		
CAUS	Causative		
CM	Completed tense		
Com	Comment relation		
D	Determiner relation		
E	Embedded clause		
ERG	Ergative		
f	final		
GEN	Genetive case		
Hab	Habitual aspect		
H	Head relation		
i	initial		
Ins	Instrumental relation		
LKR	Linking particle		
Loc	Locative relation		
NEG	Negative		
NOM	Nominative case		
Nm	Nominalizer		
OBL	Oblique		
ObIV	Oblique voice		
P	Predicate relation		
PASS	Passive		
PL	Plural		
POSS	Possessive		
prog	Progressive		
R	Relative clause		
Soc	Social aspect		
Top	Topic relation		
UnAV	Unaccusative voice		
UnEV	Unergative voice		

CHAPTER 1

INTRODUCTION

1.1. Overview and organization

This thesis is a description of the syntax of Ilocano, an Austronesian language spoken in the northern Philippines.

The description is presented from within the Relational Grammar framework, as developed by Perlmutter and Postal (1977a, 1977b) and others. Relational Grammar provides some useful generalizations into processes occurring in Ilocano. The Relational Grammar concepts necessary for formulating the analysis are developed in Chapter 2.

Any description of a Philippine language must address the phenomenon of 'Focus', a system of syntactic marking which gives special discourse prominence to any one of the nominals in a clause. This phenomenon has resulted in the production of numerous arguments on the nature of Philippine languages with respect to the other languages of the world, as well as striking at some of the central concepts of Relational Grammar. These arguments question the existence of grammatical relations such as 'subject' in Philippine languages and whether Philippine languages should be treated as

nominalive-accusative or as ergative-absolutive systems. Chapter 3 examines these discussions.

After this background has been covered the discussion is ready to consider Ilocano. Chapter 4 describes the analysis of simple, single-predicate clauses. Chapters 5 and 6 then examine clausal constituents and complex constructions. Chapter 7 then provides a summary of the rules developed in these three analysis chapters.

In order to demonstrate the thoroughness and scope of the grammar, a computer program was developed to test the rules on Ilocano language material, with good results. Chapter 8 describes the program and the testing. The final chapter then states some conclusions that may be drawn from this study.

1.2. Issues and goals

The presentation of a grammar from with any particular framework involves both advantages and disadvantages. On the one hand, the framework will often provide helpful insights that show order and generalizations in the grammar. On the other hand, the use of the description becomes limited to those who are conversant with the framework, so that others who are interested in the language must first wade through the theory in order to understand the presentation.

In choosing to use the Relational Grammar framework, this thesis must necessarily take several stands. One is that the insights provided by the theory outweigh its potential obscurity to those unfamiliar with it. A second stand involves the assumption of certain theoretical axioms that might prove controversial among some linguists. If the reader does not agree with the postulates upon which a theory is built, he is unlikely to want to invest the effort necessary to learn the intricacies of the framework derived from these postulates, and thus to see their application and insight in the study of 'Language'.

This thesis does not propose to justify the foundations upon which Relational Grammar is built; that has been the subject of many other papers (for example, Perlmutter and Postal 1977a, Perlmutter 1981). Rather, this paper seeks to demonstrate the application of this theory to the Ilocano language. The concepts provided by the theory provide helpful insight both to Philippine focus and to many other constructions as well, and perhaps the quality of these insights will serve, at least in part, to justify the foundations of the theory.

This thesis thus has two main goals: to provide a description of the Ilocano language, and to provide an introduction to Relational Grammar.

CHAPTER 2

AN OVERVIEW OF RELATIONAL GRAMMAR

This chapter provides an introduction to the Relational Grammar framework. The discussion seeks only to describe the concepts and formalism of the current model. For a presentation of the arguments leading to the positing of the various concepts, the reader is referred to the works cited.

2.1. A theory based on grammatical relations

Relational Grammar is a framework developed on the assumption that grammatical relations are the fundamental elements necessary for describing syntax.

A further and related assumption is that syntax is a component of language separate from other components such as semantics or pragmatics. The distinction is that while syntactic processes are caused by 'meaning', they are not to be defined in terms of meaning, but rather in terms of grammatical relations.

Central to the relational grammarian is the goal of discovering and describing linguistic universals. In the first major paper

introducing the framework, Perlmutter and Postal (1977a) presented evidence showing that elements such as word order, morphology, and case are insufficient for describing the passive construction in universal terms. They then demonstrated the ability of rules written in terms of grammatical relations to account for these data. Since that time a myriad of laws and hypotheses have been proposed describing various aspects of languages from within the framework. With its emphasis on linguistic universals the theory has enjoyed contributions from a variety of languages unprecedented among other generative frameworks.¹

The theory assumes the notions 'subject of', 'direct object of', and 'indirect object of' to be primitives. Other frameworks (e.g., Keenan 1976) have attempted to rigidly define these notions in terms of properties they possess; Relational Grammar (henceforth RG) considers such studies as misleading.² RG claims that the language-specific properties of grammatical relations vary, but that languages share universals in the constructions that may be built once these relations have been identified. Grammatical relations may often be derived from semantic relations; for instance, the subject may realize the actor and the direct object may realize the goal. But it is claimed that no universal alignment from semantic roles to grammatical relations (henceforth GRs) is possible (Rosen 1984). Rather, each verb individually subcategorizes the semantic roles that must occur with it in a clause, and then maps these roles onto GRs.

Thus the theory begins with GRs, making no attempt to derive them from other concepts. Syntax is then explained in terms of GRs.

Language phenomena are placed into one of two categories: (i) linguistic universals, or (ii) language-specific characteristics. For example, a language might have the passive construction, which has the universal definition of having a direct object assume the subject relation and the initial subject lose its relation to become 'unemployed'. The same language might then also have a language-specific rule stating that word order is subject-predicate-object-unemployed.

Constructions are spoken of as being 'available universals', meaning that if a language has that construction, it will have the universal characteristics associated with it. Thus a language may or may not have a passive construction, but if it does, it will then exhibit the passive's universal syntactic characteristics.

2.2. A claim: The relationship between any two clauses formed with the same initial grammatical relations can be described in terms of changes in those GRs.

Generative approaches seek to describe the manner in which clauses are related. Generative grammar has developed the notion that various surface structures may be derived through transformations from a single deep structure, and defines these transformations through movement in

phrase structure rules. RG is similar in that it has the goal of showing how surface structures are related; but it differs in that it claims that such surface structures are derived through changes in grammatical relations.

For example, the action of Bill giving a book to Mary might surface in one of several forms:

- (1) a. Bill gave the book to Mary.
- b. Bill gave Mary the book.
- c. The book was given to Mary by Bill.
- d. Mary was given the book by Bill.

Each of these clauses may be represented as a change in one or more grammatical relations. The clauses are all related, and describable in terms of universal constructions in the RG framework.

2.3. A discussion of advancements

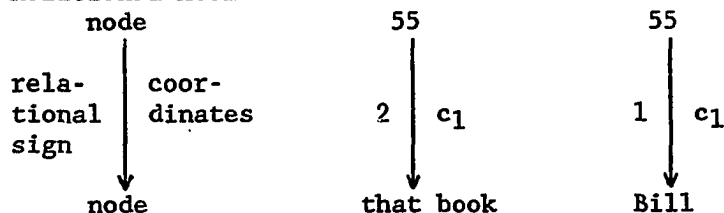
2.3.1. Representation of advancements in the theory

Much of the following development of Relational Grammar formalism is summarized from Perlmutter and Postal (1977a), with the exception of the formal representation of atoms and arcs, which is from Davies and Rosen (to appear).

The smallest element defined in RG is the atom, an entity which consists of two nodes that are associated with exactly one grammatical relation with exactly one coordinate, the coordinate representing the stratum in which the relation exists. One of these nodes is the governing node, the other a dependent node. Thus in (2), 'that book' holds the relation sign '2' (direct object) in clause '55'. The coordinate 'c₁' represents the level at which the relation holds. Hence 'that book' has the '2' relation to '55' at the 'c₁' level.

Relations are abbreviated in the theory as follows: subject = '1', direct object = '2', indirect object = '3'. These three relations are defined as the 'term' relations. ('Nonterms' include obliques such as Benefactive and Instrument, and the chômeur relation, which will be defined momentarily. The distinction between terms and nonterms is useful in the formulation of several generalizations.)

(2) Relational Atoms



An atom may be represented under the general form of (3a). This formalism is illustrated in (3b) and (3b) on the two examples in (2).

(3) Atomic Statements

a. General form: ATOM = (GR (a,b) (c_i))

where GR = grammatical relation

a = governing node

b = dependent node

c_i = stratum coordinate

b. (2 (55,that book) (c₁))

c. (1 (55,Bill) (c₁))

The arc is a more complex entity that is defined from these atoms. An arc consists of all atoms which bear a given grammatical relation between two nodes in succeeding strata. The notation (4) is similar to that of the atom, except that there are two coordinates listed, representing the first and final strata in which the relation occurs. The formalism uses brackets to enclose the arc, and parenthesis to enclose an atomic statement.

(4) ARC = [GR (a,b) (c₁,c₂)]

It is necessary at this point to posit the existence of grammatical relations at different levels or strata. It was earlier claimed that clauses are related through changes of grammatical relations. These changes are now defined as the addition of new strata in which the nominal bears a different relation from that of an original stratum.

As an illustration, the passive construction is defined, in part, as a relational network containing one stratum in which a nominal bears the direct object relation to the clause, and in the adjoining, lower

stratum bears the subject relation to that clause. The passive clause (5a) contains the atomic statements in (5b). The '?' in the examples below will be described momentarily.

(5) a. He was hit by Bill.

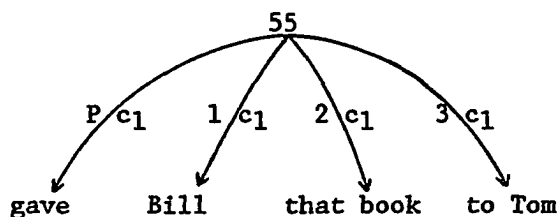
b. (P (a, hit) (c₁)) (P (a, hit) (c₂))
 (1 (a, Bill) (c₁)) (? (a, Bill) (c₂))
 (2 (a, He) (c₁)) (1 (a, He) (c₂))

The arc is a formalism which combines atoms in which no relational change as taken place. Consider that in (5) the fact that the predicate relation remains constant in both strata.

(6) [P (a, hit) (c₁, c₂)]
 [1 (a, Bill) (c₁, c₁)] [? (a, Bill) (c₂, c₂)]
 [2 (a, He) (c₁, c₁)] [1 (a, He) (c₂, c₂)]

A relational network (abbreviated RN) is the complete set of arcs that define a clause. Whereas a RN may be represented in the manner exemplified in (6), a graphic form is more usually employed, in which arcs are drawn with their tails connected at the appropriate node, as in (7).

(7) Bill gave that book to Tom



The passive construction previously mentioned is more formally defined in (8).

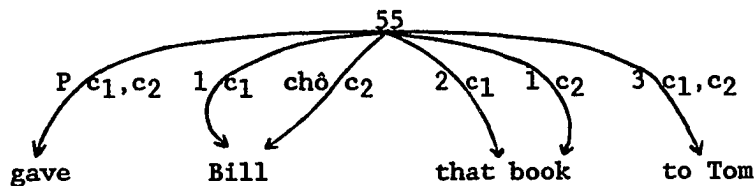
(8) The Passive Construction

Given two adjacent, ordered strata c_i and c_{i+1} , in the passive construction the nominal bearing the 2 relation in the c_i stratum bears the 1 relation in the c_{i+1} stratum, while the nominal bearing the 1 relation in the c_i stratum bears the chômeur relation in the c_{i+1} stratum.

The chômeur relation is a concept that is probably unique to Relational Grammar, where any relation which is subsumed by another is demoted to the chômeur status. The word chômeur and its derivative chômage are taken from French, meaning 'unemployed' and 'to make unemployed'. Chomeurs typically are incapable of many processes which are exhibited in the term relations (1, 2, and 3), such as relativization or reflexivization. The insights gained through the examination of chômeurs in language are among the strengths of the RG framework.

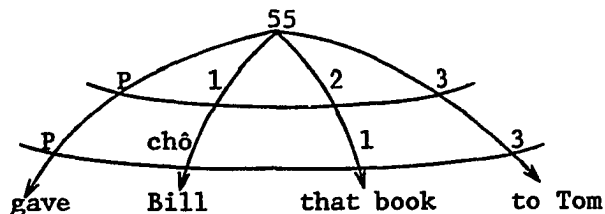
In representing the passive construction arcs need to indicate relations in the new stratum, as in (9).

(9) That book was given to Tom by Bill.



For convenience and clarity, these multiple arcs are collapsed into the form of (10). This graphic form makes the ordering of the strata (c1 before c2) more explicit. It also makes more readily apparent such things as (1) the strata coordinates at which a nominal has gained a different relation, (2) the different relations which a nominal bears, and (3) the relations borne in initial and final levels. When the literature makes reference to a relational change such as 2 to 1, it does not mean that a nominal has actually exchanged one relation for another (therefore only bearing one relation at a time), as (10) might incorrectly imply, but rather that the nominal bears both relations simultaneously, only in different strata. The graphic form of (10) is called a stratal diagram.

(10) That book was given to Tom by Bill.



One final graphic representation, introduced by Davies and Rosen (to appear), is adapted in this thesis, that of using a table where the columns represent arcs, the rows representing strata. Thus (10) is reduced to the form of (11).

(11) P	1	2	3
P	chô	1	3
gave	Bill	that book	to Tom

This shorthand is adopted for its advantages of publication. When it is desirable to show more complex relational networks where there are multiple governing nodes, the table representation is abandoned in favor of the more clear line drawings.

RNs are drawn without considering such things as surface word order or case; these are accounted for in language specific rules. Rules typically make use not only of the GR names, but also of the strata in which they occur. Thus a final 1 would refer to that nominal bearing the 1 relation in the final stratum; the initial 2 refers to the nominal bearing the 2 relation in the initial stratum.

For example, in examining the English passive construction, the rules in (12) might be posited. Note the convention in (12c) in which a nominal is referred to as a 1-chômeur. This does not suggest that there are separate GRs such as 1-chômeurs and 2-chômeurs, but is rather a

shorthand meaning 'the nominal which bears a chômeur relation in stratum c_i that bears the 1 relation in stratum c_{i-1} '.

- (12) Possible English-specific rules
- a. Final subjects occupy the clause-initial position,
 - b. Final subjects are in nominative case,
 - c. 1-Chômeurs are flagged in a by-phrase,
 - d. Passive requires a past-participle in the predicate.

Grammatical processes such as relativization, reflexivization, and clefting are subject to the Relational Hierarchy, which defines the order in (13).³ For instance, the Hierarchy claims that if a 2 is capable of undergoing a process, then the 1 in that language is also capable of undergoing that process.

(13) 1 > 2 > 3 > Obliques

An advancement is defined as a change in which a grammatical relation ascends the Relational Hierarchy. In an advancement, a nominal bearing a relation low in the hierarchy will bear, in a later stratum, a relation somewhere above it. Recalling the clauses in (1), the advancements in (14) have occurred. In (14), notation such as 3-2 represents the advancement of a 3 to a 2.

- | | |
|----------------------------------------|-------------|
| (14) a. Bill gave the book to Mary. | none |
| b. Bill gave Mary the book. | 3-2 |
| c. The book was given to Mary by Bill. | 2-1 |
| d. Mary was given the book by Bill. | 3-2 and 2-1 |

The relational diagrams for these clauses are given in (15). Note that in (15d) there are three strata with two relational changes posited. Though there are languages exhibiting the advancement of 3 to 1, the intermediate strata has been posited for English.⁴

(15) a. Bill gave the book to Mary.

P	1	2	3
gave	Bill	book	Mary

b. Bill gave Mary the book.

P	1	2	3
P	1	chô	2
gave	Bill	book	Mary

c. The book was given to Mary by Bill.

P	1	2	3
P	chô	1	3
gave	Bill	book	Mary

d. Mary was given the book by Bill.

P	1	2	3
P	1	chô	2
P	chô	chô	1
gave	Bill	book	Mary

Attested advancements include 2-1, 3-1, 3-2, Loc-2, Loc-1, Ins-2, Ins-1, and many others. (Abbreviations include Loc. for Locative, Ins. for Instrumental, Ben. for Benefactive, and so on.)

The *chômeur* relation is motivated by a concept known as the Stratal Uniqueness Law, which does not permit the existence of two identical non*chômeur* relations in any one stratum. Thus if a nominal has advanced to subject, the old subject must take on the *chômeur* relation to satisfy this law. The *chômeur* relation itself is incapable of undergoing advancement. Some of these laws are formulated in the last section of this chapter.

2.3.2. Accounting for some specific language data

Given the formalism for representing advancements as universal processes, the next step is to look at the kinds of language-specific phenomena that typically occur. Non-English data are from Perlmutter and Postal (1977a).

2.3.2.1. Case Examples of advancements affecting the case of a nominal may be found in English, where the final subject occurs in nominative case.

- (16) a. Bill hit her.
 She was hit by Bill. 2 to 1.
- b. Joe read the book to her.
 Joe read her the book. 3 to 2.
 She was read the book by Joe. 2 to 1.

Russian and Latin in like manner demonstrate changes in case, where the final subject requires the nominative case; the 1-*chômeur* taking on one

of the cases found among obliques. (In the following examples, the (a) clause has not undergone an advancement while (b) clause is passive.)

(17) Latin

- a. magister pueros laudat
 teacher-NOM boys-ACC praise-3SG
 'The teacher praises the boys.'
- b. pueri a magistro laudantur
 boys-NOM by teacher-ABL praise-PASS-3PL
 'The boys are praised by the teacher.'

(18) Russian

- a. Car' soslal Puskina
 czar-NOM exiled Pushkin-ACC
 'The czar exiled Pushkin.'
- b. Puskin byl soslan carem
 Pushkin-NOM was exiled czar-INSTR
 'Pushkin was exiled by the czar.'

Of course, not all languages exhibit changes in case during advancements. For those that do, case rules can be stated as functions of the grammatical relations.

(19) Case as a function of GRs:

- a. In Latin, final ls require Nominative case.
 b. In English, 1-chômeurs require Objective case.

2.3.2.2. **Word order** The English, Russian, and Latin examples all show changes in word order during passivization, where the final subject in the passive occupies the same position in the clause as the subject of the active. There are also languages in which advancements do leave the initial word order intact. In the Basque examples below, (20a) is transitive while the auxiliary da in (20b) indicates that this sentence is intransitive. That (20b) is intransitive is also indicated in that the verb does not agree with Piarresek.

(20) Basque

a. Piarresek egin du etchea
 Peter-ERG make has house-ABS
 'Peter made the house.'

b. Piarresek egina da etchea
 Peter-ERG make is house-ABS
 'The house was made by Peter.'

Word order, like case, must be described in terms of grammatical relations. Based only on the data thus far shown, the rules of (21) might be formulated. Note the use of 'i' and 'f' for initial and final relations to avoid confusion in the formulation of the word order rules. If (21a) did not specify the 1 as being an initial 1, then in the case of passive where at differing strata there are two nominals bearing the 1 relation, it would be impossible to know which nominal would come first in the sentence. Where there is no such ambiguity, specification of these levels is not necessary.

- (21) Word Order as a function of GRs
- a. Basque Word Order - li P 2i
 - b. Latin Word Order - lf 2 P
 - c. Russian Word Order - lf P 2
- (where i = Initial, f = Final)

Word order can thus be written in terms of initial, final, or a mix of levels of grammatical relations.

2.3.2.3. Verb morphology The preceding examples have shown changes in verb morphology in the formation of the passives. Not all languages show such a change, such as Mandarin Chinese:

- (22) Mandarin Chinese
- a. Zhù lǎoshī piyè-le wǒ-de kǎoshì
Zhu professor mark-ASP my test
'Professor Zhu marked my test.'
 - b. Wǒ-de kǎoshì bèi Zhù lǎoshī piyè-le
my test by Zhu professor mark-ASP
'My test was marked by Professor Zhu.'

In languages which exhibit different verbal morphology as grammatical processes such as advancements occur, these changes may be described as a function of that grammatical process.

- (23) Verb Morphology as a function grammatical process
- a. English: VM(passive) = past participle
 - b. Chinese: VM(passive) = none

Many other aspects of the verb may also be explained in rules similar to

the types already introduced. An example is English number agreement, where in (24a) and (24b) the verb is shown to agree with the final subject, resulting in the generalization of (25).

- (24) a. They like the man.
The man is liked by them.
b. The man likes them.
they are liked by the man.

These English examples, and the Basque shown earlier, might lead to the following generalizations:

- (25) Number agreement as a function of GRs
a. English verbs agree in number with the final subject.
b. Basque verbs agree in number with the initial subject.

Similar rules might be formed in those languages with verbal agreement with person.

To summarize, many of the aspects of a language can be described simply with rules which are based on grammatical relations, or on constructions involving changes in grammatical relations. The RG framework not only describes relational networks in terms of language universals, it also provides the terminology for explaining language-specific phenomena.

2.4. Relational Grammar universals

Relational grammar makes a number of predictions concerning the types of RNs that may be formed. Some of these have been mentioned in the preceding discussion. The following list represents proposed universals more central to this study. The definitions are both informally and formally stated.⁵

2.4.1. Stratal Uniqueness Law

In a given stratum, no more than one nominal may head an arc with any given term relation. Thus, a stratum may not have more than one 2-arc. It is precisely this law that leads to the existence of the chômeur relation, since an advancement might otherwise lead to two identical term relations in the later stratum. Note that this law applies only to term relations (1, 2, or 3), so that multiple chômeur and oblique relations are allowed.

(26) Stratal Uniqueness Law

Let \underline{GR} be a variable ranging over the set of relational signs for term relations, let c_k be a single arbitrary coordinate, let c_x, c_y , etc., be variables over sequences of coordinates (which may be null) and let $\underline{a}, \underline{b}, \underline{d}$ be variables over nodes. Then, if $[GR(\underline{a}, \underline{b})(c_x, c_k, c_y)]$ and $[GR(\underline{d}, \underline{b})(c_w, c_k, c_z)]$ are both arcs in some RN, $\underline{a} = \underline{d}$. (Perlmutter and Postal 1977a:19-20).

2.4.2. The Chomeur Law

The Chomeur Law basically defines the chômeur as the relation assumed under conditions that would otherwise violate the Stratal Uniqueness Law. Thus if nominal \underline{a} bears the \underline{b} relation at one stratum,

and a second nominal bears the \underline{h} relation at a later stratum, then nominal \underline{a} bears the $\text{ch\^o}m\text{eur}$ relation at that later stratum. Stated formally:

(27) Chomeur Law

Assuming the conventions above, if an RN, Q , contains the distinct arcs $[\text{GR}(a,b)(c_x,c_i,c_y)]$ and $[\text{GR}(d,b)(c_{i+1},c_z)]$, where \underline{d} does not equal \underline{a} , then Q contains the arc $[\text{Ch}\text{o}(a,b)(c_{i+1},c_z)]$. (Perlmutter and Postal 1977a:20).

2.4.3. Motivated Chomage Law

The Motivated Chomage Law (Chomage referring to the process that results in the $\text{ch\^o}m\text{eur}$ relation) has the purpose of restricting the occurrence of $\text{ch\^o}m\text{eurs}$ to the situation defined under the Chomeur Law. This law would prevent, for example, structures containing a $\text{ch\^o}m\text{eur}$ arc in the initial stratum.

(28) Motivated Chomage Law

Only the Chomeur condition (Chomeur Law) can sanction the $\text{ch\^o}m\text{eur}$ relation. (Perlmutter and Postal 1977a:23).

2.4.4. Final 1 Law

The Final 1 Law states that every clause must have a 1-arc in its final stratum. This is not a statement that every clause must have a surface 1, as such a statement would be violated by such sentences as 'Bill left and ate a sandwich'. The Final 1 Law does not make claims about the surface realization of the 1-arc.

(29) Final 1 Law

If there is a c_k stratum of \underline{b} and no c_{k+1} stratum of \underline{b} , then c_k is the final stratum of \underline{b} . If \underline{b} is a basic clause node, the final stratum of \underline{b} contains a 1-arc. (Perlmutter and Postal 1977b:100).

2.4.5. Oblique Law

The Oblique Law states that if a nominal heads an arc with an oblique relation, then that relation exists for that arc in the initial stratum. This law prevents relational changes resulting in an oblique.

(30) Oblique Law

If \underline{A} is an oblique arc, \underline{A} is a c_1 arc. (Perlmutter and Postal 1977b:90).

2.4.6. 1-Advancement Exclusiveness Law (1AEX)

The 1AEX was developed to prevent more than one nominal advancing to subject within a clause. It was originally stated by Bell (1977:151) 'There can be at most one advancement to 1 per clause'.

Davies and Rosen (to appear) are developing work on causatives which modifies this law. They define causative unions in such a way as to result in chômeurs derived from P-arcs, and defines the term P-sector to include all strata in which the P-arc exists before becoming a chômeur. The modification to the 1AEX is then that only one advancement to 1 is allowed in any given P-sector. This concept is developed further

in section 2.8, as such unions have significance in the Ilocano analysis.

2.4.7. Chomeur Advancement Ban

The Chomeur No-advancement Law, simply stated, is 'once a chômeur, always a chômeur'. Thus if a nominal bears the chômeur relation at one stratum, it will continue to bear that relation in all succeeding strata.

(31) Chomeur Advancement Ban

If an RN contains an arc of the form $[\text{Cho}(a,b)(c_x,c_i)]$, then it contains no arc of the form $[\text{Term}(a,b)(c_{i+1},c_w)]$. (Perlmutter and Postal 1977b:117).

2.4.8. The Inheritance Principle

The Inheritance Principle is here defined as the case where none of the above rules applies. It states that if no relational change has taken place in a lower stratum for a given nominal, then that nominal will continue to bear the relation in that stratum that it bears in the higher stratum. (This formulation will be modified in section 2.8, as causatives are examined.)

2.5. Demotions

Advancements are defined as those changes in which a nominal ascends the relational hierarchy. Demotions are those changes in which a nominal descends that hierarchy. The above laws limit demotions to only three

types: 1-3, 2-3, and 1-2. Of these, the 1-2 demotion has special significance for Ilocano. This demotion is termed the 'antipassive'.

Relational Grammar defines as transitive any stratum which includes both a 1-arc and a 2-arc. All other strata are defined as intransitive (Rosen 1984:42). Passive (2-1) and antipassive (1-2) both result in an intransitive stratum following a transitive stratum. Their difference lies in the nominal which bears the chômeur relation in that later stratum. This difference is a crucial distinction between the two possible analyses for Ilocano that are presented in Chapter 3.

(32) Antipassive	Passive
P 1 2	P 1 2
P 2 chô	P chô 1

There is some question surrounding the existence of a third stratum in which the 2 in the second stratum advances to a 1 in accordance with the Final 1 Law (Rowell 1983). This interpretation is applied here, because (1) it appears to be the most generally accepted, and (2) any other formulation would violate the Final 1 Law. Thus if there is no other nominal in the clause to advance to a 1 in the final stratum, then the 2-arc will so advance, as in (33).

(33) Antipassive with final 1

P 1 2
P 2 chô
P 1 chô

2.6. The Unaccusative Hypothesis

A transitive stratum was defined as one having both a 1-arc and a 2-arc. RG claims that there are two types of intransitive strata.

(34) Intransitive definitions (Rosen 1984)

- a. An 'unergative' stratum is one that contains a 1-arc and no 2-arc.
- b. An 'unaccusative' stratum is one that contains a 2-arc and no 1-arc.

The terminology was taken from the corresponding elements of the transitive clause. The 1-arc of the transitive is the ergative; hence the intransitive having a 1-arc is the 'unergative'. The same reasoning applies to 'unaccusative'.

The Unaccusative Hypothesis is the claim that clauses exist in which the initial stratum is unaccusative.

(35) a. Unergative b. Unaccusative⁶

P 1

P 2

P 1

Lakhota (Sioux) is one of the languages which clearly demonstrate this hypothesis. Lakhota verbs register verb agreement with initial 1 and 2 arcs. In the basic transitive clause of (36), ma is the accusative

marker, agreeing with the 2; ya is the nominative marker in agreement with the 1.

- (36) Lakhota (Rosen 1984:60)
 a-ma-ya-phe
 Loc-1s-2s-hit
 ACC NOM
 'You hit me.'

Lakhotan intransitive verbs subcategorize for either a marker from the nominative or an accusative set, as in (37). Thus it is posited that (37a) is an unergative clause; (37b) is unaccusative.

- (37) a. wa-cheye
 1s-cry
 NOM
 'I cry.'
- b. ma-haske
 1s-tall
 ACC
 'I am tall.'

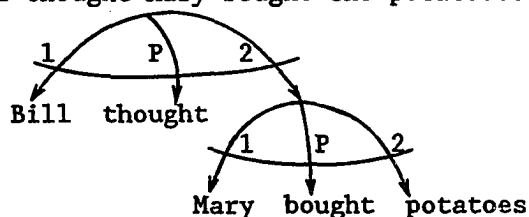
Using similar Italian examples Rosen argues that a generalization based on semantics is insufficient for predicting which verbs will subcategorize the unaccusative rather than the unergative clause. Associating the unergative with an active verb and the unaccusative with a stative appears to account for much of the data, but there are numerous exceptions, both in Lakhota and Italian, to this generalization. The conclusion is that individual verbs subcategorize their clause type, largely independent of semantic prediction.

2.7. Complementatation

The presentation thus far has been limited to single node constructions. The discussion will now increase in pace, presenting the more advanced concepts with fewer examples.

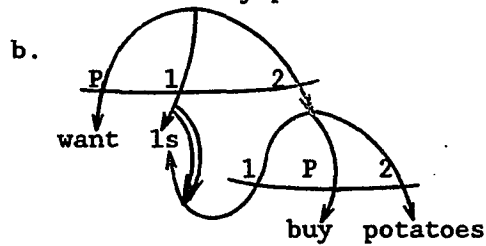
Relational Grammar is equipped for the representation of numerous complicated structures. One of the more common constructions involves complementation, represented by a RN in which the head of a nonpredicate relation arc is another clause node.

(38) Bill thought Mary bought the potatoes.



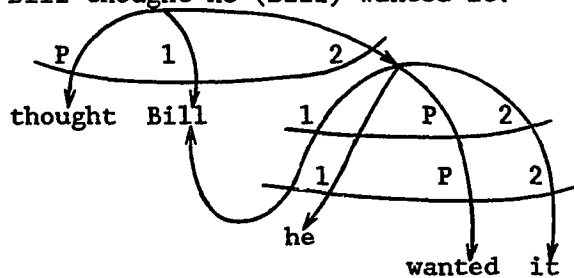
In many instances complementation results in multiattachment. Consider that (39a) actually involves the expanded predication 'I want I buy potatoes'. The clause containing the verb 'want' is the 'upstairs' clause, the other clause, the 'downstairs' clause. The multiattachment of (39) is resolved through equi deletion, in which the upstairs nominal erases the downstairs nominal, as signalled in the RN through the double arc.

(39) a. I want to buy potatoes.



Relational Grammar also deals with situations in which a nominal might have grammatical relations only in the final stratum, or only in the initial stratum. An example is with pronoun replacers, in which both of these situations are in effect. RG claims that the complement in (40) originates with 'Bill' in its original stratum, only to have it replaced by the pronoun in the final stratum.

(40) Bill thought he (Bill) wanted it.



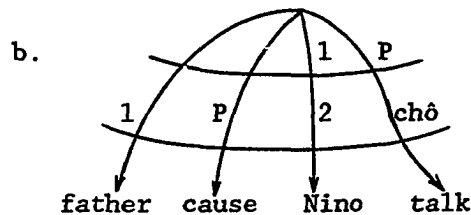
Most languages resolve multiattachment in some way, so that no nominal is headed by two final stratum arcs. Arc erasure and pronoun replacing are the two more common methods.

2.8. Causative union

Davies and Rosen (to appear) have been developing a representation of causatives in which there is only one clausal node. Traditional RG has used a representation similar to the complement construction above, involving two clause nodes. Under the monoclausal analysis the causative predicate and its subject are added to the clause in a later stratum. Thus 'Causative Union' involves the union of two predicates within one clause node.

(41) Turkish (Rosen and Davies to appear)

- a. Babam Nino'yo konusturdu
 father-NOM Nino-ACC talk-CAUS-PAST
 'Father made Nino talk.'



The causative RN will henceforth be represented in the lineless drawing as follows:

- (42)
- | | | | |
|------------------------|---|---|-----|
| | | 1 | P |
| 1 | P | 2 | chô |
| father cause Nino talk | | | |

The use of arcs with no relation in the initial stratum was seen in the previous discussion of pronoun replacers. Some new definitions are

helpful in describing aspects of the causative RN. These will be illustrated on the sample RN of (43).

(43) A typical Causative RN:	Strata:
P 1 2	(1)
P chô 1	(2)
1 P chô chô 2	(3)

Given a single predicate, a P-sector is defined as all strata in which that predicate has the P relation. Thus (43) has two P-sectors, the first consisting strata (1) and (2), the second P-sector consisting the third stratum.

Each stratum in which a P-arc is initiated is a P-initial stratum. Likewise P-final strata are those in which a P-arc terminates. Strata (1) and (3) are P-initial in (43); strata (2) and (3) are P-final. These definitions are formalized in (44).

- (44) Causative-related Definitions (Davies and Rosen to appear)
 Given the arc $[P(v,b)(c_i,c_j)]$ for predicate \underline{v} , then \underline{v} 's:
- P-sector consists of all strata k from $k=i$ to $k=j$.
 - P-initial stratum is stratum i .
 - P-final stratum is stratum j .

One final observation is made regarding causative unions, or any other union (an analogous analysis is proposed for auxiliary verbs and some other phenomena). Upon the addition of a new P-sector, only the 1 in the higher stratum is allowed to reevaluate (undergo a relational change). All other nominals (or predicates) must either bear the same

relation or the chômeur relation. Thus (45a) and (45b) are the only structures permitted in (45). The revaluation of this 1 will be predictable only through language-specific rules.

(45) a. P 1 2
 1 P chô 2 chô

 b. P 1 2
 1 P chô chô 2

* c. P 1 2
 1 P chô chô 3

The above example implies an extension of the Stratal Uniqueness Law to cover both term relations and the P relation:

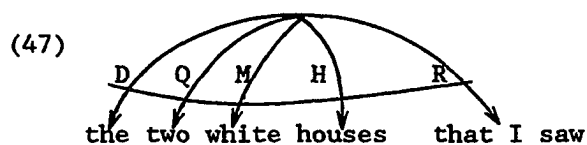
(46) Extended Stratal Uniqueness Law (Davies and Rosen to appear)
No stratum can contain two distinct R-arcs [of the same type], where R is a variable over the set {1,2,3,P}.

2.9. On the representation of phrases and words

Because the challenges facing Relational Grammar during its early development were chiefly in understanding clause formation, attention is only now beginning to be given to clause components such as the noun phrase. Thus terminology has yet to be developed for phrasal analysis. This discussion will avoid using an alternate means of presentation, such as X-Bar syntax (Radford 1983, Riemsdijk et al.

1986), because of a hesitance to switch from the axiom that grammatical relations, rather than such items as word order, are the primitives in describing syntax.

It is possible to represent each component of the noun phrase as the head of arcs defined as follows:



where D = determiner
 Q = quantifier
 M = modifier
 H = head
 R = relative

Postal (1980) suggests that prepositions (and postpositions) are Flags, the NPs in these phrases bearing the Marquee relation. Frantz (1985) similarly suggests that the elements of the predicate may be defined in terms of such arcs as Tense, Agreement, and Aspect. Such relations are adopted in this thesis, with the one exception that adjectives and adverbs will be represented as P-arcs, joined to the phrase in a union construction analagous to causatives. This representation will be useful in explaining the affixation that appears on the two entities.

A complete list of the phrasal and morphological relations used in this thesis is given in (48). Their precise use will be explained in later sections.

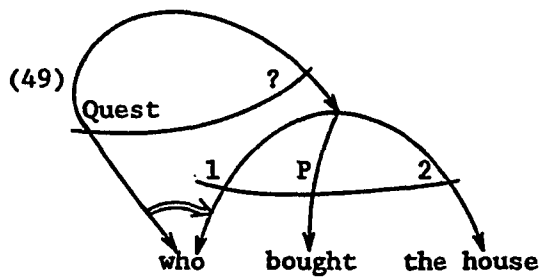
(48) Phrasal and Morphological relations

Asp	Aspect
D	Determiner
E	Embedding
F	Flag
H	Noun or verb head
Mar	Marquee
P	Predicate
R	Relative clause

Such relations are not defined in the formal framework, and are used here only because some concept is needed, with the expectation that the theory will soon gain the explanatory terminology needed in describing the noun phrase.

2.10. Overlay relations

RG defines several relations as being 'overlay', meaning that they overlay a clause node to give some nominal a special prominence (and often fronting). The two overlay relations discussed in this thesis are Topic (Top) and Quest. The relation for '?' in (49) has not received treatment in the literature.



2.11. Some final definitions

This thesis makes extensive use of several concepts derived from elements in the preceding discussion.

The words 'transitive' and 'intransitive' do not refer to whole clause, but rather to individual strata. A stratum having both a 1-arc and a 2-arc is transitive; all others are intransitive. Thus it is common for clauses to have strata of both transitivity types. Both the passive and the antipassive are initially transitive and finally intransitive.

(50) a. Transitive stratum
 IF (1 (a,b) (c₁))
 and if (2 (c,b) (c₁)),
 THEN stratum i is TRANSITIVE

b. Intransitive stratum
 IF stratum i is not transitive,
 THEN stratum i is INTRANSITIVE

The 'Absolute' is the nominal in a transitive stratum bearing the 2-relation, or the nominal in an intransitive stratum bearing the 1-relation. The 'Ergative' is the nominal in a transitive stratum bearing the 1-relation. Absolute and Ergative are derived GRs, defined from basic GRs and transitivity. Like other relations, a nominal may bear the Absolute in an initial stratum, a final stratum, or any other stratum. These terms may be thought of as being a shorthand for the conditions in (51).

- (51) a. Absolute (abbrev. 'A')
 IF \underline{i} is a transitive stratum,
 THEN the arc containing the atom $(2(a,b)(c_i))$
 is the absolute in stratum \underline{i} .
 IF \underline{i} is an intransitive stratum,
 THEN the arc containing the atom $(1(a,b)(c_i))$
 is the absolute in stratum \underline{i} .
- b. Ergative (abbrev 'E')
 IF \underline{i} is a transitive stratum,
 THEN the arc containing the atom $(1(c,b)(c_i))$
 is the ergative in stratum \underline{i} .

This thesis will also define Absolute and Ergative case. Absolute case is simply the case born by the final Absolute nominal. Ergative case is similarly defined.

2.12. Concluding remarks

To summarize, Relational Grammar is a theory which seeks to describe the syntactic constructions available to a language in terms of grammatical relations. These constructions are considered to be language universals. Language-specific rules are written either as functions of grammatical relations or as functions of grammatical processes.

NOTES

¹ In discussing linguistic theory from the view of computer processing, Winograd (1983:183) notes: Most books on transformational grammar deal almost exclusively with English, using examples from other languages only occasionally to make detailed points. The major collection of works on relational grammar (Cole and Sadock, 1977), on the other hand, includes elaborate examples drawn from Achenese, Albanian, Algonquian (Fox), Arabic, Blackfoot, Breton, Cebuano, Chippewa, Chi-Mwi:ni, Coos, Coeur d'Alene, Dutch, Dyirbal, English, Eskimo, Finnish, French, German, Classical Greek, Homeric Greek, Gugu-Yalanji, Hebrew, Hindi, Hungarian, Hurrian, Indonesian, Jacaltec, Japanese, Kannada, Kinyarwanda, Latin, Latvian, Luganda, Malay, Mandarin, Machiguenga, Malagasy, Classical Mayan, Mohawk, Palauan, Persian, Polish, Romansh, Samoan, Sanskrit, Siuslaw, Spanish, Tagalog, Tongan, Tzeltal, Vietnamese, Wappo, Welsh, Wichita, and Zeneyze.

By way of contrast, in discussing standard Transformational-Generative theory Newmeyer (1983:68) admits that 'it cannot be denied that the most-cited books and papers--the ones with the major theoretical innovations--use mainly English data.' He goes on to offer several explanations of this English use, such as that generativists feel more comfortable using their native language when theorizing, that few nonnative English speakers have adopted Generative theory, that analysts have felt that indepth study of one language is more insightful than 'the superficial study of many', and finally that if English based formulations are incorrect, then those who do study other languages would have quickly refuted them.

² A recurring theme in this thesis is RG's insistence on resisting any attempt to define GRs in terms of some other entity. In discussing an early version of the Relation Succession Law (the actual law is not of concern here), Perlmutter (1983:59) states:

One of the consequences of the Relational Succession Law--the recognition of the necessity of grammatical relations at all levels--was an important factor that led to making grammatical relations independent of positions in phrase structure configurations. The result was to abandon attempts to define grammatical relations in terms of other notions and to take them to be primitives of grammatical theory. This marked the beginning of relational grammar.

The analyst may, at best, define grammatical relations with characteristics specific to his individual language, and even then only after his basic analysis is complete. In other words, once the correct analysis has been obtained, then the GRs in that language will also have

been characterized. In an iterative process, each hypothesis about which nominals bear which relations is tested by examining the ramifications of each resultant analysis.

In actuality, few languages permit viable alternate possibilities as to which nominal is the 'subject', and Keenan's (1976) subject properties are often applicable. It is only those languages which have multiple possibilities, such as are found in the Philippines, that require the iterative process stated above.

³ In the next chapter the Ergative-absolutive system is introduced. It is possible that the Relational Hierarchy will require redefining for such a system, to the form of (52). Rowsell (1983) suggests that in light of the ergative-absolutive systems several laws may need new counterparts, such as a Final-2 Law rather than a Final-1 Law, and a 2-Advancement Exclusiveness Law rather than the 1AEX.

(52) Absolutive > Ergative > 3 > Obliques

⁴ The 3-2-1 process is posited to account for certain restrictions found in English advancements. Most English dialects do not permit (53b) and (53c).

- (53) a. Harry revealed the facts to the FBI.
 b. *Harry revealed the FBI the facts.
 c. *The FBI was revealed the facts by Harry.

There is a class of English verbs which do not allow these two constructions. There are no verbs which allow one and not the other. If (53c) is analyzed as 3-1, (and (53b) as 2-1), then no generalization is possible to capture the fact that no verb permits one construction and not the other. The 3-2-1 analysis of (53c) does capture this restriction, in that if a verb does not permit (53b), then it cannot permit (53c).

⁵ In the formal definitions the symbols have been slightly altered to be consistent with the rest of this thesis. Thus Perlmutter and Postal's (1977a) n has been changed to GR.

⁶ Both antipassive demotion and the unaccusative construction are situations in which the Final-1 Law motivates an advancement of 2-1 (or of some other relation to 1). That the 2-1 advancement has occurred is easily verified by comparing the behavior of the involved nominal with

other final subjects in the language. The Final-1 Law does not dictate an abstraction to satisfy a theoretical constraint, rather, it represents the observation that all clauses have a subject in the final stratum.

CHAPTER 3

RELEVANT STUDIES IN PHILIPPINE LANGUAGES

3.1. Studies in Philippine linguistics

Some fifty-six million people live in the Republic of the Philippines, speaking nearly one hundred thirty distinct languages. Of these languages, eight (Tagalog, Cebuano, Ilocano, Hiligaynon, Bicol, Waray, Kapampangan, and Pangasinan) claim usage by the majority of the Philippine people. Tagalog, the national language, is the most widely-known, followed closely by Cebuano and Ilocano. Ilocano is spoken by about 5 million people (Grimes 1984:459).

Philippine languages are classified in the Austronesian Family, a grouping including languages in Malaysia, parts of Indonesia, Formosa, Madagascar, and various islands in the South Pacific. Among these languages, those of the Philippines are known among linguists for their 'focus' system, whereby certain noun phrases of a clause become more prominent than the others by special syntactic marking.

The earliest linguistic studies in the Philippines were conducted by Spanish missionaries in the 1700's. These, and American studies in the early 1900's, were often comparative in nature. Because they were

conducted with Indo-European expectations, these studies had difficulty in adequately dealing with the focus construction.

Following the publication of Leonard Bloomfield's description of Tagalog in 1917, Philippine languages were subjected to a number of syntactic studies. Many of these were based on Kenneth Pike's Tagmemic model, applied by members of the Summer Institute of Linguistics on a variety of minority languages. Other studies were conducted by Philippine linguists. Ernesto Constantino, in particular, has published on many of the major languages, including several works on Ilocano.

With the advent of generative-transformational grammar, many articles have appeared addressing the phenomenon of focus in Philippine languages. Some have claimed that Philippine languages have no subject; others, assuming the existence of a subject, have proposed various solutions to account for the data. Because an understanding of the development of these discussions is fundamental to the positing of a working grammar for Ilocano, they are presented in detail in the next sections.

Until the last several years surprisingly little had been done in the linguistic study of Ilocano, despite its importance as a major language in the Philippines. Probably the earliest publication on the language was a grammar produced in 1895 by Francisco Lopez.

Several brief grammatical sketches appeared during the first half of this century, including a work by Leonard Bloomfield in 1942. The language was used by the Summer Institute of Linguistics during the early 1950's for a field methods course at the University of North Dakota, during which time a collection of texts (Apeles and Valera 1953) and a set of lesson plans (McKaughan and Forster 1952) were produced.

With funding by the U. S. Peace Corps the University of Hawaii undertook the project of developing language learning materials in Ilocano for volunteers intending to work in the Philippines. These efforts produced a set of lessons (Bernabe, et al. 1971), a dictionary (Constantino 1971a), and a short reference grammar (Constantino 1971b).

Ilocano has been the subject of few generative studies. The most extensive work has been done by Donna Gerdts. In a first study (1979), she demonstrated an advancement analysis using the Relational Grammar framework, following a Generalized Passive approach. In a second paper (1980), she considered Ilocano from an ergative standpoint, the first thorough ergative analysis of a Philippine language from the point of view of Relational Grammar.

Ilocano has been considered in comparative studies as well. Proto-Philippine is thought to have split into two large groups: North

and South. Ilocano separated from the Northern group soon after that split, before the Northern stock could subdivide into the major families now present in the area (Dyen: 1965). It is possible that this early split (and consequent length of time in development apart from the Northern stock) accounts for some of Ilocano's differences from other Philippine languages, such as the lack of overt case marking on noun phrases.

3.2. The controversy surrounding the Philippine subject

3.2.1. Schachter's assertion

Keenan (1976) presented a list of some thirty properties that he proposed would prove characteristic of the prototypic grammatical subject. His goal was to arrive at a definition of subject "in order for the many universal generalizations which use this notion to be well defined" (1976:305).

In a controversial article, Paul Schachter (1976) argued that on the basis of Keenan's subject properties, there is no element in the Philippine clause that can be called 'subject'. His argument begins by looking at the two elements in the Philippine clause that assume importance in a discussion of subject properties: the actor noun phrase and the focused noun phrase. The following Tagalog examples are taken from Schachter's article.

(1) Tagalog (Schachter 1976:494-95)

- a. magsalis ang babae ng bigas sa sako para sa bata.
 AT-remove T woman G rice D sack B child
- b. aalisin ng babae ang bigas sa sako para sa bata.
 GT-remove A woman T rice D sack B child
- c. aalisan ng babae ng bigas ang sako para sa bata.
 DT-remove A woman G rice T sack B child
- d. ipagsalis ng babae ng bigas sa sako ang bata.
 BT-remove A woman G rice D sack T child

'The woman will remove the rice from the sack for the child.'

where: T = topic (Schachter's term for focus)
 A = Actor
 G = Goal
 D = Direction
 B = Beneficiary

The differences in the four clauses (underlined in (1)) reflect changes as to which noun phrase is the one in focus. That phrase is more prominent and definite; if 'woman' is focused it must be 'the specific woman known to the hearer', elsewhere it may be interpreted 'a woman'. The examples in (1) illustrate the manner in which case and verbal morphology function together to signal focus.

Schachter examined three possibilities for the Tagalog subject: (i) the focused noun phrase, (ii) the actor, and (iii) the actor and focused noun phrase taken together. In giving support for the focus as subject, he listed the following grouping of Keensn's properties:

- (2) Arguments for Focus as subject
- a. Distribution: There must be a focused NP in the clause.
 - b. Only focused NP's can be relativized.
 - c. Only focused NP's can launch floating quantifiers.
 - d. If a language has verb agreement, it is with the focused noun phrase.

In presenting the case for the Actor noun phrase to be considered as subject, Schachter presented the properties of (3).

- (3) Arguments for Actor as subject
- a. The actor, not focus, controls reflexivization.
 - b. The actor, not focus, is deleted in complement subject deletion.
 - c. In Equi-NP deletion, the actor is deleted.
 - d. The addressee of commands is the actor.
 - e. The actor has a fixed position, always following the predicate.

The third possibility, that Actor-Focussed NP combination is the subject, was built on the observation that when one noun phrase is both the actor and in focus, it contains all of the subject-like properties. But as in examples (1b), (1c), and (1d), there are problems when the actor and focus represent different noun phrases--under such an analysis there would be no subject.

Schachter concluded that there was no subject in Philippine languages, and suggested that Keenan's subject characteristics should be subdivided into role and reference properties. The Philippine actor would then control the role-related properties such as equi-NP deletion; the focused noun phrase would control the reference-related properties, such as relativization.

3.2.2. Bell's Generalized Passive analysis

Bell (1983) responded to Schachter's observations with an approach from within Relational Grammar. In examining Cebuano, she claimed that the difficulties Schachter was describing would disappear in a theory with multiple syntactic levels. Under her analysis, the actor is an initial subject; the focused noun phrase is the final subject. Thus focus is achieved through advancements to subject.

This analysis stated that any noun phrase is capable of advancing to a final subject, such that Schachter's Tagalog examples (1) have the stratal diagrams of (4), where the underlined nominal is the one receiving NOM case marking and in agreement with the verb. This approach is here termed the Generalized Passive Analysis, following Postal (1986:45). Where a passive is a 2-1 advancement, a generalized passive is a X-1 advancement, where X represents the GRs that advance to 1 in Tagalog.

(4) Generalized Passive representation of Tagalog a. Nonadvancement

P	1	2	Loc	Ben
salis	<u>babae</u>	bigas	sako	bata

b. 2-1 advancement (passive)

P	1	2	Loc	Ben
P	chô	1	Loc	Ben
salis	babae	<u>bigas</u>	sako	bata

c. Loc-1 advancement

P	1	2	Loc	Ben
P	chô	2	1	Ben
salis	babae	bigas	<u>sako</u>	bata

d. Ben-1 advancement

P	1	2	Loc	Ben
P	chô	2	Loc	1
salis	babae	bigas	sako	<u>bata</u>

Under this analysis the final subject would control the syntactic marking and reference-related properties of focus. Control of the role-related properties would remain with the initial subject. These facts are summarized in (5). Two additional facts are included in (5). First is a summary statement of Tagalog word order. The second fact is that the passive (2-1 advancement) clause is the type occurring most frequently in natural language use. It is unusual to find that the most frequent clause is not basic (having no advancements or demotions).

- (5) Tagalog rules in the Generalized Passive analysis
- 'Role' properties Initial-1
 - a. NP controlling reflexivization,
 - b. NP of Complement Subject deletion,
 - c. NP deleted in Equi-NP deletion,
 - d. NP addressed by commands,
 - 'Reference' properties Final-1
 - a. NP capable of relativization,
 - b. NP launching floating quantifiers,
 - c. NP agreeing with verb,
 - Word Order P li 2i 3i Obliques
 - Most frequently occurring clause Passive (2-1)

3.2.3. The Generalized Passive aftermath

This analysis received criticism centering around its use of chômeurs. Schachter (1976:512), pointed out that a chômeur, theoretically, has less function in a sentence than a term, since it is lower on the relational hierarchy. How could it then retain its role-related properties? Bell responded that the role-related properties were associated with the initial-1 arc rather than the chômeur-arc, so that while chômeurs might be 'unemployed' in function, the initial relation could remain active (Bell 1983:189).

But Bell's response met with criticism, as Dryer stated (1978:31):

... it reduces the notion of 'chômeur' to near-vacuousness. Passive sentences in Cebuano are just as transitive as active sentences in that passive agents are just as term-like as active II's [direct objects]. Although the theory can accept this state of affairs by attributing term-like behavior of passive agents to their underlying status as I's [subjects], the question naturally arises as to just what it means to call them chômeurs ...

Mulder and Schwartz went farther, stating that the theory and the Philippine data cannot be aligned (1981:229). (Their reference to the universal of actor-agent-experiencer as 'initial subject' has since been dismissed (Rosen 1984)).

(i) Is advancement being overextended to subsume this construction [focus]; or, (ii) are the Philippine data being misconstrued to conform to an otherwise adequate characterization of advancement? Both questions are important because we believe that (i) rejecting the Philippine construction as an advancement will lead to a more restricted universal characterization of passive and advancement-to-subject; and, (ii) the Philippine data, construed properly, lead to a reconsideration of an important theoretical claim--that is, the universality of actor-agent-experiencer as 'initial' subject.

They decide that the Philippine phenomena cannot be represented as advancements. Instead, the verb chooses from among the noun phrases its subject. The role-related properties are assigned to the actor; the reference properties to this subject.

(6) Mulder and Schwartz nonadvancement proposal

- | | | | | | |
|----|-------|--------------|--------------|-------------|-------------|
| a. | P | 1 | 2 | Loc | Ben |
| | salis | <u>babae</u> | bigas | sako | bata |
| b. | P | Actor | 1 | Loc | Ben |
| | salis | babae | <u>bigas</u> | sako | bata |
| c. | P | Actor | 2 | 1 | Ben |
| | salis | babae | bigas | <u>sako</u> | bata |
| d. | P | Actor | 2 | Loc | 1 |
| | salis | babae | bigas | sako | <u>bata</u> |

This proposal leaves no room for an explanation of Phillipine systems in terms of grammatical relations--an attempt to form rules based on GRs would prove extremely complicated. Furthermore, such an analysis challenges RG's claim of having the machinery to universally account for clause systems.

It is possible to argue that the criticisms leading to this latter analysis are irrelevant. Grammatical relations, whether Subject or Chomeur, are primitives in the theory. RG is adamant that they are not to be defined in such terms as role-related properties. Such properties are not linguistic universals, but are specific to individual languages. Philippine languages are not the only examples of the need for multiple syntactic levels to account for language phenomena. Achenese verb agreement (Perlmutter 1982), Russian reflexives (Perlmutter 1982), and Seri subject raising (Marlett 1982), attest to the viability of an analysis such as Bell's. Thus the current framework accepts the Generalized Passive analysis.

However, an alternate analysis in which (1) chômeurs do not exhibit the properties of terms, and (2) which does not consider the most frequent transitive (in the initial stratum) clause to be a passive, would prove to be more satisfying. Thus these criticisms paved the way for a second approach to Philippine languages.

3.2.4. The Absolutive analysis

Gerdts (1980, to appear), Rowsell (1983), and others from within the Relational Grammar framework have taken the approach that advancements in Philippine languages are to direct object, rather than to subject. (The actor-focus construction is treated as antipassive.) Under this analysis, Schachter's Tagalog clauses would be represented by the diagrams in (7). The reference properties (focus) correspond to the final absolutive nominal (the final 1 in (7a), the final 2 in (7b-d)). Thus this analysis is referred to as the Absolutive analysis.¹

(7) The Absolutive representation of Tagalog a. Antipassive (See section 2.5)

P	1	2	Loc	Ben
P	2	chô	Loc	Ben
P	1	chô	Loc	Ben
salis	<u>babae</u>	bigas	sako	bata

b. No advancement

P	1	2	Loc	Ben
salis	babae	<u>bigas</u>	sako	bata

c. Loc-2 advancement

P	1	2	Loc	Ben
P	1	chô	2	Ben
salis	babae	bigas	<u>sako</u>	bata

d. Ben-2 advancement

P	1	2	Loc	Ben
P	1	chô	Loc	2
salis	babae	bigas	sako	<u>bata</u>

The Absolutive analysis accounts for language-specific phenomena as follows:

- (8) Tagalog rules in the Absolutive analysis
- 'Role' properties 1 (stratum irrelevant)
 - a. NP controlling reflexivization,
 - b. NP of Complement Subject deletion,
 - c. NP deleted in Equi-NP deletion,
 - d. NP addressed by commands,
 - 'Reference' properties Final-Absolutive
 - a. NP capable of relativization,
 - b. NP launching floating quantifiers,
 - c. NP agreeing with verb,
 - Word Order P 1f 2i 3f Obliques
 - Most frequently occurring clause .. Simple transitive

A consequence of the Absolutive analysis is that only nominals bearing the 2 relation initially can also bear the chômeur relation. In the Generalized Passive approach, it was the 1-arc, rather than the 2-arc, that became the chômeur. Rowsell found in her work in Kapampangan that unlike an analysis creating 1-chômeurs, an approach with 2-chômeurs does not have chômeurs which exhibit 'role' (or 'reference') properties.

A final consequence of this approach is that the most simple construction, the nonadvancement, is also the most frequently

occurring clause. Thus the Absolutive analysis does not have the criticisms (whether valid or not) of the Generalized Passive approach.

3.3. Choosing an approach for Ilocano

Two alternatives have been presented for describing the focus phenomena in Philippine languages: a Generalized Passive system of advancements to subject, and an Absolutive system of advancements to direct objects.

The stratal diagrams of (4) and (7), and the language-specific generalizations following each diagram, demonstrate that either analysis can describe the focus related phenomenon. However, an examine of causative union in Ilocano provides one final argument in favor of the Absolutive approach.

Gerdtz (to appear), examines three causative union constructions in Philippine languages, showing the differences in applying the two analysis. (The summary of Gerdtz' argument is presented here; Ilocano causatives are presented in Chapter 6.) Citing Bell and Perlmutter (to appear), Gerdtz notes that for one type, the Generalized Passive must first posit an advancement (3-2) which occurs in no other place in the language, and then posit a constraint which forces the 2 to advance to 1. The presence of this intermediate 2 has no syntactic evidence elsewhere in the language, and appears solely as a means of

accounting for this causative type. She then demonstrates that under the Absolutive analysis this construction is handled in a straightforward manner.

Thus the two analyses are capable of accounting for Ilocano data, but the Absolutive analysis is cleaner in the three areas previously discussed: (1) No busy chômeurs, (2) The most frequent transitive clause is nonadvanced, and (3) causatives are more straightforwardly represented. Ilocano does not exhibit the extensive case marking of other Philippine languages, and either of the advancement analyses would prove sufficient for a working grammar. However, since the Absolutive approach appears to be more natural, it will be the starting point of the following grammar, with further argumentation declared as beyond the scope of this thesis.

NOTE

¹ The absolutive is defined as the subject of intransitive clauses and the object of transitive clauses. The subject of transitive clauses is the ergative. Languages in which the distinction between the ergative and absolutive is prominent (i.e., through case marking or word order) are often called Ergative Languages (c.f. Payne 1982). Thus the absolutive nominal will have absolutive, rather than nominative case. The more common language type by far is the Nominative-Accusative type, in which the subjects of both transitive and intransitive clauses behave in like manner and distinct from the object.

CHAPTER 4

THE ILOCANO CLAUSE

4.1. The basic clause

4.1.1. Characteristics of the basic clause

In his description of Botolan Sambal, a Philippine language, Antworth (1979:29) lists six characteristics of the basic clause.

- (1) Characteristics of the basic clause
 - a. They are composed of only one clause; there is only one finite verb, and no expansion by conjunction or embedding.
 - b. The basic sentence components (i.e. the predicate and its nominals) are minimally specified; they are not modified by adjectives or adverbs.
 - c. They are affirmative (i.e. not negative).
 - d. They are declarative (i.e. not interrogative, imperative, or exclamatory).
 - e. They manifest initial grammatical relations only.
 - f. They have normal word order [i.e. no fronting].

These characteristics are also applicable to Ilocano. As alluded to in Chapter 3, Antworth's characteristic (1e) for transitive sentences is entirely dependent on the system of analysis.

All sentences are either basic or are derived in some way from the basic sentences. The latter half of this chapter considers derived sentences in which all but (1e) are true. The following chapters consider other derivations.

4.1.2. The basic transitive clause

Nonadvanced transitive clauses are the most frequently occurring initially transitive clause type in Ilocano. The stratal diagram (2) is straightforward. Six grammatical relations are posited as being central in Ilocano: 1, 2, 3, Beneficiary, Instrument, and Locative. Many studies (for example, see Schachter's Tagalog examples in the previous chapter) do not distinguish between beneficiary and 3, since their behavior during advancements, their case, and their word order are identical. They are here posited as different grammatical relations to account for the difference in their appearance as phrases. Unlike 3s, beneficiaries always are preceded by the preposition para 'for'. Illustrations are provided in a later section. This analysis is not unique to this thesis (see Antworth 1979:39).

(2) Non-advanced transitive clause

P 1 2 (3 Obliques)

The term 'transitive' is used with its RG definition of a clause having both a 1-arc and a 2-arc. This definition includes simple transitives (P,1,2), ditransitives (P,1,2,3), and transitive clauses with oblique nominals. It is rare in natural conversation to find clauses with more than two nominals, though it is possible to elicit sentences with as many as five. The naturalness of such elicited sentences is questionable.

Ilocano has three cases: ergative, absolutive, and oblique. These are reflected in the pronoun sets and in the articles of the oblique nominals. (The articles of ergative and absolutive nominals do not show a case distinction.)

Examples of nonadvanced transitive clauses are given in (3). The grammatical relations of each nominal are listed below the morpheme glosses. The abbreviation AffV refers to the Affiliate Voice on the predicate, and is discussed below. (The discussion will follow the convention of introducing new abbreviations with the examples in which they appear. These are tabulated in the List of Abbreviations.)

(3) Sample nonadvanced transitive clauses

a. kita-en ti ubing ti aso
 see-AffV ART child ART dog
 P----- 1----- 2-----
 'The child sees the dog.'

b. i-subli-k ti coche diay balay-na
 AffV-return-1sERG ART car LOC house-3sERG
 P----- 1 2----- Loc-----
 'I returned the car to his house.'

c. i-gatang ti babai ti mannga para ken ti lalaki
 AffV-buy ART woman ART mango for OBL ART man
 P----- 1----- 2----- Ben-----
 'The woman will buy the mango for the man.'

d. i-ted ti babai ti mannga ken ti lalaki
 AffV-give ART woman ART mango OBL ART man
 P---- 1----- 2----- 3-----
 'The woman will give the mango to the man.'

Abbreviations introduced:

AffV	Affiliate voice affixation
ART	Article ('a' or 'the')
OBL	Oblique article
ERG	Pronoun from Ergative pronoun set

Five predicate voices are posited for Ilocano, corresponding both to verbal morphology and syntactic structure. Analysts have traditionally posited voicing rules that are analogous to focus (for example, Bell 1983). Thus there would be one voice for each of the five focusing types. This thesis departs from such an analysis, positing voices which capture affixual generalizations that are suggested from the data.

The first of these predicate voices to be posited is the Affiliate Voice, which is found in three types of clauses: (1) the nonadvanced clauses exemplified above, (2) clauses with an advancement of 3 to 2, and (3) clauses with an advancement of a Benefactive to 2. The term 'affiliate' originates from current work by Albert Bickford (personal communication July 1986), and refers to the relations 1, 2, 3, and Ben. It is here applied to those clauses in which an initial 2, 3, or Ben is the final absolutive. The rule describing the Affiliate Voice is formalized in section 4.2.3.1, when all applicable relational network types have been presented.

The Affiliate voice marker has two semantically conditioned allomorphs: the suffix -en and the prefix i-. The occurrence of -en is infrequent, being seen in psychological processes (adal-en 'to

learn', lipat-en 'to forget', pili-en 'to choose'), actions which change the state of the direct object (ngal-en, 'to chew', aramid-en, 'to do or make'), and in several other processes. The prefix i- is used in most other situations.

Philippine analysts have typically claimed that there are actually three such allomorphs, adding to the above the suffix -an (for an example in Tagalog, see Carrier 1979:221). In all other environments, the -an suffix may be analyzed as marking an advancement of some grammatical relation to a 2 (see section 4.2.3). It is posited in this thesis that -an always shows this advancement, the above case signalling that either a 3-2 or Ben-2 advancement has taken place. Again, the discussion is postponed until the section dealing with such advancements.

4.1.3. The basic intransitive clauses

Section 2.6 outlined the Unaccusative Hypothesis, which posits two types of relational networks for intransitive clauses in some languages. The following discusses Ilocano's manifestation of this hypothesis, as shown through verbal morphology.

4.1.3.1. The unaccusative clause. Chapter 2 introduced unaccusative clauses as those having a P and a 2 in their initial stratum, with the 2 advancing to a 1 in the final stratum in accordance with the Final 1 Law¹.

(4) Unaccusative relational network

P 2
P 1

This structure defines the Unaccusative voice, abbreviated UnAV in language examples. The definition (5) states that predicates in clauses containing no initial 1 are in the unaccusative voice. An alternative definition could have been stated referring to clauses containing an initial 2 but no initial 1. However, the definition used in (5) will serve to account not only for morphology in unaccusative clauses, but also for affixation on adjectives and adverbs, as will be seen in Chapter 5.

(5) Unaccusative Voice

If a is the predicate of intransitive clause b and there is no arc of the form [1(b,c)(c₁,c_x)], then a is in the Unaccusative Voice.

The Unaccusative Voice is manifested by the prefix ma- (na- if completed aspect) in verbal clauses.

4.1.3.1.1. Verbal unaccusative clauses. Unaccusative verbs typically have the semantic characteristics of statives. In her study of the Philippine language Tawali, Lou Hohoulin (work in progress) describes three classifications of statives: (1) physiological processes or states, such as 'to be tired', 'to be hungry', 'to die', 'to sleep', 'to be deaf', or 'to be slender'; (2) process or state of inanimate objects,

such as 'to be difficult', 'slippery', 'strong', 'heavy', or 'to rot'; and (3) characteristics of human nature, such as 'to be selfish'.

In many languages (for example Italian, Rosen 1984:44) there are numerous verbs which will subcategorize an unaccusative clause. In contrast, Ilocano has few such verbs. Besides the examples in (6), attested Ilocano unaccusative verb roots include unget 'to be angry', bain 'to be ashamed', bannog 'to be tired', rigat 'to be difficult', sakit 'to be sick', and pigsa 'to be strong'.

(6) Unaccusative clauses

a. ma-tinnag ti ubing
UnAV-fall ART child
'The child falls.'

b. ma-turog-ka a masapa
UnAV-sleep-2sABS LKR early
'You sleep early.'

c. ma-bisin ti aso
UnAV-hunger ART dog
'The dog is hungry.'

New abbreviations:

LKR Linking particle (see section SSSSS)
UnAV Unaccusative voice
2s Second person singular
ABS Absolutive case

4.1.3.1.2. Nonverbal unaccusative clauses. Ilocano has clauses that do not include a verb root and which have the semantic characteristics of

statives, and are thus posited as being unaccusative clauses. In such clauses, the initial nominal bears the predicate relation to the clause. (Thus maestro in (7a) is the predicate.)

(7) a. maestro ti lalaki
 teacher ART man
 'The man is a teacher.'

b. siak ti maestro
 1sABS ART teacher
 'I am the teacher.'

c. manok dayta
 chicken that
 'That is a chicken.'

Unaccusative clauses may also be formed with adjectives bearing the predicate relation, as in (8). Adjectival and adverbial roots in Philippine languages are indistinguishable from verb roots: an individual root may appear in either construction (clause, noun phrase, verb phrase). Philippine adjectives generally appear with a prefix analogous to Ilocano's na-, whether in the unaccusative clause or in noun phrases. In the verbal unaccusative clause, na- is the completed aspect (similar to English past tense, see section 5.2.2) of the prefix ma-. It is possible to consider adjectives as consisting of completed action, and as existing in unaccusative strata, both in unaccusative clauses and in the representation of noun phrases described in Chapter 2. This thesis thus suggests that the na- prefix is not some adjectival prefix, but rather the marker of the Unaccusative Voice on verb roots. (By restricting

voice marking to verb roots, the absence of na- in (7) is accounted for.)

(8) a. na-pintas ti babai
UnAV-pretty ART woman
'The woman is pretty.'

b. na-puraw ti balay
UnAV-white ART house
'The house is white.'

There are also existentials in Ilocano which do not exhibit affixation, the morphemes adda 'there is' and awan 'there is not'. Existentials may appear both in Unaccusative and in transitive clauses.

(9) a. adda ti maysa nga manok
Exist ART one LKR chicken
'There exists one chicken.'

4.1.3.2. The unergative clause. The remainder of the intransitive verbs occur in the unergative clause, which has the relational network of (10).

(10) Unergative relational network

P 1

The Unergative clause, like the unaccusative clause, defines a predicate voice which defines the occurrence of the unergative morphology.

(11) Unergative Voice

If a is the predicate of intransitive clause b, and there exists the arc [1(b,c)(c₁,c_x)], then a is in the Unergative voice.

The Unergative Voice (abbreviated UnEV in the Ilocano examples) morphology consists of the prefix ag-.

Because unergative and antipassive clauses (Section 4.2.2) are intransitive, the two types have traditionally been collapsed into one voice. The difference in their voice markers has then been said to be semantically conditioned. For example, the verb root for 'swim' is langoy. This root normally occurs as ag-langoy, 'to swim'. The form l-um-angoy (which has what this thesis claims is the antipassive marker -um-) implies that the subject is swimming across a particular body of water. Hence the traditional generalization that, rather than having a syntactic basis, the infix -um- has the semantics of expressing a less durative action than the prefix ag-.

Porter (1979:23) suggests that in Northern Kankany the appearance of these two markers is dependent on the existence of an initial object, though that object may be implied (not overt in the surface). Thus one marker is used in the unergative clause, the other in initially transitive clauses (the antipassive). The difference between -um- and ag-, then, is primarily syntactic rather than semantic.

This distribution of the two markers is found nearly without exception in natural Ilocano text material. The difficulty is that in the unnatural environment of language elicitation, the markers do not always demonstrate this distribution.

Because of distribution in natural text, this thesis posits separate voices for unergative and antipassive constructions. One possible explanation of the elicited exceptions is that since both clause types are intransitive in the final stratum, speakers have difficulty distinguishing the construction type without the context of natural discourse. A second possibility is that Philippine languages are in the midst of language change in which the two voices are being collapsed into one.

Examples of unergative clauses are provided in (12).

(12) Sample unergative clauses

- a. ag-langoy ti aso
UnEV-swim ART dog
'The dog swims.'
- b. ag-trabaho-ka
UnEV-work-2sABS
'You work.'
- c. ag-katawa ti tao
UnEV-laugh ART people
'The people laugh.'

New abbreviation

UnEV Unergative Voice morpheme

An unusual aspect of Ilocano is that the verbs which subcategorize unaccusative clauses may also subcategorize unergative clauses, as in (13). In languages which syntactically show a distinction between unergative and unaccusative clauses, verbs are usually found to subcategorize only one of the intransitive clause types.

(13) a. Unaccusative clause

ma-sakit ti aso
UnAV-sick ART dog
'The dog is sick.'

b. Unergative clause

ag-sakit-ka no di-ka ag-annad
UnEV-sick-2sABS if NEG-2sABS APV-careful
'You will get sick if you are not careful.'

While verbs that subcategorize unaccusative clauses will also subcategorize unergative clauses, the reverse is not true, as demonstrated in (14).

(14) a. Unergative clause

ag-trabaho-ka
UnEV-work-2sABS
'You work.'

b. Unaccusative clause

*ma-trabaho-ka
UnAV-work-2sABS
'You work'.

This phenomenon indicates the interaction of both pragmatics and semantics in the alignment of meaning to initial grammatical relations. The pragmatic situation must choose verbs capable of the desired subcategorization in order to avoid clauses like (14b).

4.1.4. On the ergativity of Ilocano

It was stated that in an ergative language the subject of intransitive clauses shares characteristics with the direct object of transitive clauses. It is useful to examine the basic clause in light of the ergativity question, before moving on to derived clauses.

The single most important factor in determining the possible ergativity of Philippine languages is the case of the nominals. Many Philippine languages distinguish between the case of ergative and absolutive nominals through their articles.

(15) Some Philippine articles

	Tagalog	Ilocano	Botolan Sambal
Final absolutive	ang	ti	ya
Final ergative	ng	ti	nin
Chomeurs	ng	ti	nin
Final locatives	sa	idiay	ha
Final beneficiaries	para sa	para ken	para ha

Tagalog data from Schachter (1976:494-95).

Botolan Sambal data from Antworth (1979:37-39).

Thus Ilocano articles do not distinguish between absolutive and ergative case, but these cases may be seen by examining sentences in which the term arcs are headed by pronouns.

Pronouns of the ergative and absolutive case cliticize to the leftmost word in the verb phrase, a fact which results in variations from the basic word order. Pronouns have been avoided in the above examples when such word order variations would have occurred, they must now be used to demonstrate the relationship of the nominals in what are claimed here to be the basic clauses.

The examples in (16) show that the case of the nominal bearing the final 1 relation in the intransitive clause is Absolutive.

- (16) a. Unergative clause
 ag-kita-ak
 UnEV-see-1sABS
 'I see.'
- b. Unaccusative clause
 ma-bisin-ak
 UnAV-hungry-1sABS
 'I am hungry.'

The examples in (17) show the case of the final 2 and the final 1, respectively, in the basic transitive clause. In (17a) the direct object pronoun has cliticized to the verb from its normal position following the subject.

- (17) a. kita-en-ak ti lalaki
 see-AffV-1sABS ART man
 'The man sees me.'
- b. kita-en-k ti lalaki
 see-AffV-1sERG ART man
 'I see the man.'

These examples show that the case of the intransitive final 1 is the same as the case of the transitive final 2, and different from the case of the transitive final 1. Under the assumption that the above are basic clauses this is strong indication of the ergativity of Philippine languages.

The difficulty is that the Generalized Passive does not analyze clauses such as those in (17) as basic, but as derived, an assumption that negates such basic clause data in favor of ergativity. The choice of the basic transitive clause determines whether the transitive final-2 or final-1 has the same case as the intransitive final-1. Thus the pronoun in (18) is the same case as intransitive final subjects.

(18) Generalized Passive choice of basic transitive
 k-um-ita-ak ti lalaki
 P----- 1- 2-----
 Trans-see-1s:NOM ART man
 'I see the man.'

Thus the preceding discussion does not provide a basis for choosing a system of analysis, rather, it merely demonstrates that under the assumption of (17) as the basic transitive clause, pronominal case indicates an ergative-absolutive system.

4.2. Derived clauses

4.2.1. Focus revisited

The term 'focus' has been used both in this thesis and in many publications dealing with Philippine languages to refer to that noun phrase which through special syntactic marking is given prominence in the clause, as required in discourse. A verb will subcategorize the initial grammatical relations with which it will appear, and the pragmatic environment will then determine which of the resultant nominals will be focused. Focus is used as a means for marking the topic of the discourse. (Topic here refers not to syntactic fronting, but to the item which the discourse is expounding in that particular clause.)

Nominals must meet an eligibility test before they can be focused. Only nominals which represent an idea specifically known by the hearer are eligible. Thus if a nominal has yet to appear in discourse, it is not known to the hearer and may not be focused. Once it has been introduced in the discourse, it is then eligible for focus.

There are instances where a nominal may not have been previously introduced in discourse and still be eligible for focus. One example is the part-whole relationship in which if some item like a car has been introduced, then its parts, such as the tires or the brakes, are eligible for focus. Likewise if a city has been mentioned, then

places likely to be found in that city, such as a town hall or a library, are eligible for focus. A second example involves speaker-hearer common ground, where if a speaker knows the hearer, then he may focus on things known about the hearer such as his mother-in-law, or his house. If a nominal is to be the topic and is not eligible for focus, some other construction (such as existentials or clefting) must be used for its initial introduction.

As has been previously alluded to, the nominal corresponding to this traditional term 'focus' is here analyzed as the final absolutive. This latter term will be used in most of the remainder of this thesis.

The following sections show relational networks which, through demotion or advancement, cause different nominals to be the absolutive in the final stratum, thus accomplishing the pragmatic goal as stated above of marking the discourse topic.

4.2.2. Antipassive

As discussed in Chapter 2, antipassive involves an initial transitive stratum with a demotion of a 1 to a 2. This demotion creates a chômeur in the second stratum on the nominal bearing a 2 in the initial stratum. There is then an advancement of 2 to 1 in accordance with the Final 1 Law.² This process is illustrated in (19). The result of antipassive is that the clause is intransitive in the final stratum (recall that RG defines intransitive strata as those not having both a 1

and a 2-arc). The final 1 is thus the final absolutive in the antipassive.

(19) Antipassive stratal diagram

P	1	2
P	2	chô
P	1	chô

The antipassive construction defines an antipassive voice, which is manifested by the infix -um-. (See the Unergative clause discussion with respect to positing both an unergative and an antipassive voice.) The definition states that antipassive voice is triggered by the 1-2 demotion.

(20) Antipassive Voice

If verb a is the predicate of clause b and b has the arcs $[1(b,c)(c_w,c_i)]$ and $[2(b,c)(c_{i+1},c_x)]$, then a is in the Antipassive Voice.

An example of an antipassive clause is given in (21b), with its corresponding nonadvanced transitive clause. Antipassive voice is abbreviated APV. (The APV morpheme is an infix, taking the position: #(C)___. This thesis will show the infix in the proper position, as in (21b). Thus there is a one-to-one correspondence between morphemes and glosses, even though the hyphens might seem to indicate otherwise.)

(21) a. Nonadvanced transitive clause

i-gatang ti babai ti bado para kenka.
 AffV-buy ART woman ART clothes for 2sOBL
 'A woman buys the clothes for you.'

b. Antipassive

g-um-atang ti babai ti bado para kenka
 APV-buy ART woman ART clothes for 2sOBL
 'The woman buys clothes for you.'

New abbreviations:

APV Antipassive voice morpheme (infix)
 OBL Oblique case

That the nomimal bearing the 1 relation in the final stratum is the final absolutive (and thus, that the clause is intransitive in the final stratum) is demonstrated by substituting pronouns in the clauses in (21). The pronoun in (22b) must have Absolutive case.

(22) a. Nonadvanced with final-1 pronoun

i-gatang-ko ti bado para kenka
 AffV-buy-1sERG ART clothes for 2sOBL
 'I buy the clothes for you.'

b. Antipassive with final-1 pronoun

g-um-atang-ak ti bado para kenka
 APV-buy-1sABS ART clothes for 2sOBL
 'I buy the clothes for you.'

Chomeurs in Ilocano take the same case as ergative nominals, as is shown by pronoun substitution in (23).

(23) a. k-imm-ita ti babai ti ubing

APV-see ART woman ART child
 'The woman saw (watched) the child.'

b. k-imm-ita-m ti babai

APV-see-2sERG ART woman
 'The woman saw (watched) you.'

4.2.3. Advancements

Four advancements are posited in Ilocano: 3-2, Ben-2, Ins-2, and Loc-2. With the exception of Ins-2, each of these advancements is signalled by the suffix -an, termed the 'advancement flag'. The advancement flag is defined in (24). The qualification of (24b) is necessary in describing situations in which the Affiliate Voice allomorph is the suffix -en, and is explained in the next section.

(24) Occurrence of the Advancement Flag

- a. If a is a verb in clause b in which there exists the arcs [GR(b,d)(c_w,c_i)] and [2(b,d)(c_{i+1},c_x)] and if GR is of the set {3, Ben, Loc}, then the advancement flag -an is suffixed onto a.
- b. The advancement flag permits no other suffix.

Ilocano advancements may be divided into two types. The first, consisting of 3-2 and Ben-2, does not alter the predicate voicing. The second type, consisting of Ins-2 and Loc-2, defines a final Ilocano voice, the Oblique Voice.

4.2.3.1. 3-2 and Ben-2 advancements Benefactive phrases differ from indirect object phrases in only one syntactic manner, the presence of the preposition para, a form probably borrowed from Spanish. It is the only situation in Ilocano in which there are double prepositions (see (25a)), and its foreign origin is a possible cause of the anomaly. (Spain's

four-century rule of the Philippines, which resulted in a number of lexical borrowings, ended in 1901.)

(25) a. Benefactive phrase
 para ken ti babai
 for OBL ART woman
 'for the woman'

b. 3 phrase
 ken ti babai
 OBL ART woman
 'to the woman'

The occurrence of initial benefactives and initial 3s is determined by subcategorization of the verb, and it is rare to find clauses with both.

The relational networks for these two advancement types are given in (26), where the initial 3 or Ben becomes a 2 in the final stratum, and thus the final absolutive.

(26) a. 3-2 Advancement	b. Ben-2 advancement
P 1 2 3	P 1 2 Ben
P 1 chô 2	P 1 chô 2

The Affiliate Voice was earlier mentioned as pertaining to those transitive clauses in which the initial 2, 3, or Ben is also the final 2. The voicing rule may now be defined:

(27) Affiliate Voice

If a is the predicate of transitive clause b, and if b has the arcs $[GR(c,b)(c_w,c_i)]$ and $[2(c,b)(c_{i+1},c_x)]$ where GR is of the set (2, 3, Ben), then a is in the Affiliate Voice.

The Affiliate Voice morphology consists, again, of the semantically conditioned allomorphs i- and -en. When the Advancement Flag is attached to a verb with the -en suffix, that suffix is deleted. The prefix i-, on the other hand, remains attached to the verb in the presence of the advancement.

In Affiliate advancement, the prepositions are dropped, whether it be the oblique ken or the combination para ken. The dropping of the prepositions indicate that the nominal does not have Oblique case. (Substitution of a pronoun demonstrates that the nominal has Absolutive case). The following examples demonstrate the prepositional drop of the advancement.

(28) a. Nonadvanced transitive clause

i-ted ni John ti singsing ken ni Sandra
 AffV-give ART John ART ring to ART Sandra
 'John gives the ring to Sandra.'

b. 3-2 advancement

i-ted-an ni John ni Sandra ti singsing.
 AffV-give-Adv ART John ART Sandra ART ring
 'John gives Sandra a ring.'

New abbreviation:

Adv Advancement Flag

- (29) a. Non-advanced transitive clause
 i-gatang-k ti singsing para ken ni Sandra
 AffV-buy-1sERG ART ring for to ART Sandra
 'I buy the ring for Sandra.'
- b. Ben-2 advancement
 i-gatang-an-k ni Sandra ti singsing.
 AffV-buy-Adv-1sERG ART Sandra ART ring
 'I buy Sandra a ring.'

Example (30) demonstrates the result of the advancement in the presence of the -en suffix.

- (30) a. Non-advanced intransitive clause
 tiliw-en-k ti aso ken ti babai
 chase-AffV-1sERG ART dog to ART woman
- b. 3-2 advanced clause
 tiliw-an-k ti babai ti aso
 AffV:chase-Adv-1sERG ART woman ART dog
- 'I chase the dog to the woman.'

Finally, example (31) shows the change of pronominal case that results from Affiliate advancement.

- (31) a. Nonadvanced transitive clause
 i-ted ti babai ti bado kaniak
 AffV-give ART woman ART clothes 1sOBL
 'The woman will give the clothes to me.'
- b. 3-2 Advancement
 i-ted-an-ak ti babai ti bado
 AffV-give-Adv-1sABS ART woman ART clothes
 'The woman will give me clothes.'

4.2.3.2. Ins-2 and Loc-2 advancements The relational networks for instrumental and locative advancements are straightforward, as illustrated in (32).

(32) a. Instrumental-2 advancement

P	1	2	Ins
P	1	chô	2

b. Locative-2 advancement

P	1	2	Loc
P	1	chô	2

These advancements define the Oblique voice (abbreviated Ob1V), the verbal morphology of which is the prefix pag-. The voicing rule is stated in (33).

(33) Oblique Voice

If a is the predicate of clause b, and b has the arcs $[GR(b,c)(c_w,c_i)]$ and $[2(b,c)(c_{i+1},c_x)]$ where GR is a member of the set {Ins, Loc}, then a is in the Oblique Voice.

Both the instrument and the locative have constraints concerning their advancements (or lack of). Ilocano does not allow a nominal to bear the instrument relation in the final stratum. Also, as noted above, the advancement flag does not occur in instrumental advancement. It is possible that the nonoccurrence of the advancement flag is motivated by a constraint in the language that reduces redundancy. That is, since instruments must advance, there is no need for a flag indicating that the advancement has taken place. A redundancy reducing

principle might also account for the lack of case marking in Ilocano articles, since word order and morphology are sufficient for indicating which nominal is the final absolutive.

Example (34b) demonstrates the ill-formedness of clauses having an instrument in the final stratum.

(34) a. Ins-2 advancement

pag-puted ti lalaki ti lansita ti kowayan
 OblV-split ART man ART knife ART bamboo
 'The man split with the knife some/the bamboo.'

b. Nonadvanced clause with final instrument

*puted-en ti lalaki ti kowayan ti lansita.
 split-AffV ART man ART bamboo ART knife
 'The man split the bamboo with a knife.'

A rule is necessary to capture the restriction on final instruments in the Ilocano clause.

(35) Final Instrument Ban

No Ilocano clause is well-formed if it has the arc
 [Ins(a,b)(c_w,c_{final})].

Locative to 2 advancement has the constraint that it must also occur with the noun phrase fronting construction (developed in Chapter 6). (36c) is an example of Loc-2 advancement, where (36a) is the corresponding nonadvanced clause. That Loc-2 must be accompanied by fronting is shown by the ungrammaticality of (36b). The relational

network corresponding to fronting is postponed until the later discussion of fronting.

(36) a. Non-advanced transitive clause

taray-en-mo ti agas diay farmacia
run-AffV-2sERG ART medicine LOC pharmacy
'Run (you) for the medicine at the pharmacy.'

b. Loc-2 advancement (no fronting)

*pag-taray-an-mo ti farmacia ti agas
OblV-run-Adv-2sERG ART pharmacy ART medicine
'Run (you) to the pharmacy for medicine.'

c. Loc-2 advancement and fronted NP

ti farmacia ti pag-taray-an-mo ti agas
ART pharmacy ART OblV-run-Adv-2sERG ART medicine
'The pharmacy is the place for you to run for
the medicine.'

4.2.4. The ergativity of Ilocano revisited

Having examined both basic and derived clauses, it is appropriate to summarize some of their characteristics in light of the question of the ergativity of Philippine languages. Given the six initial grammatical relations for nominals (1, 2, 3, Ben, Ins, Loc), it is profitable to compare their position under the different sentence types.

The Ilocano examples given in this chapter have established a word order dependent on final grammatical relations, which may be summarized by the rule in (37).

(37) Ilocano Basic Word Order
 P 1 2f 3f chô Obliques

Word order may also be stated in terms of initial grammatical relations. The chart in (38) depicts initial GRs, rather than final GRs, to show how nominals have changed position in a sentence due to advancements or demotions. Thus a non advanced clause might have the order of P 1 2 3, but in 3-2 advancement the initial 3 and initial 2 nominals have exchanged position (38e). (3s are omitted in these charts except in 3-2 advancement, as they are unnecessary to the discussion and would only clutter the charts.)

(38) Word order based on initial GRs

a. Intr. (Unaccusative)	P	1		
b. Intr. (Unergative)	P	2		
c. Antipassive	P	1	2	(others)
d. Nonadvanced transitive	P	1	2	(others)
e. 3-2 advancement	P	1	3	2 (others)
f. Ben-2 advancement	P	1	Ben	2 (others)
g. Ins-2 advancement	P	1	Ins	2 (others)

It is claimed that the first three clause types of (38) are intransitive (recall that the final stratum of (38c) consists of no 2-arc), and that the remaining clause types are transitive. On this basis, ergativity may be shown by an examination of two areas. The first area is the word order of the final relations. In (39), the relations of (38) have been translated into final relations. The first three clause types of (39) are intransitive by definition, the remaining

clause types are transitive. Under the ergative analysis, the word order remains constant in every clause type, and may be stated as V-S-O.

(39) Word order based on final GRs:

a. Intr. (Unaccusative)	P	1		
b. Intr. (Unergative)	P	1		
c. Antipassive	P	1	chô	(others)
d. Nonadvanced transitive	P	1	2	(others)
e. 3-2 advancement	P	1	2	chô (others)
f. Ben-2 advancement	P	1	2	chô (others)
g. Ins-2 advancement	P	1	2	chô (others)

A further version of the chart reveals the second area demonstrating ergativity--the grammatical case of the nominals, which shows that the subject of intransitive clauses corresponds in case with the object of transitive clauses.

(40) Word order based on Case of final GRs:

a. Intr. (Unaccusative)	P	Abs		
b. Intr. (Unergative)	P	Abs		
c. Antipassive	P	Abs	Erg	
d. Nonadvanced transitive	P	Erg	Abs	
e. 3-2 advancement	P	Erg	Abs	Erg (others)
f. Ben-2 advancement	P	Erg	Abs	Erg (others)
g. Ins-2 advancement	P	Erg	Abs	Erg (others)

Thus, when one assumes that clauses of the form in (41) are the basic non-advanced clauses, the data aligns to show that Ilocano is an ergative language.

- (41) i-kabil ti ubing ti libro diay lamesa
 AffV-put ART child ART book LOC table
 'The child will put the book on the table.'

The three charts derived from the Generalized Passive analysis are produced below. The clause types (a-g) are in the same order, their names are changed as reflected by the analysis. The relations in the first chart are identical to the Absolutive chart:

(42) Word order based on initial GRs (GP analysis)

a. Intr. (Unaccusative)	P	1	
b. Intr. (Unergative)	P	2	
c. Nonadvanced	P	1 2	(others)
d. Passive	P	1 2	(others)
e. 3-1 advancement	P	1 3	(others)
f. Ben-1 advancement	P	1 Ben	(others)
g. Ins-1 advancement	P	1 Ins	(others)

The second chart shows word order based on final GRs, which is subject to the rule:

(43) Word order (GP analysis) = P chô 1 2 (others)

(44) Word order based on final GRs (GP analysis)

a. Intr. (Unaccusative)	P	1	
b. Intr. (Unergative)	P	1	
c. Nonadvanced	P	1 2	
d. Passive	P	chô 1	(others)
e. 3-1 advancement	P	chô 1 2	(others)
f. Ben-1 advancement	P	chô 1 2	(others)
g. Ins-1 advancement	P	chô 1 2	(others)

Assigning Nominative (Nom) case to final-1s and Accusative (Acc) case to final-2s, the distribution of (45) is obtained. The GP word order of (V-cho-S-O) accounts for the distribution in these charts, even

though (45) still looks suspiciously similar to what might be expected under an ergative-absolutive analysis.

(45) Word order based on case of final GRs (GP analysis)

a. Intr. (Unaccusative)	P	Nom		
b. Intr. (Unergative)	P	Nom		
c. Nonadvanced	P	Nom	Acc	(others)
d. Passive	P	Acc	Nom	(others)
e. 3-1 advancement	P	Acc	Nom	Acc (others)
f. Ben-1 advancement	P	Acc	Nom	Acc (others)
g. Ins-1 advancement	P	Acc	Nom	Acc (others)

As was stated in Chapter 3, the ergativity issue can only be resolved by comparing other predictions and ramifications of the two analyses, an issue that, based on the causative data in Chapter 6, resolves in favor of the ergative analysis.

One final observation concerns the grammatical case of the *chômeur* nominal (under both analyses). Chômeurs in language generally have an oblique case; it is rare to find one case distributed on both the ergative and on some other nominal, or on the object and some other nominal. There is little wonder that Philippine languages have been notoriously difficult to analyze.

NOTES

1 The mandatory advancement of 2 to 1 in the unaccusative clause to satisfy the Final 1 Law, while correct relational grammar, is intuitively unsatisfying in that (1) it introduces an advancement otherwise unknown in the language, therefore requiring the constraint that 2-1 advancement only take place in conditions which would potentially violate this law, and (2) It is conceivable that an Ergative language might require its own set of appropriate laws, such as a Final 2 Law. An extrapolation of this proposal would show no new relational changes introduced, and the absolutive could be defined not as the subject of intransitive clauses and the object of transitive clauses, but rather as the final 2 of all clauses.

2 See previous note.

3 Gerds (to appear) presents data that is markedly different. Her chômeurs are in oblique, rather than ergative case. Her data also does not show a difference between antipassive and unergative voice. One can only speculate that dialectic or some other factor accounts for this difference in data. The analysis in this thesis must conform to personally collected data. It is noted, however, that the chômeur case in the data presented here is analagous to Schachter's Tagalog examples presented in Chapter 3.

CHAPTER 5

ILOCANO CLAUSE COMPONENTS

The Ilocano clause has been shown to include a predicate followed by at least one nominal, with a discussion of the means by which any of these nominals may become the final absolutive. This chapter now examines the makeup and expansion of clause components.

5.1. The noun phrase

5.1.1. The basic Ilocano noun phrase

The minimum noun phrase (hereafter NP) in Ilocano consists of a determiner and the head noun. NPs may also include quantifiers, modifiers, and either a relative clause or an embedded noun phrase.

The representation of the noun phrase in RG was presented in Chapter 2. Using these relations, the noun phrase has the word order in (1). The brackets indicate that only one of the elements enclosed may appear in the NP.

(1) Det P cho(s) H [Rel Embed]

Examples illustrating this word order follow. (For now, ignore the

presence of the linking particle (nga or a) and the voicing affixation on modifiers.)

(2) a. D P H

ti na-ngisit a pusa
 ART UnAV-black LKR cat
 'the black cat'

b. D P H
 D P chô H

ti maysa a nasipnget a rabii
 ART one LKR UnAV-dark LKR night
 'one dark night'

c. D H R

ti pusa nga mangted kenka ti buwisit
 ART cat LKR give 2sObl ART bad:luck
 'the cat that gives you bad luck'

The following sections discuss the various components of the Ilocano noun phrase.

5.1.2. The linking particle

One of the greater challenges in the grammars of Philippine languages is to make a concise statement about which environments allow the determiner ti, and which allow the linking particle. Under the assumptions above concerning the representation of the noun phrase, the occurrence of the linker requires only the two rules in (3).

(3) Occurrence of the Linking Particle:

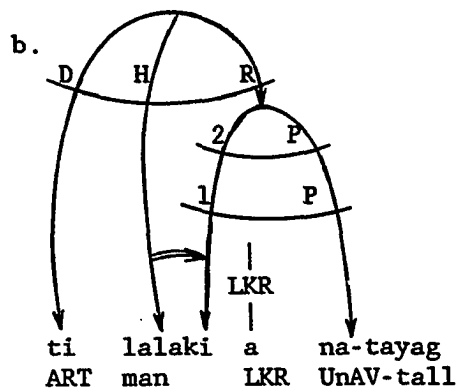
a. Modification: If there exists the arc $[P(a,b)(c_x,c_y)]$ but no arc $[GR(a,b)(c_x,c_y)]$ where GR is a member of the set $\{1,2\}$, then the linking particle is inserted in the surface to the right of d .

b. Complementation: If there exists an arc $[GR(a,b)(c_w,c_{final})]$ where GR is a member of the set $\{1,2,3,Ins,Ben,Loc,R\}$, and if that arc heads a clause node, then the linking particle will be inserted in the surface to the left of the element heading that arc.

Rule (3a) provides for the insertion of the linker following modifiers and quantifiers. Rule (3b) provides for the linker preceding complement and relative clauses (examples will follow in later sections).

As an illustration, rule (3a) predicts that the linker will be inserted in the surface to the right of the predicate in (4a). Rule (3b) likewise predicts that the linker will be inserted in the surface to the left of the relative clause predicate in (4b).

(4) a. D P H
 |
 LKR
 |
 ti na-labaga a balay
 ART UnAV-red LKR house
 'the red house.'



The Linking particle is a type of 'dependent-marker', signaling the syntactic dependency of a modifier with the head. Nichols (1986:69) discusses the Persian and Tadjik 'izafet', which behaves in similar fashion.

The linking particle occurs in two surface forms, nga and a, in accordance with (5).

- (5) Linker consonant deletion
 $ng \rightarrow \emptyset / \# _ a \# C$

The following examples illustrate this variation.

- (6) a. napintas a balay
 pretty LKR house
 'pretty house'

- b. maysa nga ubing
 one LKR child
 'one child'

5.1.3. Adjectival affixation

The prefix na- occurs on all modifiers with the exception of quantifiers, some Spanish loan words, and a few irregular forms. The prefix is illustrated in (7).

(7) na + pintas = napintas 'pretty'
 pretty

na + sadut = nasadut 'lazy'
 lazy

na + alas = naalas 'ugly'
 ugly

This prefix is the same in form as the completed aspect form of the Unaccusative voice, which occurs by definition in a RN having no initial-1 arc. The noun phrase as defined in chapter 2 likewise has no initial-1 arc. Thus the Unaccusative voice definition as stated applies to the components of the noun phrase. Thus the only additional statement needed is that voice is marked on all verb stems, whether heading a clause- or phrase- P-arc.

5.1.4. Articles

The D-arc is headed by Ilocano articles, some of which were mentioned in the previous chapter. The most frequent article, by far, is ti. Ilocano uses the article ni before personal names.

- (8) a. ti babai b. ni Bill
 ART woman ART Bill
 'the woman' 'Bill'

Demonstratives may also appear in the determiner position.

- (9) a. daytoy 'this'
 b. dayta 'that (near)'
 c. daydiay 'that (far)'

These demonstratives sometimes take a shortened form by dropping the first syllable, with no meaning change.

5.1.5. Nominalization

Verbs may be nominalized, through adding the prefix panaka- to the verb root, as in (10).

- (10) k-imm-ita-ak ti panaka-dusa-na
 APV-see-1sABS ART Nm-torture-3sERG
 'I saw its (undergoing) torture.'

5.1.6. Pluralization

There are two methods of pluralization. The first is the use of a plural prefix on the article ti or the demonstratives.

- (11) a. ti ubing
 ART child
 'the child'

b. *dagi-ti ubing*
 PL-ART child
 'the children'

(12) a. *dayta balay*
 that house
 'that house'

b. *dagi-ta balay*
 PL-that house
 'those houses'

The second method uses the plural article and reduplication of the first syllable of the stem.

(13) *dagiti ub-ubing*
 PL:ART PL-child
 'the children'

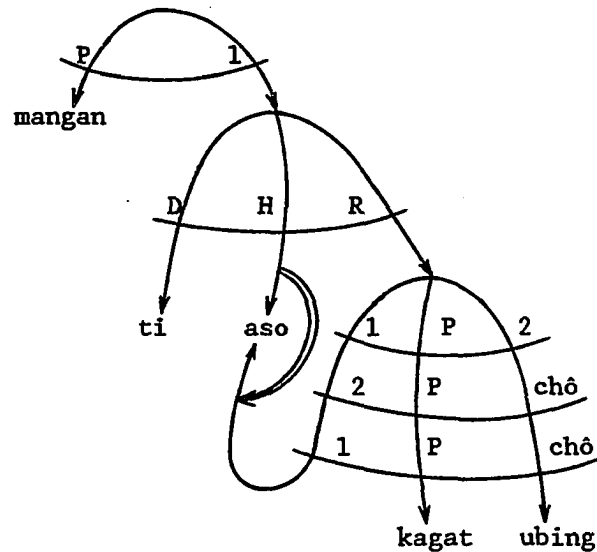
This latter method places more emphasis on the noun, and appears more frequently in the nominal which is the final absolutive.

5.1.7. The relative clause

In relative clause formation, the final absolutive of the relative clause is the head of the noun phrase. The syntax of the relative clause is identical to that of an independent clause, except that the absolutive is not present in the relative clause. As previously noted, the relative clause follows the head noun (separated by the

Linker). Example (14) provides an Ilocano example with its corresponding diagram.

(14) a. Relative clause diagram



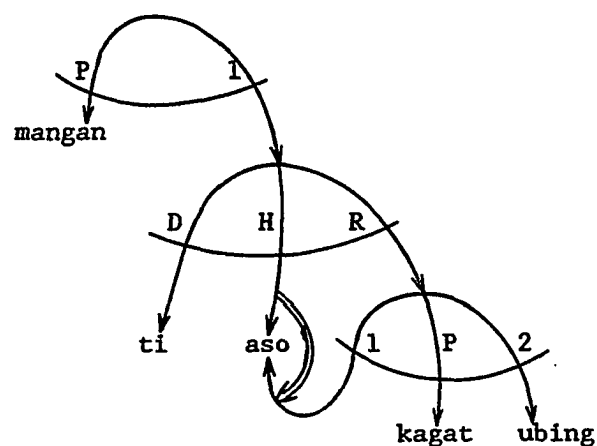
b. mang-mangan ti aso a n-ag-kagat
 PROG-APV:eat ART dog LKR CM-APV-bite

ti ubing
 ART child

'The dog that bit the child is eating.'

Any nominal in the upstairs clause may relativize. However, this nominal must be the final absolutive of the relative clause. Sentence (15b) shows that the attempt to use the final ergative of the relative clause as the head noun is ungrammatical.

(15) a. *



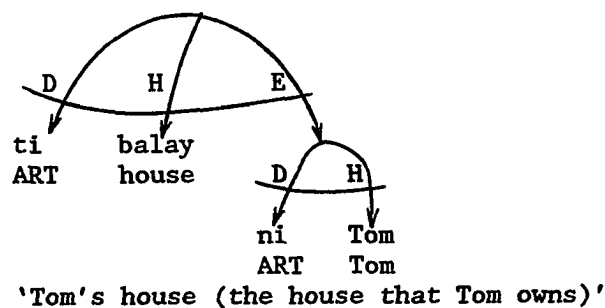
- b. *mang-mangan ti aso a k-in-agat ti ubing
 PROG-APV:eat ART dog LKR AffV:CM-bite ART child
 'The dog that bit the child is eating.'

Thus in the process of relativization, the initial relations of the relative clause are first determined through semantics and pragmatics. The relative clause then undergoes advancements or demotions as necessary so that the relativized nominal is the final absolutive.

5.1.8. Possession and embedded noun phrases

A noun phrase may embed a noun phrase, as follows:

(16)



Embedding is used to indicate possession, as in the example above. Embedded noun phrases are also used as a type of modification of the head noun:

- (17) ti ruar ti ili
 ART out ART town
 'the outside (edge) of town'

Finally, pronouns may substitute for the embedded NP, cliticizing onto the head noun.

- (18) b. ti balay-ko
 ART house-1sERG
 'my house'

5.1.9. Clauses as the head of H arcs

This thesis posits that clauses may head H arcs, a concept developed in Chapter 6 to account for several types of constructions.

5.2. Ilocano verbal morphology

Descriptions of the morphology of Philippine verbs have proven to reach a complexity requiring complete doctoral dissertations for analysis and description (e.g., Carrier 1979). Among Filipinos, Ilocano has built a reputation of having one of the more complicated morphological systems. This study is limited to a sketch of the more

major components, sacrificing a more complete examination in favor of presenting a broader overview of other aspects of the language.

The relations in (19) are sufficient for describing the Ilocano verb. It must be reiterated that RG has not developed a formal means of describing the verb, and these relations are suggestions only.

- (19) V Voice relation
 H Head relation
 Asp Aspect relation
 af Advancement flag relation

Frantz (1985) proposes that the head of a P-arc will be a node containing relations such as those above. Hence a typical verb might have the RN of (20a).

- (20) a. Asp Asp V H af
 CM Apt. AffV kabil adv
 n- mang- i- kabil -an

- b. n-a-i-kabil-an
 CM-Apt-AffV-put-adv
 'was able to put'

Basic verb constituent order follows (21).

- (21) Verb CO = Asp(CM) Asp V Asp(prog) H af

The middle aspect position in (21) may be headed by either an Aptative, Habitual, or Associative morpheme. Thus a verb can have at most three aspects, two of which are complete and progressive action.

Each component of (21a) will be described in the following sections.

5.2.1. Voice

The most prominent of the components of the verb, besides the root, is the voicing. The clausal requirements defining the voices were given in Chapter 4. The voice morphemes are repeated in (22). As previously stated, the usage of a particular morpheme from the Affiliate Voice is semantically conditioned.

(22) Unaccusative Voice	ma-
Unergative Voice	ag-
Antipassive Voice	-um-
Affiliate Voice	i-, -en
Oblique Voice	pag-

infixes follow the first consonant of the root; if there is no initial consonant, then they are placed in the word-initial position.

(23) -um- + langoy	= lumangoy	'to swim across'
-um- + ay	= umay	'to come to'

The positioning of prefixes and suffixes is straight-forward.

Because the voices have been illustrated in Chapter 4, examples will not be repeated.

The voice morphemes may be altered in the presence of verbal aspects. (These aspects are defined in a later section.)

- (24) ag- or -um- → -g / on verb root with causative
 → ka- / in presence of aptative aspect
 → ∅ / in presence of Assoc. and Hab. aspects
- pag- → p- / in presence of Apt., Assoc., and Hab. aspects
- i- → optional / in presence of Apt, Assoc., and Hab. aspects

5.2.2. Complete aspect

Ilocano recognizes actions as being either complete or incomplete. Complete aspect is abbreviated in the examples as CM. Incomplete aspect is unmarked, and is used for both present and future, as well as for imperative and infinitival constructions. CM consists of the morpheme n-, which is subject to the two rules in (25), which state that when n- is added to the Affiliate voice i-, the morphemes metathesize to become in-. Further, if it is in the presence of a causative, it becomes an infix.

- (25) a. Aspect metathesis
 n i
 1 2 → 2 1

- b. Aspect infixation
 n- → -in- / causative or oblique
- c. Nasal deletion
 N → ∅ / n \$ _

These first two rules are illustrated below.

(26)	CM + ag+langoy	CM + i+kabil	CM + CAUS+kabil
	n + ag+langoy	n + i+kabil	n + pa+kabil
A Met.	-----	in\$ kabil	-----
A Inf.	-----	-----	pina\$ kabil
	naglangoy	inkabil	pinakabil
	'swam'	'put'	'cause to put'

Nasal deletion accounts for the completed aspect form in (27) of the Unaccusative voice.

(27)	CM + UnAV + turog
	n + ma + turog
Nasal deletion	n\$ a\$ turog
	naturog
	'slept'

Finally, the Absolutive voice formation of complete aspect is irregular, as seen in (28). This example also provides an example of the meaning resulting from addition of the complete aspect morpheme.

(28) Complete aspect: Antipassive voice
complete(-um-) → -imm-

a. g-um-atang-ak ti bado
1-APV-buy-1sABS ART clothes
'I buy clothes.'

b. g-imm-atang-ak ti bado
1-APV:CM-buy-1sABS ART clothes
'I bought clothes.'

To summarize, there are four rules governing the formation of the complete aspect marker na-. These are (1) Tense metathesis, (2) Tense infixation, (3) Nasal deletion, and (4) Antipassive irregularity.

5.2.3. Associative, Aptative, and Habitual aspects

Associative aspect involves the actor performing the action with another entity, which may be expressed overtly through coordination in the subject. Aptative aspect implies the ability of the actor to perform the action. Habitual aspect involves a customarily repeated action.

(29) Aspectual morphemes

- | | |
|----------------|-------|
| a. Associative | maki- |
| b. Aptative | ma- |
| c. Habitual | mang- |

The meanings of these aspects are illustrated below.

(30) a. No aspect
g-um-atang-ak ti mangga
APV-buy-1sABS ART mango
'I will buy a mango.'

- b. Aptative aspect
 ma-ka-gatang-ak ti mangga
 Apt-APV-buy-1sABS ART mango
 'I can buy a mango.'
- c. Habitual aspect
 mang-gatang-ak ti mannga
 Hab:APV-buy-1sABS ART mannga
 'I normally buy mangos.'
- d. Associative aspect
 maki-gatang-ak ti mangga
 Soc:APV-buy-1sABS ART mango
 'I (and someone) will buy a mango.'

The associative aspect form is subject to (31).

(31) maki → ki / Causative, Hab., or Apt. aspect.

5.2.4. Progressive aspect

Progressive aspect is expressed by reduplication of the verb root. Reduplication involves a repetition of the first phonemes of the root, corresponding to a (C)VC pattern.

(32) progressive(adal) = adadal 'learning'
 progressive(gatang) = gatgatang 'buying'

Progressive has the semantics of specifying a continuing action, which

may be either complete or incomplete. Progressive is abbreviated in the examples as PROG.

- (33) a. Incomplete
 i-kabil-na dagi-ti kamatis idiy lamesa
 AffV-put-3sERG PL-ART tomato LOC table
 'He will put the tomatoes on the table.'
- b. Incomplete-Progressive
 i-kab-kabil-na dagi-ti kamatis idiy lamesa
 AffV-PROG-put-3sERG PL:ART tomato LOC table
 'He is putting the tomatoes on the table.'
- c. Complete
 i-n-kabil-na dagi-ti kamatis idiy lamesa
 AffV-CM-put-3sERG PL:ART tomato LOC table
 'He put (one action) the tomatoes on the table.'
- d. Complete-Progressive
 i-n-kab-kabil-na dagi-ti kamatis idiy lamesa
 AffV-CM-PROG-put-3sERG PL-ART tomato LOC table
 'He was putting (repeated action) the tomatoes on the table.'

5.2.5. Causative

The causative morpheme is pa-. Causative union is analyzed as the addition of the verb root pa- into the main verb root. Each verb root may carry its own aspects and voice marking, leading to more complicated forms:

- (34) n-ang-pa-ki-manejo
 CM-Hab-CAUS-Soc-drive
 'always caused to drive with (someone)'

Examples and analysis are given in the next chapter.

5.3. Ilocano pronouns

5.3.1. The pronoun sets

Ilocano clauses retain one vestige of the marking of case on noun phrases through the pronominal system. There are five pronoun sets, as given in (35). The sets are given names corresponding to the type of nominal for which they substitute; for example the Ergative pronoun set (ERG) would substitute for an ergative noun phrase.

(35) Ilocano Pronoun Sets

<u>PERSON/NUM</u>	<u>ABS</u>	<u>FULL-ABS</u>	<u>ERG</u>	<u>OBLIQUE</u>	<u>POSSESSIVE</u>
1sg	ak	siak	k	kaniak	kukuak
2sg	ka	sika	m	kenka	kukuam
3sg	∅	isuna	na	kenkuana	kukuana
ldual	ta	data	ta	kadata	kukuata
linclusive	kami	dakami	mi	kadami	kukuami
lexclusive	tayo	datayo	tayo	kadatayo	kukuatayo
2pl	kayo	dakayo	yo	kadakayo	kukuayo
3pl	da	isuda	da	kenkuada	kukuada

The Absolutive pronouns are used to substitute for final absolutive noun phrases. (Note: To provide clear examples in the following discussion, noun phrases are replaced by first or second person pronouns. In addition, the ERG and ABS pronouns are represented by the orthographic convention of appending them to the end of the word they follow. Both the ergative and the absolutive pronouns cliticize to the left-most element of the verb phrase, thus varying the word order seen in the discussion of the basic clause.) The following examples

illustrate the case of pronouns in transitive and intransitive clauses. Intransitive example (37c) shows the ill-formedness of substituting an Ergative pronoun for an Absolutive noun phrase.

(36) a. kita-en ti aso ti lalaki
 see-AffV ART dog ART man
 'The dog sees the man.'

b. kita-en-ak ti aso.
 see-AffV-1sABS ART dog.
 'The dog sees me.'

c. kitaen-k ti aso
 see-AffV-1sERG ART dog
 'I see the dog.'

(37) a. n-ag-digos ti babai
 CM-UnEV-bathe ART woman
 'The woman bathed.'

b. n-ag-digos-ak
 CM-UnEV-bathe-1sABS
 'I bathed.'

c. *n-ag-digos-k
 CM-UnEV-bathe-1sERG
 'I bathed.'

The shorter, or bound ABS form is the one most commonly used; the Full-Absolutive, or free form, is used either in single-word responses (38b) or for emphasis (38c).

- (38) a. n-ag-digos ti babai
 CM-UnEV-bathe ART woman
 'The woman bathed.'
- b. sinno ti n-ag-digos? Isuna.
 who ART CM-UnEV-bathe 3sFULL-ABS
 'Who bathed?' 'She (did).'
- c. Isuna ti n-ag-digos!
 2sFULL-ABS ART CM-UnEV-bathe
 'She is the one who bathed!'

The oblique pronoun set is used to substitute for prepositional phrases, such as are used in final-3 and benefactive noun phrases.

(39) Final-3 noun phrase substitution

- a. i-n-ted ti babai ti bado
 AffV-CM-give ART woman ART clothes

 ken ni Maria.
 to ART Maria.

 'The woman gave the clothes to Maria.'
- b. i-n-ted ti babai ti bado
 AffV-CM-give ART woman ART clothes

 kenkuana.
 3sOBL

 'The woman gave the clothes to her.'

(40) Benefactive noun phrase pronoun substitution

- a. g-imm-atang ti babai ti bado para
1-APV:CM-lbuy ART woman ART clothes for

ken ni Maria.
to ART Maria.

'The woman bought the clothes for Maria.'

- b. g-imm-atang ti babai ti bado para
1-APV:CM-lbuy ART woman ART clothes for

kenkuana.
3sOBL

'The woman bought the clothes for her.'

The ergative pronoun set has two main functions. First, it is used for the subject of finally transitive clauses and for chômeurs.

- (41) a. adal-en ti ubing ti pusa.
study-AffV ART child ART cat
'The child will study the cat.'

- b. adal-en-k ti pusa
study-AffV-3sERG ART cat
'I will study the cat.'

- (42) a. s-um-ungbat ti lalaki ti baket
APV-answer ART man ART woman
'The man will answer the woman.'

- b. s-um-ungbat-ko ti lalaki
APV-answer-2sERG ART man
'The man will answer you.'

Secondly, a possessed noun is signalled by the cliticization of an ergative pronoun to the head noun. In this case, the pronoun is substituting for an embedded noun phrase.

(43) a. m-apan kayo idiay balay ni Tom
 APV(Irr)-go 2p:ABS LOC house ART Tom
 'You all will go to Tom's house.'

b. m-apan kayo idiay balay-ko
 APV(Irr)-go 2p:ABS LOC house-1sERG
 'You all will go to my house.'

The possessive pronoun set is formed through the addition of the morpheme kukua to the ergative pronoun set. It is used to substitute for possessive noun phrases for these possessive noun phrases.

(44) balay-ko dayta. kukua-k dayta.
 house-1sERG that POSS-1dERG that
 'That is my house.' 'That is mine.'

5.3.2. Cliticization and morphophonology

The pronouns are subject to the rules in (45), by which a root-final nasal is eliminated, or a vowel may be added.

(45) a. Nasal deletion

$$C \longrightarrow \emptyset / _ \$ C \#$$
 [+nas]
 [-bck]

b. Vowel insertion
 $\emptyset \longrightarrow \begin{matrix} V \\ [+rnd] \\ [-hi] \end{matrix} / C \ \$ C \ ___ \#$

These rules are demonstrated in the following derivations. Rule (45a) feeds (45b).

(46) a. 'I think'

Underlying representation	panunotan\$ <u>k</u>
Nasal deletion	panunota\$ <u>k</u>
Vowel insertion	-----
Surface representation	panunotak

b. 'I wash'

Underlying representation	ibasa\$ <u>k</u>
Nasal deletion	-----
Vowel insertion	-----
Surface representation	ibasak

c. 'my house'

Underlying representation	balay\$ <u>k</u>
Nasal deletion	-----
Vowel insertion	balay\$ <u>ko</u>
Surface representation	balayko

Orthographic conventions dictate that the language be written with phonemic, rather than morphophonemic representations. This includes the ergative pronouns (-k and -m) as well as other morphemes discussed in the verbal morphology section. This convention is followed throughout this thesis.

Absolute and ergative pronouns cliticize to the leftmost element of the verb phrase, whether to the verb itself, an adverb,

or the negation particle. Thus in (47a) the object-clitic -k has jumped over the subject to cliticize on the verb. In (47b) it has moved from the object position to the negation particle. (Verb phrases components, (47b) and (47b), are discussed in the next section.)

(47) Examples of pronoun cliticization

a. s-imm-ardeng-ko ti babai
CM:APV-answer-1sERG ART woman
'The woman answered me.'

b. saa-k a s-imm-ardeng ti babai
NEG-1sERG Lkr CM:APV-answer ART woman
'The woman did not answer me.'

c. saan-ak a g-imm-atang ti bado.
neg-1sABS LKR CM:APV-buy ART clothes
'I didn't buy the clothes.'

5.4. The verb phrase

The verb phrase is represented similarly to the noun phrase, where adverbs are added through the addition of P-arcs in lower P-sectors. The first P-sector has arcs for the voice and aspects of the main verb. An Ilocano example is provided in (48), with its corresponding RN.

(48) a.		Asp	V	H	
	P	Asp	V	H	
	P	chó	Asp	V	H
	NEG	saayat	CM	UnEV taray	

- b. saan a na-saayat a n-ag-taray
 NEG Lkr UnAV-good Lkr CM-UnEV-run
 'To not have been good to run'

Negation is posited as being a constituent of the verb phrase because it acts as a unit with the other phrase members in several ways. First, pronouns cliticize to the left-most element of the verb phrase. If there are words to the left of the negation morpheme, the pronouns still cliticize to the negation morpheme, rather than to the words left of it. Second, where there is left dislocation, such as with the head of the relative clause, the negative morpheme remains with the verb. That is, the head of the relative clause will not separate the elements of the verb phrase.

The rule formulated for the linking particle is applicable in the verb phrase. The rule accounting for affixation on NP modifiers likewise accounts for the affixation on VP modifiers. The example above illustrates that these previous rules do indeed apply to the verb phrase.

Word order in the verb phrase is accounted for through the expansion of the former verb morphology word order generalization in (49).

- (49) Ilocano predicate constituent order:
 WO = P cho(s) Asp(CM) V Asp Asp(prog) H af

A sentence is negated with the negation morpheme (di or saan).

Di is used as an aptative negative; the action is not able to occur.

Examples follow.

- (50) a. M-apan-ak idiyay Manila.
 APV(irr)-go-1sABS to Manila
 'I will go to Manila.'
- b. Saan-ak a m-apan idiyay Manila.
 NEG-1sABS LKR APV-go to Manila.
 'I will not go to Manila.'
- c. Di-ak a m-apan idiyay Manila.
 NEG-1sABS LKR APV-go to Manila
 'I will not be able to go to Manila.'

5.5. Prepositional and benefactive phrases

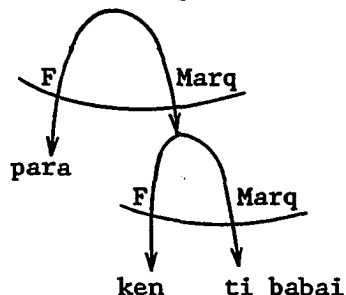
The prepositional phrase has as its constituents a preposition and a noun phrase. (51) shows an example of the Ilocano prepositional phrase, and the corresponding relational diagram. The relational signs Flag and Marquee are taken from Johnson and Postal (1980:602).

(51) Ilocano Prepositional Phrase

- a. F Marq
- ken ti baket
- b. ken ti baket
 to ART woman
 'to the woman'

The benefactive phrase is composed of a prepositional phrase and the word para. This is represented in a multiple node diagram, as in (52).

(52) Benefactive phrase



para ken ti babai
 for to ART woman
 'for the woman.'

The two nodes account for the result of substituting a pronoun in the benefactive phrase, where the downstairs phrase is represented by the pronoun.

(53) para kaniak
 for 1sOBL
 'for me'

5.6. Summary

This chapter described the expansion of noun phrases, predicates, and verb phrases, with a discussion and illustration of each element of these clause constituents. It also described the use and form of Ilocano pronouns, and the form of prepositional and benefactive phrases.

CHAPTER 6

MORE COMPLEX CLAUSAL STRUCTURES

It is gratifying to find that the parameters defined during the elementary stages of an analysis continue to apply in more complex realms. Such is the case in moving to more complex constructions in Ilocano. This chapter begins by defining the few concepts that must be built from previous chapters, and then shows their application in the various constructions.

6.1. Nga and ti

The particles nga and ti have long been baffling to those seeking an understanding of Ilocano. The preceding chapter posited simple explanations for each particle: ti is a determiner and the nga is a particle occurring in complementation and modification.

This chapter claims that the explanations posited for these particles in simple clauses and phrases apply to more complex constructions. The goal is to understand the difference between the clauses in (1).

- (1) a. kayat-ko a mangan
 want-1sERG LKR eat
 'I want to eat.'
- b. kayat-ko ti mangan
 want-1sERG ART eat
 'My want is that I eat.'

The linking particle in (1a) is in the environment of complementation, similar to the relative clause formation in noun phrases. This is the subject of the next subsection; this thesis posits that the ti in (1b) is, as in other areas in syntax, a determiner in a noun phrase. The following section illustrates constructions based on this noun phrase embedding.

6.2. Complementation

As mentioned in Chapter 2, complementation is represented in an RN by a clause node heading an arc in another clause.

Complements in Ilocano generally require a copy pronoun in the downstairs (lower) clause. Only questions and adda complements (covered momentarily) are exempt from this requirement. Consider the following progression, where the copy pronouns are underlined:

- (2) a. d-i-n-anog ni Joe ni Bill.
 AffV-CM-hit ART Joe ART Bill
 'Joe hit Bill.'

b. im-baga ni Sam ken ni Joe a danog-en-na
 APV:CM-tell ART Sam to ART Joe LKR hit-AffV-3s:ERG

ni Bill.
 ART Bill

'Sam told Joe to hit Bill.'

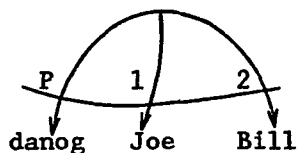
c. k-i-n-ayat ni Jane a ni Sam i-baga-na
 AffV-CM-want ART Jane LKR ART Sam AffV-tell-3s:ERG

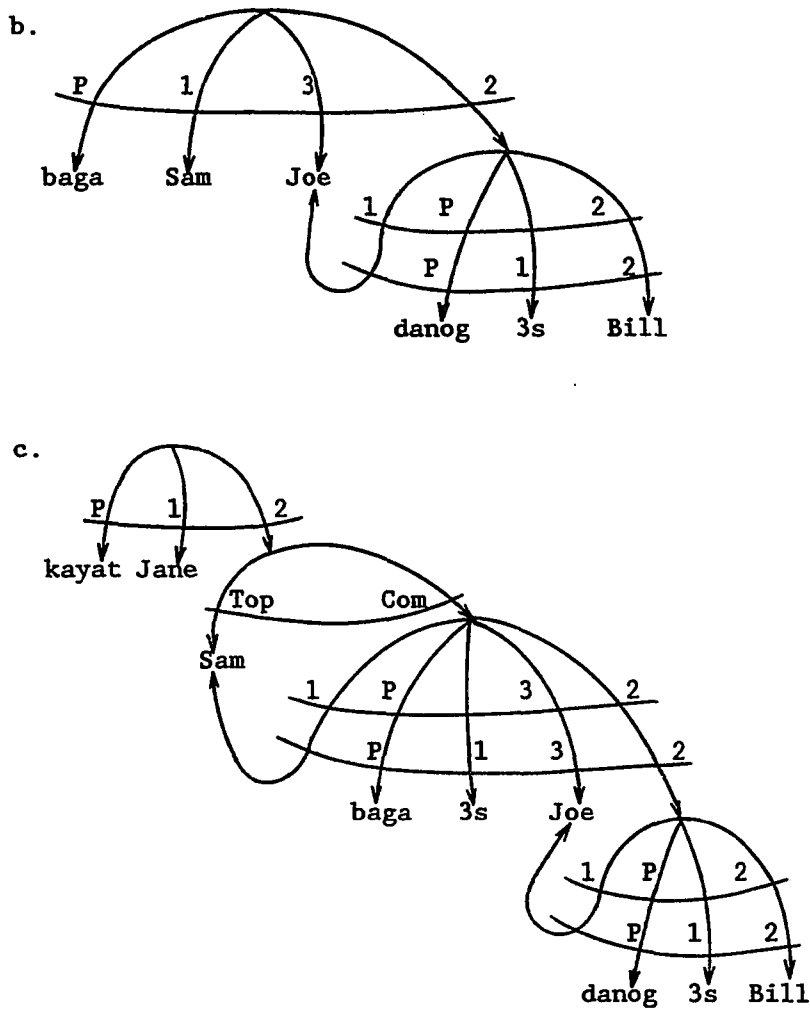
ken ni Joe a danog-en-na ni Bill.
 to ART Joe LKR hit-AffV-3s:ERG ART Bill

'Jane wanted Sam to tell Joe to hit Bill.'

Thus each of the downstairs verbs (danog in (2b), baga and danog in (2c)) requires a pronoun of its subject. Downstairs predicates in complementation also have a lack of completed aspect. The tense-aspect of the entire sentence is carried in the upstairs verb. (The English sentence translations show the same phenomenon.) Relational diagrams for these three follow:

(3) a.





The topic (Top) and comment (Com) relations in (3c) are a means of fronting that will be explained in a later section of this chapter.

The existential verb adda provides a twist to the usual syntax of complementation, in that the linker follows, rather than precedes, the downstairs predicate.

- (4) *adda n-a-tiliw-ko a pusa.*
 exist CM-Apt:AffV-catch-1sERG LKR cat
 'It is the case that I was able to catch a cat.'

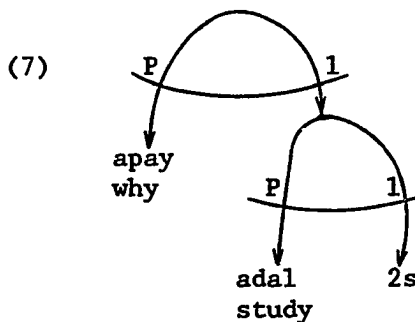
This phenomenon seems to be peculiar to the verb *adda*, and is best explained as part of the verb's morphophonological requirements:

(5) *Adda* complementation

If the verb *adda* is a predicate in a clause containing a complement, then (1) the linking particle and the complement predicate metathesizes, (2) any clitics remain with the complement predicate, and (3) if the determiner *ti* follows the linker, it is deleted.

A final occurrence of the complement construction is with 'Why' questions. Like other complement constructions, the linking particle separates the downstairs (complement) and upstairs clauses.

- (6) *apay nga ag-ad-adal-ka*
 why LKR UnEV-PROG-study-1sABS
 'Why are you studying?'



'Why' questions are an example of question formation involving complementation. Questions may also be formed using the method developed in the next section in which clauses are the heads of noun phrases.

6.3. Constructions involving a noun phrase

Embedding clauses in a noun phrase in the manner to be described is not a typical analysis, but is useful in accounting for the many types of clauses available in Ilocano.

Absolutive fronting, sometimes referred to as clefting (for example see Bell (1983), Gerdts (to appear)), describes the difference of (8b) from (8a). This clefting is required whenever the Locative is the final absolutive, and is used for emphasis in other cases. In clefting, the absolutive appears in the sentence-initial position, with the particle ti separating it from the remainder of the sentence.

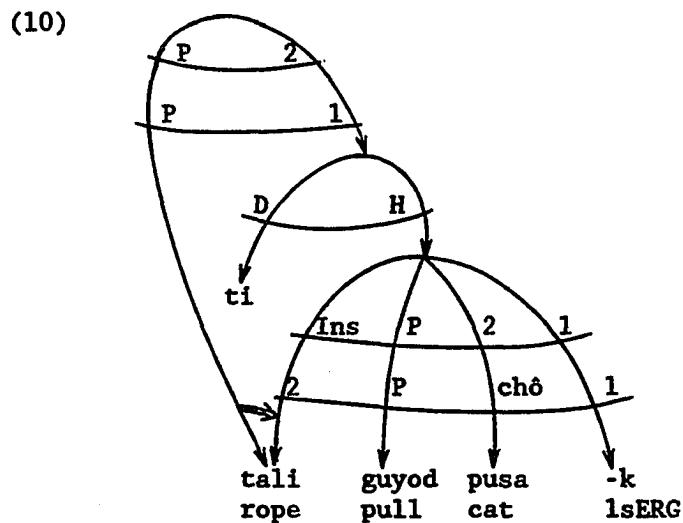
(8) a. p-in-ang-guyod-ko daydi tali ti pusa.
 CM-10blV-pull-1sERG that rope ART cat
 'I pulled the cat with that rope.'

b. daydi tali ti p-in-ang-guyod-k ti pusa.
 that rope ART CM-10blV-pull-1sERG ART cat
 'The rope is what I pulled the cat with.'

The claim presented here is that (8b) has a structure that is analogous to that of the the stative clauses presented in Chapter 4, such as in (9).

- (9) maestro ti lalaki
 teacher ART man
 'The man is a teacher.'

Thus in (8b) daydi tali is the predicate and the rest of the sentence a noun phrase, in which a clause heads the arcs that would normally be headed by a noun alone. That is, each relational diagram will begin with an unaccusative matrix, as in (10).



An alternate analysis would claim that rather than having an upstairs unaccusative clause, there would be an upstairs matrix consisting of a Topic-arc and Comment-arc. That is, the final accusative would be topicalized. A rule would then be written stating that when the final accusative is topicalized, the particle ti must be inserted. Though this explanation might account for the above, it is difficult to

imagine how such topicalization would handle (1b) (repeated below), where no obvious fronting has occurred.

- (11) *kayat-ko ti mangan*
 want-1sERG ART eat
 'My want is that I eat.'

This latter analysis would require fronting of both the verb *kayat* and the subject *-ko*; thus two topic arcs. That the fronting of the subject is not due to its properties as a clitic is shown in (12).

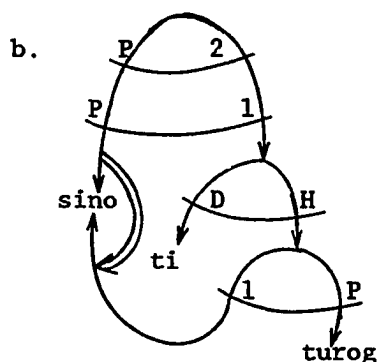
- (12) *kayat ti babai ti mangan*
 want ART woman ART eat
 'The woman wants that she eats.'

Such an RN becomes complicated, because constraints must specify that exactly two topic arcs are needed for this clause, and the ordering of the two topic arcs on the surface. And since the topic arc scheme is used for the fronting of arcs relating to time or reason, an exclusion of these latter GRs would be necessary in stating when the particle *ti* appears.

The former analysis does not have these complexities. Furthermore it has the parallel of the unaccusative clause, which gives it a correct intuitive feel. Thus it is accepted as the better explanation of clefting.

Questions formed through complementation were described earlier. Other content questions use the noun phrase construction under current discussion. Thus (13a) has the relational network of (13b).

- (13) a. sino ti ma-ka-turog
 who ART Apt-APV-sleep
 'Who is sleepy?'



An alternate analysis is to posit a Quest overlay (similar to a Topic overlay) instead of the upstairs unaccusative matrix, and to state a rule inserting ti in the presence of that overlay. There is no problem with this analysis if it is applied only to question formation (and not to clefting), except that it adds unnecessarily to the description of the language.

6.4. The Topic overlay

The Topic overlay is here claimed to involve any fronting that has not been covered in the preceding discussion. It thus involves the fronting of setting information and of noun phrases in left-dislocation.

Following are examples of the fronting of setting information.

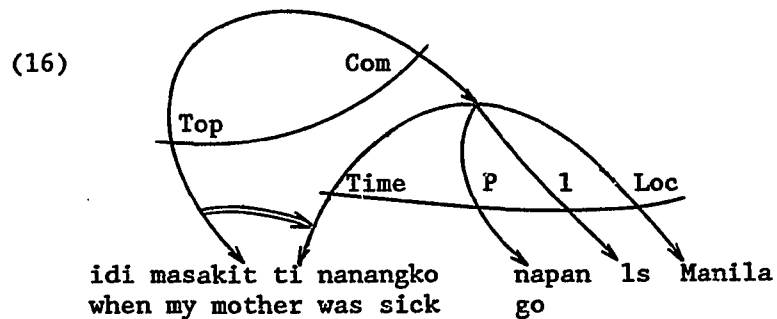
- (14) a. n-apan-ak diay Manila idi tawen
 CM-go-lsABS LOC Manila PST year
 'I went to Manila last year.'
- b. idi tawen n-apan-ak diay Manila
 PST year CM-go-lsABS LOC Manila
 'Last year I went to Manila.'
- (15) a. n-apan-ak diay Manila idi masakit ni
 CM-go-lsABS LOC Manila PST sick ART

nanang-k.
 mother-lsERG

 'I went to Manila when my mother was sick.'
- b. idi masakit ni nanang-k n-apan-ak
 PST sick ART mother-lsERG CM-go-lsABS

 diay Manila.
 LOC Manila.

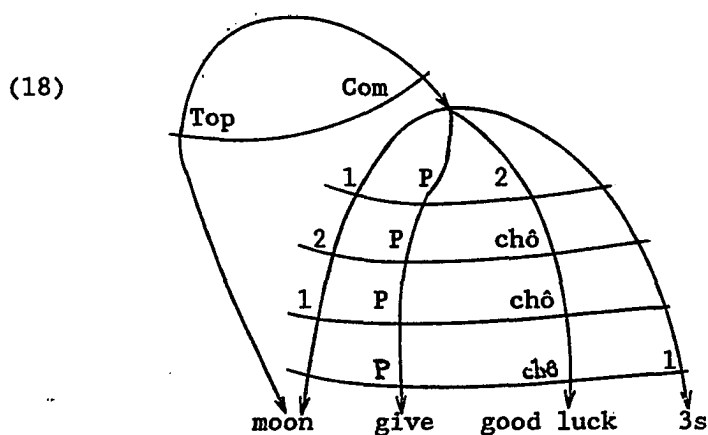
 'When my mother was sick I went to Manila.'



The second type of fronting may only take place with final subjects. This left-dislocation construction requires a pronoun copy of the subject. (In (17) the absolutive pronoun for third person is null on the surface.) Recall from Chapter 2 that pronoun copy is represented through arcs having no GRs in initial or final strata as in (17).

(17) a. ti bulan mang-ted-∅ ti na-sayaat a gasat
 ART moon Hab:APV-give-3sABS ART UnAV-good LKR luck
 'The moon it gives good luck.'

b. mang-ted ti bulan ti na-sayaat a gasat
 Hab:APV-give ART moon ART UnAV-good LKR luck
 'The moon gives good luck.'



It is the contrast of the above with the clause in (19a) that dictates the need to distinguish between a Topic-arc and the clause embedded in the noun phrase.

- (19) a. ti bulan ti mang-ted ti na-sayaat a gasat
 ART moon ART Hab:APV-give ART UnAV-good LKR luck
 'The moon is what gives good luck.'
- b. ti bulan mang-ted ti na-sayaat a gasat
 ART moon Hab:APV-give ART UnAV-good LKR luck
 'The moon gives good luck.'

Other examples of left-dislocation are given below, along with their corresponding nonfronted clause.

- (20) a. Dagi-ti ubbing ag-rakit-da.
 PL-ART child UnEV-raft-3p:ABS
 'The children they play with rafts.'
- b. ag-rakit dagi-ti ubbing
 UnEV-raft PL-ART child
 'The children play with rafts.'
- (21) a. daydi pusa saan a i-n-aramid-na ti dakes.
 that cat NEG LKR AffV-CM-do-3s:ERG ART bad
 'That cat he had not done anything bad.'
- b. saan a i-n-aramid daydi pusa ti dakes
 NEG LKR AffV-CM-do that cat ART bad
 'That cat had not done anything bad.'

6.5. Causatives

The causative morpheme is pa-. There are four possible constructions in which a causative may be formed in Ilocano using this morpheme, as exemplified in (22). The difference in the meanings of the

clauses is subtle in most cases, differing mainly in which nominal is in focus (that nominal is underlined in the following examples).

(22) Ilocano causative clauses

- a. \emptyset -pina- \emptyset -awit-da ti aso ti ugsa
 AffV-CAUS:CM-AffV-carry-3pERG ART dog ART deer
 'They made the dog carry the deer.'
- b. \emptyset -pina-g-awit-da ti aso ti ugsa
 AffV-CAUS:CM-AntV-carry-3pERG ART dog ART deer
 'They made the deer be carried by the dog.'
- c. n-ag-pa- \emptyset -awit-da ti aso ti ugsa
 CM-APV-CAUS-AffV-carry-3pABS ART dog ART deer
 'They made the dog carry the deer.'
- d. n-ag-pa-g-awit-da ti aso ti ugsa
 CM-APV-CAUS-APV-carry-3pABS ART dog ART deer
 'They made the deer be carried by the dog.'

The structure of these predicates is potentially as in (23), where the brackets group elements with their corresponding verb root.

- (23) Verb structure = [Asp(CM) Asp V Asp(prog) CAUS] +
 [Asp(CM) Asp V Asp(prog) ROOT] + adv

This ordering may be shortened, however, on the basis of what is actually observed in Ilocano. The underlining in (24) indicates a metathesis of the two morphemes. This reduced structure probably reflects constraints to avoid the semantic overload that (23) would allow.

(24) Verb structure = [Asp(CM) Asp V Asp(prog) CAUS] +
 [V Asp ROOT] + adv

The following discussion is concerned with the analysis of the four clauses in (22). For this purpose the voice morphemes are vital, in that they show the marking of both the inner P-sector (in this case, 'the dog carried the deer') and the causative P-sector ('They made X'). (The inner clause is made up of those nominals having relations in the first P-sector, using terminology developed in Chapter 2). That each P-sector has voice marking accounts for the existence of four causative types.

The relational network for (22a) is claimed to be that of (25).

(25)

P	1	1	P	2
		3	chô	2
CAUS 3p dog carry deer				

Gerdts (to appear) claims that Ilocano is like other languages including French, Japanese, and Turkish in that the 1 of an inner transitive clause reevaluates to a 3 in causative union, as in (25), and to a 2 in intransitive clauses, as in (26).

(26) Intransitive causative union

a.			P	1
	P	1	chô	2
CAUS woman swim child				

- b. Ø-pina-g-langoy ti babai ti ubing
 AffV-CAUS:CM-UnEV-swim ART woman ART child
 'The woman made the child swim.'

This generalization is summarized in the Ilocano causative revaluation rule:

- (27) Ilocano causative revaluation rule
 In causative union, the 1 of the inner clause reevaluates to a 2 if the inner clause is intransitive, and to a 3 if it is transitive.

Returning to the examination of (22a), it can be seen through the relational network (reproduced in (28)) that both P-sectors are transitive. Only Antipassive and Unergative voices are overtly marked in causative union, either on the inner verb or on the causative verb, so that neither voice position shows the Affiliate voice morpheme.

- (28) a. 1 P 2
 P 1 3 chō 2
 CAUS 3p dog carry deer

- b. Ø-pina-Ø-awit-da ti aso ti ugsa
 AffV-CAUS:CM-AffV-carry-3sERG ART dog ART deer
 'They made the dog carry the deer.'

The sentence (22b) is reproduced in (29), with its corresponding relational network. This sentence has undergone the antipassive demotion (1-2) in the inner clause, so that the root awit is in the Antipassive voice; thus the voicing marking in (29b). The causative P-sector is

transitive, so that the Affiliate voice (\emptyset -morpheme) appears in the predicate-initial position.

(29) a.

		1	P	2
		2	P	chô
P	1	2	chô	chô
CAUS	3p	dog	carry	deer

b. \emptyset -pina-g-awit-da ti aso ti ugsa
 AffV-CAUS:CM-APV-carry-3sERG ART dog ART deer
 'They made the deer be carried by the dog.'

The third causative type (22c) involves the antipassive demotion in the causative P-sector (but not the inner P-sector).

(30) a.

		1	P	2
P	1	3	chô	2
P	2	3	chô	chô
P	1	3	chô	chô
CAUS	3p	dog	carry	deer

b. n-ag-pa- \emptyset -awit-da ti aso ti ugsa
 CM-APV-CAUS-AffV-carry-3sERG ART dog ART deer
 'They made the dog carry the deer.'

Finally, clauses are possible with the antipassive demotion on both inner and outer clauses, but the meaning is somewhat vague and unnatural. The grammaticality of this structure may be dependent on dialectic factors, or on verb class.

(31) a.		1	P	2
		2	P	chô
	P	1	2	chô
	P	2	chô	chô
	P	1	chô	chô
	CAUS	3p	dog	carry deer

- b. n-ag-pa-g-awit-da ti aso ti ugsa
 CM-APV-CAUS-APV-carry-3sERG ART dog ART deer
 'They made the deer be carried by the dog.'

Recalling sentence (22b), a difficulty in the Generalized Passive analysis may be discussed. The relational network of (31b) under the GP analysis is presented in (32). Since GP considers the g- morpheme to originate from transitive P-sectors, there is no advancement (or demotion) in the inner clause. Because there is no ag- morpheme in the causative P-sector, the passive 2-1 advancement must occur in that P-sector.¹

(32) a.		1	P	2
	P	1	3	chô
	P	chô	3	chô
	CAUS	3p	dog	carry deer

- b. Ø-pina-g-awit-da ti aso ti ugsa
 PASSIVE-CAUS:CM-NonAdv-carry-3sGEN ART dog ART deer
 'They made the deer be carried by the dog.'

This relational network results in the inner clause's initial subject being an indirect object in the final stratum. Simple pronoun

substitution of ti aso shows the incorrectness of this analysis, in that the case of this so-called final-3 nominal is the same as GP final-1s.

- (33) b. \emptyset -pina-g-awit-ka ti lalaki ti ugsa
 PASSIVE-CAUS:CM-NonAdv-carry-2s:NOM ART man ART deer
 'The man made the deer be carried by you.'

where NOM = Nominative case, as carried only
 by final 1s in the GP analysis.

Gerdts (to appear) states that current work by Bell and Perlmutter suggests a 3-2 advancement in the GP analysis to compensate for this problem, as in (34). This RN results in ti aso becoming a final-1, thus accounting for its case.

- (34)
- | | | | | |
|---|-----|-----|---|-----|
| | | P | 1 | 2 |
| P | 1 | chô | 3 | 2 |
| P | 1 | chô | 2 | chô |
| P | chô | chô | 1 | chô |
- CAUS 3p carry dog deer

This 3-2 advancement must then be constrained to only occur in this causative context, as there is no 3-2 advancement elsewhere in the language under the Generalized Passive analysis. Furthermore, this advancement has no morphological marking. An finally, the 3-2 advancement cannot stop, but must continue on as 3-2-1.

Thus the Generalized Passive analysis must posit an advancement not motivated in any other part of the grammar, with strict occurrence rules,

to account for this type of causative construction. Thus causatives like (22b) are evidence leading towards the conclusion that an Ergative-absolutive analysis is better equipped to handle Ilocano, and by extension, Philippine languages.

6.6. Questions revisited

Besides the two methods of question formation described above, the Yes/No question is mentioned for the sake of completeness. It has the same syntax as the corresponding verbal statement, relying on phrase-final, rising intonation to indicate that the utterance is a question.

- (35) ma-ka-taray-ka ti lima a kilometro?
 Apt-APV-run-2sABS ART five LKR kilometer
 'Are you able to run five kilometers?'

The RG representation of this type of question is uncertain. It is possible that it involves a Quest arc (similar to the Topic arc), in which Quest is headed by the predicate. If this is the correct analysis, then the predicate is already fronted, and the Quest arc would cause the rising intonation.

6.7. Summary

Where Chapter 5 covered the expansion of clause constituents such as the noun phrase, this chapter describes the expansions of clauses themselves. These expansions included various complementation construction, constructions in which clauses head H arcs, topic overlay constructions, causative union, and question formation.

NOTE

¹ The GP analysis, like the Absolutive analysis, follows the Ilocano causative revaluation rule.

CHAPTER 7

SUMMARY OF ILOCANO RULES

Following is a compilation of the rules introduced in the preceding chapters dealing with the language-specific phenomena of Ilocano, stated in the formalism introduced in Chapter 2. These rules describe only those phenomena that pertain to relational networks.

There are four types of rules, as summarized in (1). The keywords are interpreted as follows: LICET (French) indicates that the following arc may occur under the conditions of the rule. The ASSIGN CASE and ASSIGN VOICE rules assign case and voice to the arc head that meets the specified condition(s). Finally, REQUIRE indicates that a particular arc must occur under the specified conditions.

- (1) Form for language-specific rules:
 - a. IF (condition(s)) LICET (arc)
 - b. IF (condition(s)) ASSIGN CASE (case)
 - c. IF (condition(s)) ASSIGN VOICE (voice)
 - d. IF (condition(s)) REQUIRE (arc)

7.1. System of analysis

The Ilocano clause is analyzed under the Absolutive system, where the object of the transitive clause behaves similarly to the subject of the intransitive clause. This is different from a nominative-accusative language, such as English, in which subjects of both transitivity types behave in like manner. Several definitions are repeated from Chapter 2.

- (2) a. Transitive stratum
 IF (1 (a,b) (c_i))
 and if (2 (c,b) (c_i)),
 THEN stratum i is TRANSITIVE
- b. Intransitive stratum
 IF stratum i is not transitive,
 THEN stratum i is INTRANSITIVE
- c. Absolutive (abbrev. 'A')
 IF i is a transitive stratum,
 THEN the arc containing the atom (2(a,b)(c_i))
 is the absolutive in stratum i.
 IF i is an intransitive stratum,
 THEN the arc containing the atom (1(a,b)(c_i))
 is the absolutive in stratum i.
- d. Ergative (abbrev. 'E')
 IF i is a transitive stratum,
 THEN the arc containing the atom (1(c,b)(c_i))
 is the ergative in stratum i.

7.2. Sanctioned relational changes

There are six sanctioned relation changes: antipassive (1-2 demotion), 3-2, Ben-2, Ins-2, Loc-2, and 2-1 advancements. The 2-1 advancement is restricted only to those situations where it must occur to satisfy the Final 1 Law.

- (3) a. IF [1(a,b)(-,c_i)] THEN LICET [2(a,b)(c_{i+1},-)]
 b. IF [3(a,b)(-,c_i)] THEN LICET [2(a,b)(c_{i+1},-)]
 c. IF [Ben(a,b)(-,c_i)] THEN LICET [2(a,b)(c_{i+1},-)]
 d. IF [Ins(a,b)(-,c_i)] THEN LICET [2(a,b)(c_{i+1},-)]
 e. IF [Loc(a,b)(-,c_i)] THEN LICET [2(a,b)(c_{i+1},-)]
 f. IF [2(a,b)(-,c_i)]
 and there is no (1(-,b)(c_i)
 and there is no stratum c_{i+2},
 THEN REQUIRED [1(a,b)(c_{i+1},c_{i+1})]

7.3. Predicate voicing

There are five voices in Ilocano: Unaccusative, Unergative, Absolutive, Affiliate, and Oblique.

- (4) a. IF there is no [1(-,a)(c₁,-)],
 THEN ASSIGN VOICE unaccusative to node a.
 b. IF [1(-,a)(c₁,-)]
 and there is no [2(-,a)(c₁,-)]
 and there is no [2(-,a)(-,c_{final})],
 THEN ASSIGN VOICE unergative to node a.
 c. IF [1(b,a)(-,c_i)]
 and [2(b,a)(c_{i+1},-)],
 THEN ASSIGN VOICE antipassive to node a.

- d. IF [2(b,a)(c_i,-)]
 and either: [2(b,a)(-,c_{i-1})]
 or [3(b,a)(-,c_{i-1})]
 or [Ben(b,a)(-,c_{i-1})],
 THEN ASSIGN VOICE affiliate to node a.
- e. IF [2(b,a)(c_i,-)]
 and either: [Loc(b,a)(-,c_{i-1})]
 or [Ins(b,a)(-,c_{i-1})],
 THEN ASSIGN VOICE oblique to node a.

Under these definitions a list may be compiled of the voice corresponding to each sanctioned relational change.

(5) <u>Construction</u>	<u>Voice</u>
Unaccusative	Unaccusative
Unergative	Unergative
Antipassive	Absolutive
Nonadv. trans.	Affiliate
3-2 adv.	Affiliate
Ben-2 adv.	Affiliate
Ins-2 adv.	Oblique
Loc-2 adv.	Oblique

7.4. Structural bans

There are several constructions which are not permitted in Ilocano. These are somewhat surprising in that analogous constructions with other relations are permitted. The first ban requires that Locatives which have advanced to 2 must be coreferenced by a noun phrase from a higher matrix. The second

requires that instruments be advanced to a final absolutive. The term ban indicates that the structure is ungrammatical.

(6) a. Nonextracted Locative to Absolutive Ban
 If [Loc(b,a)(-,c_i)]
 and [2(b,a)(c_{i+1},c_{final})]
 then REQUIRED [H(b,d)(-,c_{final})]
 and d < a.

b. Final Instrument Ban
 If [Ins(b,a)(-,-)]
 then REQUIRED [2(b,a)(-,c_{final})]

7.5. Case assignment

Ilocano case assignment is straightforward. Absolutive nominals receive absolutive case, ergative nominals receive ergative case. Chomeurs also receive ergative case, while oblique nominals receive oblique case. Case is only apparent with pronouns in the surface structure. Formally:

(7) a. IF [A(a,b)(-,c_{final})]
 THEN ASSIGN CASE absolutive to node a.

b. IF [E(a,b)(-,c_{final})]
 or [Cho(a,b)(-,c_{final})]
 THEN ASSIGN CASE ergative to node a.

c. If [3(a,b)(-,cfinal)]
 or [Ben(a,b)(-,cfinal)]
 or [Loc(a,b)(-,cfinal)]
 or [Ins(a,b)(-,cfinal)]
 THEN ASSIGN CASE oblique to node a.

7.6. Verbal morphology

The voices have the morphemes listed below.

(8) Voice	Affix
Unaccusative	ma-
Unergative	ag-
Antipassive	-um-
Affiliate	i- / -en
Oblique	pag-

The verb may display a completed tense (n-), or a progressive (indicated through reduplication). The three allowed aspects are Social (maki-), Aptative (ma-), and Habitual (mang-). Causative (pa-) may also be affixed to the main verb. The various rules from Section 5.2 will not be repeated here.

7.7. Word order

Word order rules are written in terms of final grammatical relations.

- (9) a. Basic Clause word order
 P 1 2 3 chô Ben Ins Loc Temporal
- b. Noun phrase word order
 Flag Det P P-cho(s) 2 [Embed or RelCl]
- c. Overlay word order
 Topic Comment
- d. Verb phrase and morpheme order
 P cho(s) Asp(CM) Voice Asp Asp(Prog) H Adv-Flag

7.8. Marking of advancements

There are two rules applying to the marking of advancements, one defining the suffix, the other defining the exception. It is likely that the advancement suffix is not needed with Instrumental advancement because of redundancy: if an instrument is present it must be advanced. These are collapsed into one rule:

- (10) IF [GR(a,b)(-,c_i)
 and [2(a,b)(c_{i+1},-)]
 and GR is not a 2 or an Ins,
 THEN append -an to the predicate of node (b).

7.9. The linking particle

The linking particle nga occurs in two environments, as defined in (11).

(11) Occurrence of the Linking Particle:

a. Modification: If there exists the arc $[P(a,b)(c_x,c_y)]$ but no arc $[GR(a,b)(c_x,c_y)]$ where GR is a member of the set $\{1,2\}$, then the linking particle is inserted in the surface to the right of d.

b. Complementation: If there exists an arc $[GR(a,b)(c_w,c_{final})]$ where GR is a member of the set $\{1,2,3,Ins,Ben,Loc,R\}$, and if that arc heads a clause node, then the linking particle will be inserted in the surface to the left of the element heading that arc.

The particle ti was claimed to simply be an article heading a determiner arc of a noun phrase.

7.10. Sanctioned constructions

The constructions normally found in Relational Grammar descriptions of languages, such as the basic clause, complementation, relativization, causative union, and so on, exist in Ilocano. In addition, one new construction was posited, namely, the embedding of a clause as the head of a noun phrase. No rules beyond the informal statement above are required.

7.11. Arc erasure

Multiattachment of arcs is resolved either by pronoun copy or through arc erasure. The condition for arc erasure is defined in (12).

(12) Arc erasure

If $[GR_1(-,a)(-,c_{final})]$ and $[GR_2(-,b)(-,c_{final})]$ and $a > b$ where GR_1 may or may not equal GR_2 , THEN $[GR_2(-,b)(-,c_{final})]$ is erased.

7.12. Summary

This chapter has been a listing of all of the language-specific syntactic rules necessary for describing Ilocano, with the exception of verbal morphology, which was not repeated from Chapter 5.

CHAPTER 8

A COMPUTER MODEL

As the analyst delves deeper into a language, the number and complexity of his¹ syntactic rules expand to meet an ever increasing corpus of data. With each additional datum examined, one of several conditions exists:

- (1) a. The new datum is completely accounted for by existing rules.
- b. The new datum violates one or more of the existing rules.
- c. The new datum is beyond the scope of existing rules as formulated.

The analyst desires to recognize the occurrence of (1b) and (1c) so that he may make adjustments in his rules, always seeking the most complete description of his language.

Unfortunately, it is impossible for the analyst to remember both the data he has already studied and the precise formulation of his rules as he examines new data. It thus becomes easy for counterexamples to his rules to slip by unnoticed. Furthermore, once a counterexample has been detected, adjusting one aspect of a rule may affect its application on some other previously considered datum. Like pushing on a waterbed, distortion in other areas often results.

Computers are not capable of making these selective examinations of data and applications of rules. Inconsistencies in rules and incomplete analyses quickly surface as a computer applies a formal description to natural language data. Because the computer can remember where a human cannot, it can prove to be an effective tool in developing and verifying an analysis of a language.

This chapter is not a treatise on the use of computers in linguistic analysis. Nor is it an attempt to present recent advances in computational linguistics. It is simply the description of a program used solely for the purpose of testing this syntactic analysis of Ilocano. Its name, RGCHECK, stems from its purpose of checking an analysis in the Relational Grammar framework.

8.1. A description of the RGCHECK algorithm

8.1.1. Overview

At least two strategies exist for the computer verification of a grammatical analysis. The first is a 'Recognizer', an algorithm which simply reports on the conformity of input sentences to a given analysis. The second strategy, the 'Generator', first generates a surface sentence from a set of initial variables, and then compares the result with the expected, target sentence.

The RGCHECK program takes the latter approach. First, the computer is informed of the initial relational network and the relational changes to be performed for each specific sentence. The computer then generates a complete relational network using applicable RG principles. The resultant network is then checked against universal RG constraints. Once verified that the network is acceptable, language-specific syntactic rules are applied, such as those assigning case, voice, and word order. Finally, the surface string is filled with the lexical and morphological items defined in preceding steps. The computer then compares this result with the prespecified target string, with the goal that the two strings be identical. The process is pseudo-coded in (2).

(2) PSEUDO-CODE OF RGCHECK ALGORITHM

VARIABLES:

count - total number of target sentences.
 identical - total number of generated sentences
 identical to corresponding target sentences.

SET: count - \emptyset
 identical - \emptyset

INPUT LANGUAGE-SPECIFIC RULES

WHILE THERE ARE MORE SENTENCES TO GENERATE, BEGIN LOOP

INCREMENT count

INPUT:

-Target sentence
 -Initial Relational Network
 -Relational Changes to be performed

BUILD COMPLETE RELATIONAL NETWORK.

IF any RG Universals are violated,
 REPORT nature of violate, AND
 SKIP rest of loop.

APPLY LANGUAGE-SPECIFIC RULES.

IF any language-specific rules are violated,
 REPORT nature of violate, AND
 SKIP rest of loop.

APPLY ILOCANO MORPHOLOGY

IF Generated string identical to target string,
 INCREMENT identical
 ELSE REPORT the discrepancy.
 ENDLOOP

DISPLAY identical and count

RGCHECK is written in the C programming language, with 42k bytes of
 compiled code.

8.1.2. Input

As explained in the previous chapter, a relational network is best described as a set of atomic statements. However, for the operator to translate a sentence to such a set would be a very error-prone and tedious system. Consider that the sentence in (3a) would be represented by the arcs in (3b) and the required operation in (3c).

(3) a. ag-turog ti aso a k-imm-agat ti lalaki
 UNAV-sleep ART dog LKR APV:CM-lbite ART man
 'The dog that bit the man is sleeping.'

b. [P(b,a)(1,1)] [2(d,a)(1,1)]
 [r(turog,b)(1,1)] [P(e,d)(1,1)]
 [1(c,a)(1,1)] [r(kagat,e)(1,1)]
 [D(ti,c)(1,1)] [t(CM,e)(1,1)]
 [H(aso,c)(1,1)] [1(c,d)(1,1)]
 [D(ti,f)(1,1)] [H(lalaki,f)(1,1)]
 [2(f,d)(1,1)]

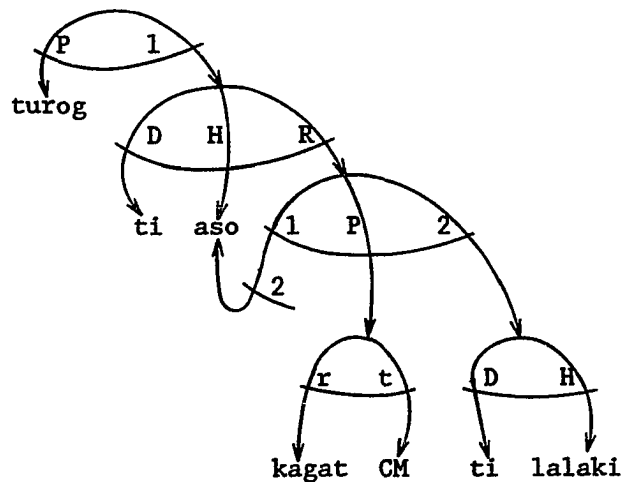
c. [1(c,d)(1,1)] ---> [2(c,d)(2,2)]

It was elected to have the input conform more closely in appearance to an actual relational network. Thus given the sentence in (3a), the computer input (4b) appears as the initial relational network (4a) turned somewhat sideways. (The partial stratum in (4a) indicates that the 1-2 demotion is occurring, and the computer must fill in the remaining relations in that stratum.)

A few conventions are employed in the input of (4b). Parentheses begin and end each matrix (such as a clause or noun phrase matrix).

The grammatical relation of an arc is placed before the semicolon; the arc head can then be either another matrix or a character string representing a lexeme. Coreferences are indicated through the use of $cr>N$ and $cr<N$, where the former symbol initializes a variable (N) with a node's value, and the latter symbol tells the computer that the head of an arc is the node referenced by that variable. This mechanism provides for the multiattachment of ti aso in (4a). Finally, operations to be performed are indicated following the 'o:' signal, in this case, 1 to 2. Given this simple representation, the computer is capable of filling the proper data structure with the variables necessary for generating sentences.

(4) a. Initial relational network



b. Computer input format

```

(
P: (
  r: turog
)
1: cr>1 (
  D: ti
  H: aso
  R: (
    o: 1-2.
    P: (
      r: kagat
      t: CM
    )
    1: cr<1
    2: (
      D: ti
      H: lalaki
    )
  )
)
)

```

8.1.3. Building the relational networks

Once an initial RN is input to the program, it is translated into the data structure used during most of the processing. In this structure, each matrix is represented as a table, the columns depicting an individual arc across the various strata, the rows representing the relations in each stratum.

(5) Representation of a single matrix

```

1 P 2
2 P chô --- stratum
1 P chô
(a) (b) (c)

```

```

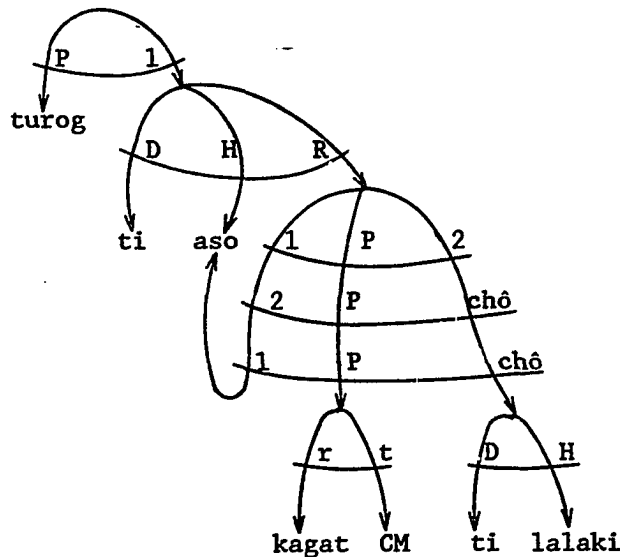
|
arc

```

The entire RN is then a list of tables, linked by the values of the arc heads. Thus in (5) the 1-2-1 arc heads entity (a), which is either another matrix or a lexeme.

Given this structure, the operations requested in the input are implemented by first applying the relational change, and then building the rest of the new stratum via relational principles. For example, if the requested operation is 1-2, a new stratum is added in that matrix in which the initial 1-arc now holds a value of '2'. The remaining arcs are then given values in that stratum in accordance with the Motivated Chomage Law and the Inheritance Principle. Following all operations, the final stratum is tested for a final subject, and if found lacking, a new stratum was added with a subject to satisfy the Final 1 Law. The procedure, when applied to (3a), produces (6).

(6)



Any errors occurring in the application of these laws results in disqualifying the sentence from further processing.

8.1.4. Testing RG universals

The next part of the procedure is to test the complete Relational Network against universal RG laws, to insure its universal grammaticality. The eight laws presented in section 2.4 are tested, namely: Stratal Uniqueness Law, Chomeur Law, Motivated Chomage Law, Final 1 Law, Oblique Law, 1-Advancement Exclusiveness Law, Chomeur No-advancement Law, and the Inheritance Principle. Again, failure to pass any such test results in disqualifying that sentence from further processing. This provides a check both on the procedures in the program's processing and on the grammaticality of the input data.

8.1.5. Language-specific syntactic rules

The application of the language-specific rules was the central emphasis of the program. The rules were first read in from a separate file, facilitating easy and rapid updates. The rules in the preceding chapters reflect a number of changes found necessary to satisfy the computer during the programming of this section.

The ideal for the format of language-specific rules would be to follow RG formalization as outlined in Chapter 7. The language used in RGCHECK for rules is actually a simplification of that ideal, and

while it is more readable, it loses the capability of specifying definitions with the more precise manner.

Each rule consists of optional conditions followed by an application. For example, (7a) states that if there is an absolutive (A) in the final stratum (f), then that arc should be assigned the absolutive case. Rule (7b) indicates that if an arc has the 2 relation in the initial stratum (i), and that if there is no 1-arc in that matrix, then the predicate of that matrix should be assigned the unergative voice. Rule (7c) gives a constituent ordering for the basic clause. The rules are reproduced in their entirety in Appendix B.

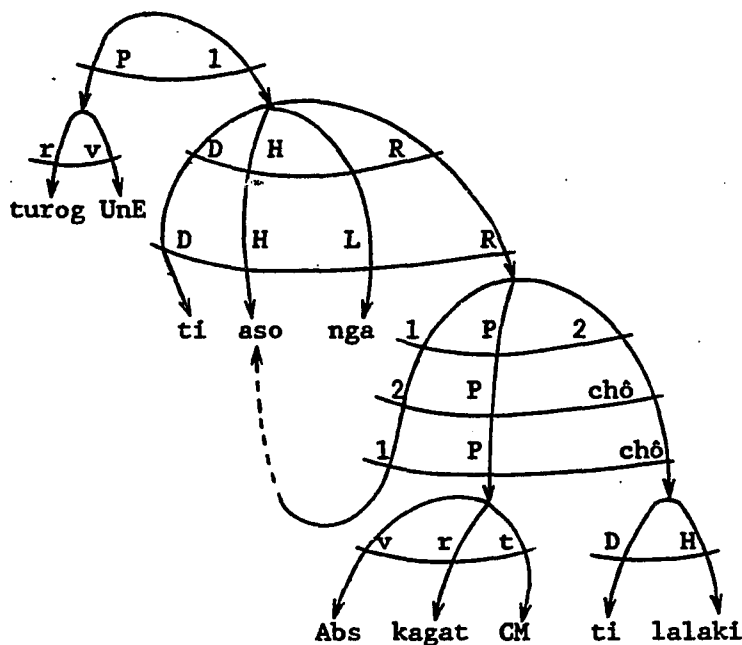
(7) Sample language-specific rules

- a. `if(relation(Af))`
`assign(case(absolutive))`
- b. `if(relation(1i))`
`ifnot(exist(relation(2i))`
`assign(voice(unergative))`
- c. `order(P 1f 2f 3f 2i Bf Lf)`

In the data structure, each arc has a variable for the case of its head. Rules are also capable of deleting arcs (to resolve coreferences) and inserting arcs (for voice morphemes in the predicate, or the linking particle). Word order is accomplished through rules reordering the arcs in their respective matrices. The application of the process to (3) is shown in (8). Dotted lines

represent deleted arcs. Note the addition of arcs for predicate voicing, and that with the exception of morphophonological changes, the lexemes are in the order corresponding to (3).

(8)



8.1.6. Ilocano morphology

After the language-specific rules have been applied, it is the job of the morphological section of the program to convert the relational network into a surface string. Whereas the first sections of the program might be run on any language, this section was programmed with routines specific to Ilocano.

The heads of the arcs are placed into an array of words. Here the pronoun of the proper case is inserted according to values of the case variable of the arc. Here the proper morpheme is inserted into the verb according to the values of the voicing variable. Here the linking morphology is applied. Here such phonological processes as nasal assimilation and pronoun-final 'o' insertion are performed. A complete list of the changes implemented is given in Appendix C. Example (9) shows the changes as applied to the sample sentence.

- (9) a. UnE turog ti aso nga CM APV kagat ti lalaki
 b. ag- turog ti aso nga -imm- kagat ti lalaki
 c. agturog ti aso nga kimmagat ti lalaki
 d. agturog ti aso a kimmagat ti lalaki
 e. Agturog ti aso a kimmagat ti lalaki.

f. Target:

Agturog ti aso a kimmagat ti lalaki.
 ag-turog ti aso a k-imm-agat ti lalaki
 UnAV-sleep ART dog LKR APV:CM-lbite ART man
 'The dog that bit the man is sleeping.'

8.1.7. Output

The key output of RGCHECK is a tally of identically generated sentences versus total attempts. The program also provides various displays, for viewing (1) the shape of initial and final relational networks, (2) whether or not the RN satisfies each RG universal law, (3) the number of times each language-specific rule is applied, and (4) the final generated sentence. These displays are similar to the

illustrations in this chapter, and aid in the diagnosis of why a generation might have failed.

8.2. The experimental verification of the Ilocano analysis

Fifty sentences from natural Ilocano texts were examined by RGCHECK, with the astonishing result that except for occasional variation from the rule governing linker morphology (nga vs a, see number 20 in appendix A), all fifty were correctly generated. This was not a selection of sentences chosen especially for the computer, but a complete sample of the first fifty sentences of available texts.

The texts were narratives, which conceivably may have meant that the sentences were more simple in nature than they might have been in another genre of texts. The sentences, however, represent more than thirty different types of relational networks, moving through the entire range of topics considered in the preceding analysis chapters with the exception of the causative construction, of which no examples were available in the text data. These sentences, both natural and generated, are presented in Appendix A.

8.3. Interpretation of the results

Two conclusions can be drawn from the success of this experiment in verifying a grammatical description through computer modelling. First, the analysis in the preceding chapters is an adequate and relatively complete description of the syntax of Ilocano. Inherent in this statement is the adequacy of Relational Grammar in describing Ilocano. Secondly, syntax can be effectively modeled on a computer, indicating the potential usefulness of computers in aiding in the analysis of language.

This second conclusion is drawn largely from the experience gained during program implementation. During early stages of data entry, nearly every sentence required an alteration of either the rules or the morphology. For example, the computer showed the need for a special rule to account for complementation in the environment of the verb adda (section 6.2.2). As another example, the computer helped in the compilation of the contractions in longer words upon the addition of various affixes. Perhaps the most striking example was in differentiating the Unergative voice from the Absolutive. The morphemes ag- and -um- have typically been considered semantic variants. The hypothesis that there are actually two syntactic structures came late in the study, but was quickly verified through the computer. Thus there is no question that without the trial and error capabilities allowed by the computer the analysis presented in this study would have been much less comprehensive.

NOTE

¹ The gender pronoun is used in this thesis with neuter meaning.

CHAPTER 9

SUMMARY AND CONCLUSIONS

9.1. Regarding this grammar of Ilocano

This study has centered around presenting a syntactic analysis of the Ilocano language. Ilocano was treated as an ergative-absolutive system, and rules were developed to account for much of the language's syntax.

Those who have presented arguments questioning the existence of a subject in Philippine languages (see Chapter 3) are in essence making the statement that Philippine languages have major properties that separate them from the other languages of the world. Their statement questions the foundations of a theory such as Relational Grammar which claims that grammatical relations such as subject are universal in language.

These arguments were found to have no basis from within the framework used. The conclusion is that the structure in Philippine languages may be described with the same apparatus as all the other languages of the world that have been studied under the RG framework. Thus Philippine languages have the same grammatical relations, the same constructions, and the same assignments of case as many other languages.

This is not to deny the existence of difficult constructions in Ilocano, but rather to say that languages around the world are to be well-ordered, and that Ilocano does not vary from the constraints shared by 'Language' in general.

9.2. Regarding the use of Relational Grammar

One of the tasks of this study was to evaluate Relational Grammar's ability to describe Ilocano. This evaluation was easily accomplished by examining which concepts were lacking when the computer simulation was developed.

Perhaps the most important statement that can be made is that the theory provides adequate concepts for describing the Ilocano basic clause. With the controversy that has surrounded the analysis of Philippine languages, it is commendable that a theory permits a relatively simple description which shows these languages to behave in like manner to the rest of the world's languages. In its treatment of Philippine languages the theory earns the right to make lofty claims about its ability to handle language.

A major shortcoming of the theory has been its slowness in developing terminology for describing word- and phrase-level constituents. This study has had to break new ground in several areas in order to describe the noun phrase and the verb with the realization that

the theory may or may not develop in the direction taken here. In fact, the theory may find it unnecessary to even develop its own unique approach in these areas in light of the capabilities of other generative approaches.

It is concluded that the Relational Grammar framework is an effective means of describing clause-level syntax in language, but must be enriched if it is to become capable of accounting for clause constituents.

9.3. Regarding the use of the computer for grammar checking

The computer was used in this study as a means of verifying the proposed analysis against natural language data. The results were well beyond anticipation, at nearly 100 percent verification.

Several conclusions may be drawn. First, the ability of the Relational Grammar framework for describing language is again emphasized, as these concepts were the basis for the program. Second, the accuracy of this analysis is also verified, by the randomness of the text sample and the consistency of the computer check. Third, a statement may be made that syntax is an orderly phenomenon of language, rather than a random occurrence of words, thus permitting modeling with only a few rules. Finally, the computer was shown to aid in the formalizing and

refining of the analysis, showing early inconsistencies in rule writing and areas in the analysis needing additional study.

9.4. Directions for further study

The Ilocano rules presented in this study have been merely an overview of the most commonly occurring structures in the language. Further study should be directed to the many affixes in Ilocano, both on predicates and elsewhere.¹ One of the fascinating aspects of Philippine languages is their extensive affixal system.

One excellent area for further work would be in the development of a computerized grammar-checking program for Relational Grammar. Such a program would allow the analyst to input rules and quickly test them against language data. Rather than use the strategy described in Chapter 8, the ideal program would use a recognizer (or parser) and read natural sentences with their morpheme-by-morpheme translations, and then check to see if they fit the rules. Such a tool would be invaluable for syntactic studies, since it would promote a thorough and complete analysis.

NOTE

¹ McKaughan and Forster (1952) list a number of affixes in an appendix that occur on predicates and nominals. Many of the predicate affixes represent surface forms resulting from various combinations of aspect morphemes. It is the permitted combinations that would make an interesting study.

APPENDICES

APPENDIX A

CLAUSE GENERATION TEXTS AND RESULTS

Number 1

Generated: No madama nga mangmangan dagiti tattao.

Goal: No madama nga mangmangan dagiti tattao.

Generation result: IDENTICAL

Morphemes:

no madama nga mang-mangan dagi-ti tat-tao
if while LKR PROG-eat:UnEV PL-ART PL-people
If while the people are eating

Number 2

Generated: Ket rumuar iti bulan.

Goal: Ket rumuar iti bulan.

Generation result: IDENTICAL

Morphemes:

ket r-um-uar iti bulan
and APV-out ART moon
and the moon comes out,

Number 3

Generated: Mangiwarisda cadagiti bassit nga innapoy ken sida
a para ti bulan.

Goal: Mangiwarisda cadagiti bassit nga innapoy ken sida
a para ti bulan.

Generation result: IDENTICAL

Morphemes:

mang-i-waris-da cadagi-ti bassit nga innapoy ken sida
HAB-AffV-scatter-3p PL-ART small LKR rice ART fish
a para ti bulan
LKR for ART moon
they scatter a little rice and fish for the moon.

Number 4

Generated: Aramidenda ti castoy.

Goal: Aramidenda ti castoy.

Generation result: IDENTICAL

Morphemes:

aramid-en-da ti castoy
do-AffV-3p ART like: this
They do like this

Number 5

Generated: Gapu ta ti pammatida ti bulan mangted ti nasayaat
a gasatda.

Goal: Gapu ta ti pammatida ti bulan mangted ti nasayaat
a gasatda.

Generation result: IDENTICAL

Morphemes:

gapu ta ti pam-mati-da ti bulan mang-ted ti
because ART NM-belief-3p ART moon APV: Hab-give ART
na-sayaat a gasat-da
UnEV-good LKR luck-3p
because their belief is that the moon gives good luck.

Number 6

Generated: Ket no saanda nga aramiden ti kastoy.

Goal: Ket no saanda nga aramiden ti kastoy.

Generation result: IDENTICAL

Morphemes:

ket no saan-da nga aramid-en ti kastoy,
and if NEG-3p LKR do-AffV ART like: this
And if they don't do this,

Number 7

Generated: Mapasamakda ti dakes nga agasat.

Goal: Mapasamakda ti dakes nga agasat.

Generation result: IDENTICAL

Morphemes:

ma-pasamak-da ti dakes nga agasat.
AffV: Apt-happen-3p: ERG ART bad LKR luck
they will have bad luck.

Number 8

Generated: Cuadrado ti kaaduan dagiti balbalay.

Goal: Cuadrado ti kaaduan dagiti balbalay.

Generation result: IDENTICAL

Morphemes:

cuadrado ti kaaduan dagi-ti bal-balay

square ART many PL-ART PL-house

Most of the houses are square.

Number 9

Generated: Dua laeng ti nagbingayan iti cuarto ti balay.

Goal: Dua laeng ti nagbingayan iti cuarto ti balay.

Generation result: IDENTICAL

Morphemes:

dua laeng ti n-ag-bingayan iti cuarto ti balay.

two only ART CM-UnEV-divide LOC room ART house.

There are only two divisions in the room of the house.

Number 10

Generated: Maysa iti pagturogan.

Goal: Maysa iti pagturogan.

Generation result: IDENTICAL

Morphemes:

maysa iti pag-turog-an

one LOC OblV-sleep-Adv

One is for sleeping

Number 11

Generated: Ken maysa met iti pangan.

Goal: Ken maysa met iti pangan.

Generation result: IDENTICAL

Morphemes:

ken maysa met iti p-angan-an

and one also LOC OblV-eat-Adv

and one for eating,

Number 12

Generated: Ngem adda met mailasin a bassit a salasna.

Goal: Ngem adda met mailasin a bassit a salasna.

Generation result: IDENTICAL

Morphemes:

ngem adda met ma-i-lasin a bassit a salas-na.

but have also Apt-Aff-separate LKR small LKR parlor-3s.

but there is also a small parlor.

Number 13

Generated: Adda maikabil a luput.

Goal: Adda maikabil a luput.

Generation result: IDENTICAL

Morphemes:

adda ma-i-kabil a luput

Exist Apt-AffV-put LKR cloth

There is a placed cloth

Number 14

Generated: Tapno awan ti makakita.

Goal: Tapno awan ti makakita.

Generation result: IDENTICAL

Morphemes:

tapno awan ti maka-kita

so:that none ART Apt:APV-see

so that it can't be seen

Number 15

Generated: No addaka iti bangirna.

Goal: No addaka iti bangirna.

Generation result: IDENTICAL

Morphemes:

no adda-ka iti bangir-na.

if exist-2s LOC side-3s

if one is behind it.

Number 16

Generated: Daytoy a luput maikabil laeng iti rabii.

Goal: Daytoy a luput maikabil laeng iti rabii.

Generation result: IDENTICAL

Morphemes:

daytoy a luput ma-i-kabil laeng iti rabii

this LKR cloth Apt-AffV-put only LOC night

This cloth is put out only at night

Number 17

Generated: Ngem maikat iti aldaw.

Goal: Ngem maikat iti aldaw.

Generation result: IDENTICAL

Morphemes:

ngem ma-i-kat iti aldaw.

but Apt-AffV-remove LOC day

and removed at day.

Number 18

Generated: Adda bangko nga attidog wenno dua wenno tallo nga palangka a maikabil iti igid ti diding.

Goal: Adda bangko nga attidog wenno dua wenno tallo nga palangka a maikabil iti igid ti diding.

Generation result: IDENTICAL

Morphemes:

adda bangko nga attidog wenno dua wenno tallo nga
 have bench LKR long or two or three LKR
 palangka, a ma-i-kabil iti igid ti diding.
 chair LKR Apt-AffV-put LOC on ART wall

There is a long bench or two or three chairs against the wall.

Number 19

Generated: Datar laeng iti pagturogan iti bumalay.

Goal: Datar laeng iti pagturogan iti bumalay.

Generation result: IDENTICAL

Morphemes:

datar laeng iti pag-turog-an iti b-um-alay.
 floor only LOC OblV-sleep-Adv LOC APV-house
 Only the floor is the sleeping place of the dwellers
 of the house.

Number 20

Generated: Ti maysa a rabii a nasipnget adda natiliwko a nangisit a pusa.

Goal: Ti maysa a rabii a nasipnget adda natiliwko nga nangisit a pusa.

Generation result: NOT-IDENTICAL -- nga/a variation

Morphemes:

ti maysa nga rabii nga na-sipnget adda na-tiliw-ko
 ART one LKR night LKR UnAV-dark have CM:Apt:AFFV-catch-3s
 nga na-ngisit nga pusa
 LKR UnAV-black LKR cat

There was one dark night when I caught a black cat.

Number 21

Generated: Sinilwak.

Goal: Sinilwak.

Generation result: IDENTICAL

Morphemes:

s-in-iliw-an-k
 CM:AFF-catch-adv-lsERG
 I caught it

Number 22

Generated: Idi immusok iti aladmi.

Goal: Idi immusok iti aladmi.

Generation result: IDENTICAL

Morphemes:

idi imm-usok iti alad-mi
 PST CM:APV-passed ART fence-3e
 when is passed through our fence.

Number 23

Generated: Daydi silo a tali ti pinangguyodko iti pusa.

Goal: Daydi silo a tali ti pinangguyodko iti pusa.

Generation result: IDENTICAL

Morphemes:

daydi silo nga tali ti pina-ng-guyod-ko iti pusa
 that trap LKR rope ART CM:OblV-HAB-drag-1s ART cat
 That rope trap was what I used to drag the cat.

Number 24

Generated: Idi kuan immay dagiti kapadak nga ububbing.

Goal: Idi kuan immay dagiti kapadak nga ububbing.

Generation result: IDENTICAL

Morphemes:

idi kuan imm-ay dagi-ti kapadak nga ububbing
 PST then CM:ABS-come the-PL same:age LKR children
 Sometime later came the children my age.

Number 25

Generated: Kinuna ti maysa nga ubbing.

Goal: Kinuna ti maysa nga ubbing.

Generation result: IDENTICAL

Morphemes:

k-i-n-una ti maysa nga ubbing,
 1-AffV-CM-1say ART one LKR child
 One of the children said,

Number 26

Generated: Dayta ti pusa a mangted kenka ti buwisit.

Goal: Dayta ti pusa a mangted kenka ti buwisit.

Generation result: IDENTICAL

Morphemes:

Dayta ti pusa nga mang-ted kenka ti buwisit
 that ART cat LKR HAB:APV-give 2s:Obl ART bad:luck
 That is the cat that gives to you bad luck

Number 27

Generated: Ta nangisit.

Goal: Ta nangisit.

Generation result: IDENTICAL

Morphemes:

ta n-a-ngisit
 because CM-UnAV-black
 because it is black.

Number 28

Generated: Patayentayo.

Goal: Patayentayo.

Generation result: IDENTICAL

Morphemes:

patay-en-tayo.
 kill-AffV-3iERG
 Let's kill it.

Number 29

Generated: Napanak idiy balay.

Goal: Napanak idiy balay.

Generation result: IDENTICAL

Morphemes:

n-apan-ak idiy balay
 AIC-go-is LOC house
 I went to the house

Number 30

Generated: Ket saak nangala ti sangabotelya a gas.

Goal: Ket saak nangala ti sangabotelya a gas.

Generation result: IDENTICAL

Morphemes:

ket sa-ak nang-ala ti sanga-botelya nga gas
 and then-1s CM-Hab:APV-get ART one-bottle LKR gas
 and then got a bottle of gas.

Number 31

Generated: Ginuyodguyodmi di pusa inggana ti ruar ti ili.

Goal: Ginuyodguyodmi di pusa inggana ti ruar ti ili.

Generation result: IDENTICAL

Morphemes:

g-i-n-uyod-guyod-mi di pusa inggana ti ruar ti ili
 *-AffV-CM-PROG-drag-3x that cat until ART out ART town
 We dragged that cat outside of town.

Number 32

Generated: Ingalutko iti poste.

Goal: Ingalutko iti poste.

Generation result: IDENTICAL

Morphemes:

i-n-galut-ko iti poste
 AffV-CM-tie-1s ART:0 post
 I tied it to a post

Number 33

Generated: Tapno saan a makataray.

Goal: Tapno saan a makataray.

Generation result: IDENTICAL

Morphemes:

tapno saan a maka-taray
 so:that NEG LKR Apt:UnEV-run
 so that is could not run away.

Number 34

Generated: Impakbok daydi gas iti daydi pusa.

Goal: Impakbok daydi gas iti daydi pusa.

Generation result: IDENTICAL

Morphemes:

im-pakbok daydi gas iti daydi pusa
 APV:CM-pour-1s that gas ART0 that cat
 I poured that gas on that cat,

Number 35

Generated: Saak sinilmutan.

Goal: Saak sinilmutan.

Generation result: IDENTICAL

Morphemes:

saan-k s-i-n-ilmut-an
 then-1sERG AffV-CM-ignite-adv
 then I ignited it.

Number 36

Generated: Gimmilayab ti apoy.

Goal: Gimmilayab ti apoy.

Generation result: IDENTICAL

Morphemes:

g-imm-ilayab ti apoy
 APV:CM-blaze ART fire
 The fire blazed

Number 37

Generated: Ket nagraniag daydi nasipnget a rabii.

Goal: Ket nagraniag daydi nasipnget a rabii.

Generation result: IDENTICAL

Morphemes:

ket n-ag-raniag daydi na-sipnget a rabii
and CM-UnEV-bright that UnAV-dark LKR night
and that dark night was bright.

Number 38

Generated: Daydi pusa nagsangit.

Goal: Daydi pusa nagsangit.

Generation result: IDENTICAL

Morphemes:

daydi pusa n-ag-sangit
that cat CM-UnAV-cry
That cat cried

Number 39

Generated: Idi nagtutuok.

Goal: Idi nagtutuok.

Generation result: IDENTICAL

Morphemes:

idi n-ag-tu-tuok
PST CM-UnAV-PROG-suffer
as it was suffering.

Number 40

Generated: Immay ti asik kenkuana idi.

Goal: Immay ti asik kenkuana idi.

Generation result: IDENTICAL

Morphemes:

imm-ay ti asik kenkuana idi
APV:CM-come ART mercy 3s:Obl PST
My mercy to him came then

Number 41

Generated: Ket limdaangak a kimmita ti panakadusana.

Goal: Ket limdaangak a kimmita ti panakadusana.

Generation result: IDENTICAL

Morphemes:

ket l-im-daang-ak a k-imm-ita ti panaka-dusa-na
and APV:CM-sorry-1sABS LKR APV:CM-see ART Nom-torture-3s
and I was sorry to see his suffering.

Number 42

Generated: Daydi pannakapuor di pusa ti kadakesan nga inaramidko
iti parsua ni Apo Dios.

Goal: Daydi pannakapuor di pusa ti kadakesan nga inaramidko
iti parsua ni Apo Dios.

Generation result: IDENTICAL

Morphemes:

daydi pannaka-puor di pusa ti ka-dakes-an nga
that Nom-burn that cat ART SP-bad-SP LKR
i-n-aramid-ko iti parsua ni Apo Dios
AffV-CM-do-1sERG ART:0 creation ART Lord God
That burning of the cat was the worst ever of my doings to a
creation of the Lord God.

Number 43

Generated: Daydi pusa awan ti inaramidna a dakes kaniak.

Goal: Daydi pusa awan ti inaramidna a dakes kaniak.

Generation result: IDENTICAL

Morphemes:

daydi pusa awan ti i-n-aramid-na a dakes kaniak
that cat none ART AffV-CM-do-3s LKR bad 1sObl
That cat, none was his bad-doings to me.

Number 44

Generated: Ket isu ketdin ti nagaramidak ti dakes.

Goal: Ket isu ketdin ti nagaramidak ti dakes.

Generation result: IDENTICAL

Morphemes:

ket isu ketdin ti n-ag-aramid-ak ti dakes
and 3s instead ART CM-UnEV-do-1sABS ART bad
And to him instead was my bad-doing.

Number 45

Generated: Nagbabawiak.

Goal: Nagbabawiak.

Generation result: IDENTICAL

Morphemes:

n-ag-ba-bawi-ak
CM-UnAV-PROG-repent-1sABS
I was repenting

Number 46

Generated: Ngem naladawen.

Goal: Ngem naladawen.

Generation result: IDENTICAL

Morphemes:

ngem n-a-ladaw-en
 but CM-UnAV-late-CM
 but it was too late.

Number 47

Generated: Natay daydi pusa.

Goal: Natay daydi pusa.

Generation result: IDENTICAL

Morphemes:

n-atay daydi pusa
 CM-UnEV:die that cat
 That cat died.

Number 48

Generated: Idiay provincia ti Ilocosur adda ugali dagiti umili.

Goal: Idiay provincia ti Ilocosur adda ugali dagiti umili.

Generation result: IDENTICAL

Morphemes:

idiay provincia ti Ilocosur, adda ugali dagiti um-ili
 LOC province ART Iloco:Sur have custom PL:ART AI-town
 In the province of Iloco Sur there is a custom of the town
 dwellers.

Number 49

Generated: Kalpasan iti maykatlo nga aldaw ti panakaikali ti
 bagi ti maysa a natay.Goal: Kalpasan iti maykatlo nga aldaw ti panakaikali ti
 bagi ti maysa a natay.

Generation result: IDENTICAL

Morphemes:

kalpas-an iti maykatlo nga aldaw ti panakai-kali
 finish-adv ART:O third LKR day ART Nom-burial
 ti bagi ti maysa a natay,
 ART body ART one LKR dead
 When they finish the third day of the burial of the dead body,

Number 50

Generated: Dagiti amin a kabagian ti natay aggraman dagiti kapurrokanna mapanda iti agsapa ti maykatlo nga aldaw idiy baybay.

Goal: Dagiti amin a kabagian ti natay aggraman dagiti kapurrokanna mapanda iti agsapa ti maykatlo nga aldaw idiy baybay.

Generation result: IDENTICAL

Morphemes:

dagiti amin a kabagian ti natay ag-graman dagiti
ART:PL all LKR body ART dead UnAV-include ART:PL

kapurrokan-na mapan-da iti ag-sapa ti
place-3s:ERG go-3p ART:0 UNAV-early ART

maykatlo nga aldaw idiy baybay.
third LKR day LOC ocean

All of the relatives of the dead and those of that place (neighbors) go early on the third day to the ocean.

FINAL RESULTS:

Total number of sentences: 50

Perfectly generated sentences: 49 percent: 98

nga/a variation problem: 1 percent: 2

Perfect if nga/a ignored: 50 percent: 100

THE TEXTS

1. TI RUMUAR TI BULAN

"The moon coming out"

This text is originally from Apelles, et al (1953). It was worked over by Sally Dizon, of Garland Texas, in January, 1986. Mrs. Dizon is a "half" Ilocano, from Pangasinan, Philippines.

NUMBERS 1 - 7

2. TI BALAY

"The house"

See TI TABUKUL

NUMBERS 8 - 19

3. TI NANGISIT A PUSA

"The Black Cat"

Originally from Apeles, et al. (1953), this text was worked over by six different people in Nueva Vizcaya, Philippines, July 1985, and then used in language survey where at least a hundred people were tested with it. It is the most accurate text in this data.

NUMBERS 20 - 47

4. GULGUL

"Burial rites"

See TI TABUKUL

NUMBERS 48 - 50

APPENDIX B

RCHECK RULES

This appendix contains the rules which are read by RGCHECK before clause generation begins. Each rule begins with the `\` character (thus other lines below are comments). There are several types of rules. `\display` controls the displays that appear on the screen, with `\numbers` indicating which clauses are displayed. The `\file` lines are used to direct the computer to read data from the various input files. The lines beginning with `\rule` where those which directed the application of Ilocano language-specific rules in the generation. Finally, `\replace` was used to perform contractions in the surface forms.

Language-Specific rules read into RCHECK at runtime:

1. Rules controlling the displays:
 - `\display 0 no initial matrix`
 - `\display 1 no matrix after rgengine applied`
 - `\display 2 no universals applied`
 - `\display 3 no language rules applied`
 - `\display 4 no final matrix`
 - `\display 5 yes constructed sentence`
 - `\numbers 03 06`
2. Directives containing the data input files:
 - `\file bulan.rn`
 - `\file balay.rn`
 - `\file pusa.rn`
 - `\file gulgul.rn`
3. Grammaticality check of construction
 - `\rule if(relation(If)) then(illegal)`
4. Case Assignment:
 - `\rule if(relation(Af)) assign(case(absolutive))`
 - `\rule if(relation(Ef)) assign(case(ergative))`
 - `\rule if(relation(3f)) assign(case(oblique-L))`
 - `\rule if(relation(Bf)) assign(case(oblique-L))`

```
\rule if(relation(Lf)) assign(case(oblique-L))
\rule if(relation(pf) assign(case(ergative))
```

5. Voice assignment: (first rule gives default value)

```
\rule if(rel(Pf)) assign(voice(affiliate))
\rule if(rel(Pf)) ifn(e_rel(2i)) ifn(e_rel(2f))
    assign(voice(unergative))
\rule ifnot(rel(li)) if(rel(lf)) assign(voice(unaccusative))
\rule if(change(3,2)) assign(voice(affiliate))
\rule if(change(B,2)) assign(voice(affiliate))
\rule if(change(L,A)) assign(voice(oblique-L))
\rule if(change(I,A)) assign(voice(oblique-I))
\rule if(change(1,2)) assign(voice(absolutive))
```

6. Constituent ordering

Clause & NP

```
\rule order(mi Fi Di mf Pf Pi Pi lf li 2f 3f
    2i Bf Lf pf Ef Rf sf)
```

Coordination

```
\rule order(ji Ji ji)
```

Topic-Comment

```
\rule order(Ti Ci)
```

Verb morphology

```
\rule order(ni ti bi ai vi hi wi gi di ri Vi)
```

7. Linker insertion at noun phrase

```
\rule if(change(P,c) insert(pre(l,nga))
\rule if(rel(Ri)) insert(pre(l,nga))
```

8. Linker insertion at verb phrase

```
\rule if(rel(n,i)) insert(post(l,nga))
```

9. Erasures and additions of arcs

```
\rule if(rel(AF)) if(h_rel(Rf)) assign(erase)
\rule if(co-ref(Pi,2i)) assign(erase)
\rule if(co-ref(Af,Pi)) assign(erase)
\rule if(co-ref(Af,Ti)) assign(erase)
\rule if(co-ref(sf,Ti)) assign(erase)
\rule if(case(absolutive)) if(relation(Fi)) assign(erase)
```

10. Linker insertion at complements

```
\rule if(rel(Pi)) if(h_rel(Af)) insert(pre(l,nga))
\rule if(rel(Pi)) if(h_rel(cf)) insert(pre(l,nga))
```

11. Surface contractions:

```
\replace (-) ()
\rreplace ( ) ( )
\rreplace (siniliw) (sinilw)
```

\replace (nabussog)	(nabsog)
\replace (nadakes)	(dakes)
\replace (limmidaang)	(limdaang)
\replace (naattidog)	(attidog)
\replace (nagatay)	(natay)
\replace (agapan)	(mapan)
\replace (nagapan)	(napan)
\replace (pagmanganan)	(pangan)
\replace (agmangmangan)	(mangmangan)
\replace (inp)	(imp)

APPENDIX C

MORPHOPHONOLOGICAL ROUTINES PROGRAMMED INTO RGCHECK

- Skips arcs in which the head is unspecified.
- Skips erased arcs.
- Build predicate:

Given values for a,v,t,r,h,w,g,b, where:

a - class of head (noun, verb, etc.)

v - voice

t - completed aspect

r - root

h - habitual aspect

w - associative aspect

g - progressive aspect

b - aptative aspect

Assembles appropriate prefixes, infixes, and suffixes and attaches to verb root. This is basically a table for possible occurrences of values in the relations, it does not perform a derivation based on the rules given in Chapter 5.

Progressives built through (C)VC reduplication

Checked if root was a predicate adjective or noun or existential or pronoun; applying affixation only as proper.

Surface forms actually produced:

There were 29 possible surface forms (double that if there was progressive). That is, the program was written to cover, as a minimum, the surface forms in the 50 sentences.

- Conversion of pronouns (Person, Number, and case to surface forms).
- Cliticization of pronouns to leftmost word of verb phrase.
- deletes nasals before consonant if pronoun -k or -m.
- insert o after consonant if pronoun -k or -m.
- switches linker and adda ordering.
- a insertion (\emptyset -> a / #CV_-C#) (sa-k -> saak)

- surface replacements of contractions. These are specified in the rules file and may be changes at run-time.
- performs linker variation (nga / a)
- punctuation: Capitalizes first letter, ends with period.

BIBLIOGRAPHY

- Antworth, Evan L. 1979. A grammatical sketch of Botolan Sambal. *Philippine Journal of Linguistics*. Special Monograph Issue Number 8. Manila.
- Apeles, Rosendo and Julian Valera. 1953. Ilocano texts. Elmer Wolfenden, ed. Summer Institute of Linguistics and The University of North Dakota: Glendale, California.
- Bell, Sarah. 1983. Advancements and ascensions in Cebuano. In D. Perlmutter (ed.). *Studies in Relational Grammar 1*. University of Chicago Press: Chicago.
- Bell, S. and D. Perlmutter. To appear. Clause union and advancements in three Philippine languages.
- Bernabe, Emma, Virginia Lapid and Bonifacio Sibayan. 1971. Ilokano lessons. University of Hawaii Press. Honolulu.
- Bloomfield, Leonard. 1942. Outline of Ilocano syntax. *Language, Journal of the Linguistic Society of America*. Bloch et al., eds. Linguistic Society of America, Waverly Press: Baltimore.
- Carrier, J.L. 1979. The interaction of morphological and phonological rules in Tagalog. MIT Dissertation.
- Constantino, Ernesto. 1971. Ilokano reference grammar. University of Hawaii Press. Honolulu.
- _____. 1971. Ilokano dictionary. The University Press of Hawaii. Honolulu.
- Davies, William D. and Carol Rosen. To appear. Unions as multi-predicate clauses.
- Dryer, M. 1978. Some theoretical implications of grammatical relations in Cebuano. *University of Michigan Papers in Linguistics* 2.4.
- Dyen, Isidore. 1965. A lexicostatistical classification of the Austronesian languages. Supplement to *IJAL* 31. Memoir 19. Waverly Press: Baltimore.

- Gerdts, Donna B. 1979. Out of control in Ilokano. Proceedings of the Fifth Annual Meeting of the Berkeley Linguistics Society. Berkeley.
- _____. 1980. Towards an ergative analysis of Ilokano. Paper read at the Canadian Linguistic Society Conference, Ottawa, Ontario.
- _____. To appear. Antipassives and causatives in Ilokano: evidence for an ergative analysis. In R. McGinn, Ed. Studies in Austronesian Linguistics. Ohio University Press.
- Grimes, Barbara F., ed. 1984. Languages of the world, ethnologue. Tenth Edition. Wycliffe Bible Translators. Dallas.
- Hohulin, Lou and Austin Hale. 1977. Notes on Keley-i relational grammar. Studies in Philippine Linguistics, volume 1, No 2. Linguistic Society of the Philippines and the Summer Institute of Linguistics.
- Keenan, Edward L. 1976. Towards a universal definition of 'Subject'. in C. Li, ed. Subject and Topic. New York: Academic Press pp 303-333.
- Marlett, Stephen. 1982. Switch reference and subject raising in Seri: an argument for the notion 'First' subject and the Unaccusative Hypothesis. In Working Papers in Relational Grammar. University of California at San Diego: La Jolla.
- McKaughan, Howard and Jannette Forster. 1952. Ilocano: an intensive language course. Summer Institute of Linguistics. Grand Forks, North Dakota.
- Mulder, Jean, and Arthur Schwartz. 1981. On the subject of advancements in the Philippine languages. Studies in Language 5.2:227-268.
- Newmeyer, Frederick J. 1983. Grammatical theory: its limits and its possibilities. The University of Chicago Press. Chicago.
- Nichols, Johanna. 1986. Head-marking and dependent-marking grammar. Language, ed by William Bright. Vol 62, No 1. 56-119. Waverly Press, Inc: Baltimore.
- Perlmutter, David, and Paul Postal. 1977a. Toward a universal characterization of passivization. BLS 3:394-417. Revised version in D. Perlmutter (ed.), Studies in Relational Grammar 1. The University of Chicago Press: Chicago.
- _____. 1977b. Some proposed laws of basic clause structure. In D. Perlmutter (ed.), Studies in Relational Grammar 1. The University of Chicago Press: Chicago.

- _____. 1984. The 1-advancement exclusiveness law. In David Perlmutter and Carol Rosen (eds.), *Studies in Relational Grammar 2*. The University of Chicago Press: Chicago.
- Perlmutter, David. 1981. Functional grammar and relational grammar: points of convergence and divergence. In T. Hoekstra, H. van der Hulst and M. Moortgat (eds.), *Perspectives on Functional Grammar*. Foris Publications: Dordrecht.
- _____. 1982. Syntactic representation, syntactic levels, and the notion of subject. In P. Jacobson and G. K. Pullum (eds.), *The nature of syntactic representation*. pp 283-340. D. Reidel Publishing Co.
- Porter, Doris. 1979. Northern Kankany morphology. In Casilda Edrial-Luzares and Austin Hale, eds. *Studies in Philippine Linguistics*. Volume 3, Number 2. Linguistic Society of the Philippines and the Summer Institute of Linguistics. Manila.
- Postal, Paul M. 1986. *Studies of passive clauses*. State University of New York Press: Albany.
- Radford, Andrew. 1983. *Transformational syntax, a student's guide to Chomsky's Extended Standard Theory*. Cambridge University Press. Cambridge.
- Riemsdikj, Henk van, and Edwin Williams. 1986. *Introduction to the theory of grammar*. MIT Press: Cambridge.
- Rosen, Carol G. 1984. The interface between semantic roles and initial grammatical relations. in D. Perlmutter and C. Rosen (eds.), *Studies in Relational Grammar 2*. University of Chicago Press: Chicago.
- Rowell, Lorna V. 1983. *An ergative analysis of Kapampangan*. Thesis. Department of Linguistics, The University of Calgary. Calgary, Alberta.
- Schacter, Paul. 1976. The subject in Philippine languages: topic, actor, actor-topic, or none of the above. in C. Li, ed. *Subject and Topic*. New York: Academic Press pp 491-518.
- Schwartz, Arthur. 1976. On the universality of subject: the Ilocano case. in C. Li, ed. *Subject and Topic*. New York: Academic Press pp 519-543.
- Siewierska, Anna. 1984. *The passive: a comparative linguistic analysis*. Croom Helm: Dover, New Hampshire.

Silva-Corvalan, Carmen. 1978. The Ilokano causative in Universal Grammar. In Jeri Jaeger and Anthony Woodbury (eds.) Proceedings of the Fourth Annual Meeting of the Berkeley Linguistics Society. University of California: Berkeley.

Winograd, Terry. 1983 Language as a cognitive process. Volume 1: Syntax. Addison-Wesley Publishing Company. Reading, Mass.