Outline of Rejang Syntax

N U S A

Linguistic Studies of Indonesian
and Other Languages in Indonesia

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E D I T O R I A L

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OUTLINE OF REJANG SYNTAX

by

Richard McGinn

1982
Badan Penyelenggara Seri NUSA
Universitas Atma Jaya
Jakarta

DEDICATION

To Judy, who somehow managed to maintain moral support for this project when all other sources of inspiration seemed to have run out, and who at the same time almost singlehandedly provided for a home and reasonably happy family throughout the Sumatra, Jakarta, Hawaii and Ohio phases of the research, this monograph is gratefully and lovingly dedicated,

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Mr. Tajudin has already been mentioned as one of the hosts for recording sessions. He is also to be thanked for serving as informant for his native dialect of Rejang, the Pasisir dialect. Others who helped by contributing stories, songs or conversation are too numerous to mention, but to all my heartfelt thanks, for without the generous help of the Rejang people, this research project would not have been possible.

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Finally, I must thank my wife, Judy, to whom the work is dedicated. Without her steadfast courage, this project would never have been completed.

ABSTRACT*

The thesis of this dissertation is that Rejang grammar has a transformational component, but one that is constrained in such a way that no movement of a Noun Phrase is permitted within the bounds of the "core grammar." If the thesis is correct, then there is automatically an explanation for a number of facts peculiar to Rejang and many other Western Austronesian languages. For example, a non-Subject Noun Phrase is never permitted to appear in COMP position. One aspect of this peculiar constraint is discussed in Keenan and Comrie (1977:68-69). Moreover, Keenan (1972:169) has suggested that the explanation, for Malagasy at least, requires some constraints on the permitted movement of Noun Phrases by transformations.

This dissertation attempts to go beyond the formulation of the problem by Keenan and Keenan and Comrie. Here an attempt is made to account for certain features of the syntax of a Western Austronesian language in terms of a theoretically circumscribed, total prohibition on NP movement rules.

The data that the NP Movement Prohibition theory attempts to explain may be illustrated with English data briefly below. One syntactic problem in many Western Austronesian languages is to explain why the analogues of the following eight English sentences are ungrammatical:

(i) *What* did John see?
(ii) I know *what* John saw.
(iii) I know the man *whom* John saw.
(iv) *Whose* nose is long?
(v) *Who* did John give the book to?
(vi) *The book* is easy to read.
(vii) *What* did John claim that Mary bought?
(viii) *Who* is Mary taller than?

In Rejang, the analogues of all eight of the above sentences are ungrammatical.

The English sentences may presumably be accounted for on the basis of an underlying VO word order and by one or more rules of NP Movement. However, in Rejang the ungrammaticality of (i)-(viii) may be explained most simply within a core grammar in which no NP movement transformations ever apply. Within such a core grammar, all proposed universal constraints on NP movement, such as the "tensed-S" condition, the "Specified Subject condition", and so on, cannot be strictly verified but turn out to be simply true in a somewhat trivial sense.

Chapter II presents the case against recognizing any NP Movement rules in the description of Rejang Questions and Relative Clauses. Chapter III treats the interpretation of grammatical relations and co-occurrence relations in a grammar with fixed order of NP's on the level of surface structure. Moreover, it is suggested that the rigid order of NP's in the grammar may be based on a simple perceptual strategy which takes the first Noun Phrase in any sentence to be the Subject.

Chapter IV attempts to extend the NP Movement Prohibition Hypothesis to the formal description of Rejang simple sentences. It is argued that there are independent grounds for assuming a non-transformational approach to several topics of Rejang syntax, e.g., nominal phrases, and passive, causative, and double-object (dative) verbal sentences. These constructions are treated as base-derived, and related to other sentences by lexical redundancy rules. Non-transformational treatment of these topics removes many potential NP movement rules from the grammar.

Validation of the thesis is attempted in the later chapters through presentation of morphological, semantic, and phonological rules.

Three major implications of the thesis of this dissertation are touched upon in the concluding chapter.

(1) It is suggested that the principle of fixed order of NP's on the level of surface structure interacts with (indeed, makes possible) a variety of word order changes marked by intonation (cf. Halim, 1974). This relatively "free" word order marked by intonation contours is an outstanding feature of many Indonesian languages, including Rejang. This apparent freedom of word order has perhaps tended to obscure the reasons for the peculiar word order constraints studied in this dissertation. Only by distinguishing the abstract level of "surface structure" from the observational level of utterances, and by distinguishing true transformational rules from "scrambling rules," is it possible to attempt to explain certain constraints on the order of NP's peculiar to Rejang and other Western Austronesian languages.

(2) It is suggested that the preference for passive sentences that has often been observed in Western Austronesian languages may perhaps be explained in functional terms, given the NP Movement Prohibition Hypothesis.

(3) It is suggested that the results obtained by applying the NP Movement Prohibition Hypothesis to the data of Rejang could not be realized in the absence of a highly restricted theory of transformational grammar. Indeed, the thesis of this dissertation is "theory bound" in the sense that it could not be stated either in a non-transformational approach to language description, or in an overly permissive transformationalist or semantic-based theory

of language. Therefore, the thesis presents some evidence for the correctness of the Lexicalist Hypothesis and the Autonomy of Syntax position as developed in the general theory of Noam Chomsky and his associates.

*) *Outline of Rejang Syntax* was submitted as a dissertation to the Graduate Division of the University of Hawaii in partial fulfillment of the requirements for the degree of Doctor of Philosophy, Department of Linguistics, December 1979.

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PREFACE

This monograph is a slightly revised version of my 1979 University of Hawaii dissertation. The field work was undertaken between the years 1973-1976 in Palembang, South Sumatra; Curup, Bengkulen; and Jakarta. Most of the actual writing took place between 1977-1979 in Hawaii and Ohio. Late in 1977 my theoretical approach changed from a "Lexi-Case" approach to a transformational approach. This move must seem rather paradoxical in light of the thesis of this monograph, which is that Noun Phrases cannot be moved by transformations in Rejang. Hence a word of explanation is in order here. Several years of work with Stanley Starosta's Lexi-Case model had convinced me that transformations do not do very much work in Western Austronesian (hereafter Indonesian) languages, and my dissertation owed a great deal to that particular insight. Starosta was one of the first linguists to realize (as early as 1968 in lectures at the University of Hawaii) that transformations are inappropriate to account for the complexity of verbal morphology in Indonesian languages, and about the same time, Starosta began to doubt the usefulness of transformations even for languages like English. This work pre-saged much later work by Bresnan, Brame, Gazdar, and many others who have since developed systems of nontransformational generative grammar. Two important contributions in this field are published dissertations directed by Starosta, De Guzman's *Syntactic Derivation of Tagalog Verbs* (Oceanic Linguistics Special Publications No. 16, 1978) and Ikranagara's *Melayu Betawi Grammar* (NUSA, Vol. 9, 1980). These works are true antecedents of this monograph.

Since at least Totanes (1865), linguists in the Indonesian field have puzzled over the statistical prominence of passive sentences throughout the area. This prominence becomes obvious when comparative data from Indo-European languages are considered. It seems fair to say that the issue represents the first problem for all students of Indonesian syntax, yet no one has solved it, and very few even agree on terminology to discuss the various sub-issues. One advantage of a nontransformational, or Lexi-Case, approach to this problem is quite clear: it requires that active and passive be afforded equal status in the grammar. This result is, I believe, correct. However, despite this automatic bonus of the nontransformational model, I found serious difficulties in the framing of interesting general hypotheses beyond the issue of direct derivation of passive sentences. Further, it seemed to me that what ought to be considered most interesting about these languages are their language-particular characteristics, particularly those highly general features that are shared within the family and apparently unique to it. (If some of these features turn out to be universal, given an advanced understanding of "universal grammar" that is so far out of reach, then that would be even better.) Until this uniqueness is understood and formulated, there is little hope that competing theories of language can be adequately tested. Linguistic theory has an important role to play as a guide and help in the effort to understand and formulate the particularity of grammar. In this sense, the problem of choice of theory reduces to choice of method. In my view, there is not only no paradox, but in fact rather strong empirical motivation, for the choice of Chomsky's Extended Standard Theory to explore the syntactic patterns of Rejang.

From the point of view adopted in this monograph, the thesis that NPs are somehow exempted from movement operations in a transformational grammar of Rejang is attributed to a language-particular constraint. Further, it is suggested that the constraint interacts with discourse requirements in a language that lacks the familiar Indo-European iconicity features of morphological *tense* and configurationally defined *subjects* (the two "opaque" operators in Chomsky's "On Binding" framework [Chomsky, 1980a,b]). The interaction of grammar and discourse parameters predict passive sentences in specified contexts.

In 1982 it would certainly have been possible to revise the dissertation and bring it up to date in terms of developments in linguistic theory since 1977-78, of which there have been many, especially in Chomsky's camp. However, this has not been attempted. Obviously, there exist a great number of ways to re-state the basic constraint studied here, but to pursue them in the revision might obscure one of the major implications of the dissertation. Specifically, if the thesis is very near to correct as stated, details aside, then further research into these topics ought to lead not only "inward" toward the abstract structures (and perhaps neural mechanisms), but also "outward" in the direction of the cultural experiences of the speakers. The reason is that the constraint, whatever its abstract character, appears to be not only language-specific (hence learned), but also motivated by discourse requirements, hence central to pragmatic competence.

We should expect that research on these topics will go on for some time to come, in both "inward" and "outward" directions, using languages related to Rejang. Eventually one would hope to make

a contribution to the general theory of language based on a firmer understanding of grammatical relations in Indonesian languages than has been available so far. The present monograph does not, in fact, progress very far in pursuit of that goal, but does provide some bit of evidence that the goal is worth pursuing; and it does this in what appears to be the only possible way, namely, by attempting to frame an explanatory hypothesis that ranges over a wide range of data.

Before concluding these prefatory remarks, it seems appropriate to mention a development in Rejang phonology. In a recent article by Coady and McGinn (1982) the problem of the "barred nasals" discussed in Chapter V of the monograph is discussed in detail. In particular, an advance is made toward understanding the phonetic character of these peculiar nasal consonants. In the article, the formal analysis and phonemic status of the barred nasals is preserved, but the new phonetic theory renders unnecessary the "ingressive nasal" hypothesis that appears in Chapter V of this monograph. This is not to say that the matter is completely closed, since instrumental work has not yet been done with Rejang speakers. However, it now seems likely that such work, when it is done, will show that the barred nasals are not ingressive, as is suggested in this monograph.

Athens, Ohio
December, 1982

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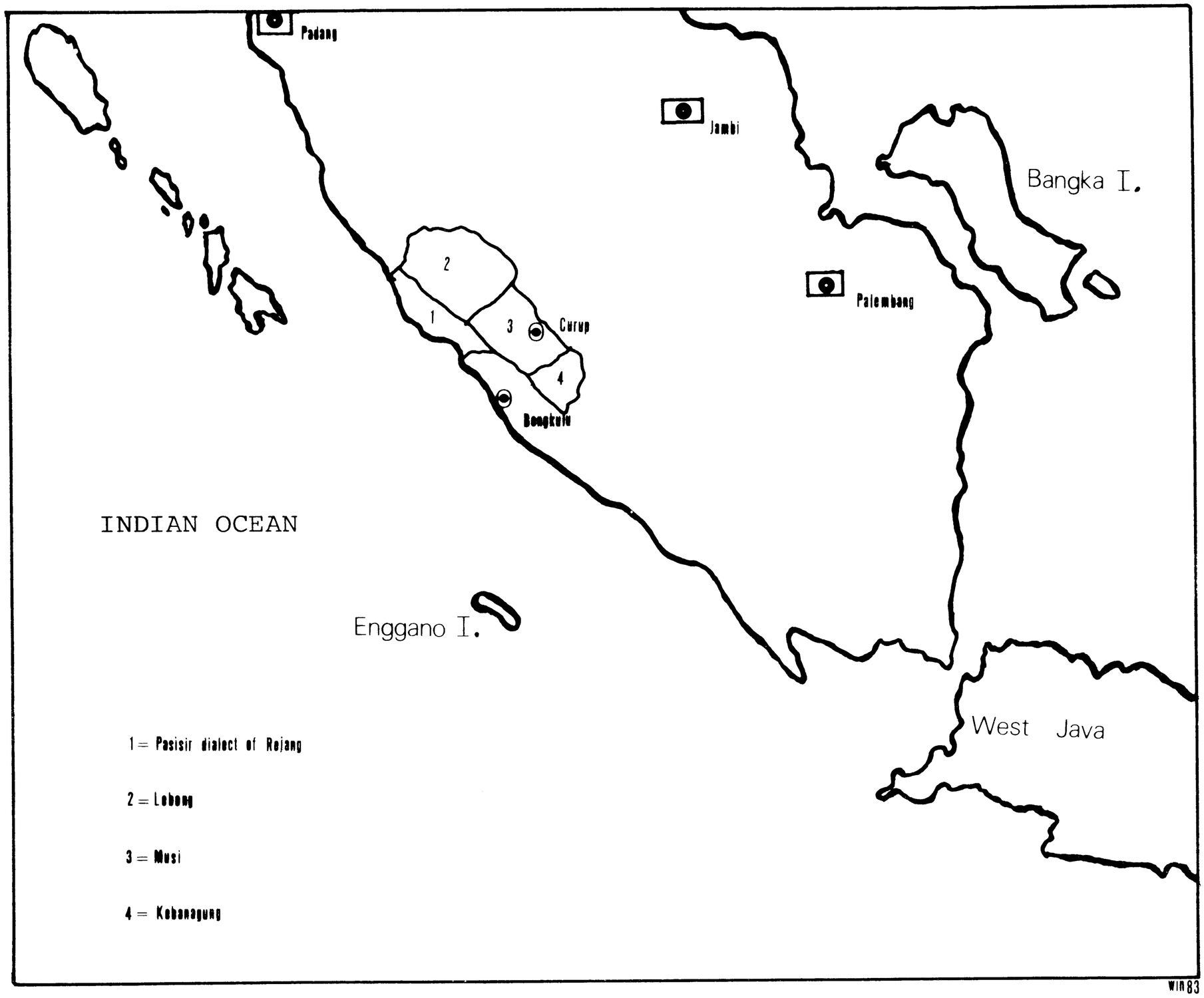


Map of Southern Sumatra showing Rejang area

Chapter One

INTRODUCTION

1.0 Introduction

The purpose of this dissertation is to present a generative-transformational account of the Rejang language of Sumatra, Indonesia. Previous references to Rejang are few, and are discussed in Chapter V, Phonology.

The thesis of this dissertation is that Rejang grammar has a transformational component, but one that is constrained in such a way that no movement of a Noun Phrase is permitted within the bounds of the core grammar. This thesis represents an attempt to explain the syntax of a Western Austronesian language in terms of a perfectly general prohibition on NP Movement rules.

The thesis is "theory bound" in the sense that it is plausible only within the Lexicalist Hypothesis (Chomsky, 1970; Jackendoff, 1972). It follows, therefore, that if the thesis is correct for Rejang, the Lexicalist Hypothesis receives some empirical support.

The purpose of the present chapter is to describe the background of the research upon which this dissertation is based, followed by the theoretical approach adopted in the thesis. Finally, the main thesis of the dissertation, the Rejang Noun Phrase Movement Prohibition Hypothesis, is defined.

1.1 Background and classification of Rejang

According to Noss (1969) there are 204,000 speakers of Rejang. Oral testimony of the people indicates that there are four major dialects: Musi, Lebong, Kebanagung, and Pasisir (see map).

The Rejangs live in the mountains and along the seacoast in Bengkulu Province, Sumatra, Indonesia. This part of Sumatra faces the Indian Ocean and the Mentawai Archipelago. The principal occupation of the Pasisir Rejangs is fishing, whereas the inlanders occupy themselves in agriculture. They produce rice, coffee and tobacco for export, and vegetables and carp for home use.

The total area of this country is around 2,500 square miles.

Dyen (1965) does not include Rejang in his lexicostatistical classification of the Austronesian languages. My own word-list studies indicate that Rejang would be a member of Dyen's Javo-Sumatran sub-group. Using a 200-word list prepared for use in Indonesia by Amran Halim (MS), it was found that Rejang shared 45% of the words with four different Malay dialects — Minangkabau, Palembang, Lubuk Linggau and Besemah; around 35% with more distant (geographically) Lampung and Toba Batak; and around 25% with Sundanese and Javanese. No counts are available for Serawai and Bengkulu, but the people report that Rejang does not resemble these languages.

The four Rejang dialects share high lexicostatistical percentages of shared homosemantic cognates. The following table shows that only Kebanagung shares fewer than 90% with the other dialects.

Table 1

Cognate percentages among four Rejang dialects

	Keban	Lebong	Pasisir	Musi
Kebanagung	-	-	-	-
Lebong	87.8%	-	-	-
Pasisir	87.3%	95.4%	-	-
Musi	87.3%	95.9%	96.4%	-

1.2 The Musi dialect

The dialect chosen for this study is the Musi dialect as spoken by Zainubi Arbi of Same, Curup.

1.2.1 Sociolinguistic setting

Curup is a city in the mountains, with a population of around 20,000. Many children who live in the heart of the city do not learn Rejang until they are eight or nine years old because of the mixture of peoples around the central market area. The common language of the market is Palembang Malay. Here play the children of parents who came from Java and other places in Indonesia. In-migrating adults never learn Rejang.

In social functions of any formality, the only language used is Bahasa Indonesia. Informal talk is in Rejang, but the speeches are in Indonesian.

It sometimes happens that a young Rejang will leave Curup for a few years, then return, only to pretend that he has "forgotten" Rejang, preferring to use Palembang or Jakarta Malay.

In the villages around Curup, the picture is slightly different. As in the city, formal functions in the villages are conducted in Indonesian. But unlike the city, the country folk learn Rejang as their first language and Indonesian as a second language. There are, to be sure, a few Rejangs who do not learn Indonesian at all, but they are uneducated and live far away in the forest.

In my informant's home in Curup, I never heard any language other than Rejang used among the family members. This family is

from the village of Samẽ, which is a mile from the city limits. Samẽ speech is considered by many to be the "purest" form of Rejang Musi.

Almost everybody in Curup is a farmer, or a teacher of farmer's children, or a merchant among farmers, and so on. I did not observe any socio-linguistic "levels" of speech that I could associate with occupation. Among the youth, the obvious language-switching between Rejang and one of the available Malay dialects — Palembang, Jakarta, or Bahasa Indonesia — is a phenomenon that remains to be studied.

1.2.2 Informants and field work

I have mentioned my principal source, Zainubi Arbi. Zainubi is an intelligent and articulate medical student at the University of Sriwijaya in Palembang. At the time he began working on this research project, he was nineteen years old and had left his home in Curup only a month earlier.

Zainubi had learned Rejang as a first language in the village of Samẽ. His family had moved into town when Zainubi was eight years old.

Zainubi's English improved daily throughout this project, but the language of elicitation remained Bahasa Indonesia.

On field trips to the Rejang area, Zainubi and I collected taped conversations, stories, and discussions on topics suggested by us. We got excellent cooperation from farmers when they were asked to talk about agriculture — the seasons for planting and harvesting, soil preparation, weather conditions, pests and pesticides, scientific *vs.* traditional methods of farming, secondary crops such as raising carp in the rice fields, decisions whether to use land for wet rice, dry rice, tobacco or coffee, and the marketing and preparation of agricultural products.

On two occasions Zainubi alone collected more than 70,000 words of text on the four major dialects of Rejang. This dissertation on Rejang syntax is one of several projected works that will be based on the field work described in this section.

The *modus operandi* that we followed for processing taped dialect material was as follows. First, Zainubi transcribed the taped material in the phonemic system that I taught him (and that is described in Chapter V of this dissertation). Zainubi made a phonetic note if he noticed anything interesting, and also made brief cultural notes. If there was any difference between the dialect on the tape and his own dialect, he made a complete translation of everything into his own dialect. Finally, he translated the text into Bahasa Indonesia on two separate lines — once in word-for-word fashion, and again idiomatically.

I then received these processed data and performed further operations. First, I listened to the tapes and made a phonetic transcription, using Zainubi's transcription as a guide. I marked problem utterances and scheduled a session with Zainubi to work on the problem. Next, I translated the material from Bahasa Indonesia and Rejang into English. Then I typed the Rejang texts on stencils in 40-word samples, and ran off 50 copies of each stencil. Finally, I used the 50 copies of each sample to prepare a morph file (Samarin, 1967:159). Finally, the items in the morph file were arranged according to several criteria. For example, the classification of morphs into lexical categories served grammatical description, whereas alphabetical arrangement of the morphs will be useful for the projected dictionary of Rejang.

1.3 Theoretical framework

The theoretical model chosen for this study of Rejang syntax is the Revised Extended Standard Theory (REST) of Noam Chomsky and his associates, particularly Bresnan (1970), Chomsky (1970, 1975, 1977), Chomsky and Lasnik (1977), Emonds (1976), and Jackendoff (1972).

According to Chomsky, a grammar is a set of rules whose function is to "characterize in a precise way the competence that has been acquired by a speaker of (the) language". (1970:11)

Ideally, each rule of the grammar functions to capture some generalization about the language. Why this should be so is a complex question relating to the goals of linguistic research, as stated by Chomsky as follows: "The fundamental empirical problem of linguistics is to explain how a person can acquire knowledge of a language". (1973: 232) In order to approach explanatory levels, Chomsky maintains that it is necessary to distinguish language-particular from universal, or "innate" linguistic structure, and attribute to the process of language acquisition only that part of the total structure that is language-particular. According to Jackendoff (1977:1): "Success in separating universal from language-particular components enables us to make interesting claims about the nature of the mind".

The goal of the theory is to determine the "upper bound" of the universal or innate structure of human language, and to utilize the universal parameters to explain language acquisition by assuming that they are inborn to the species. Due to the almost incredible complexity of any given language, the theory of universals is necessary to help explain how children succeed in learning whatever language they are exposed to. According to Jackendoff (1977:1): "Given the fact that children learn languages in a relatively short period of time and from rather fragmentary data, we would prefer a theory of linguistic structure in which the job of the language learner is as easy as possible, that is, in which the universal component is maximized".

Obviously, as Jackendoff points out, it will not do to assume too much for the universal, innate linguistic structure, since children learn different languages (depending only on which one they are exposed to). "Therefore," Jackendoff concludes, "the

theory must strike the proper empirical balance between the diversity of human languages and the need for them to be learnable".

Equally obviously, given the acquisition model described briefly above, the language-particular rules that the child actually acquires in the course of learning his native language must be as general as possible in order to further simplify the task. It follows that linguistic descriptions that aim for explanatory levels must formulate rules of maximum generality.

1.4 The model

The major task of restricting the number of possible grammars that the theory allows (and hence of fixing the limits of universal grammar) falls under the program of "model building". It is necessary to select a model of language that is highly restrictive yet at the same time capable of expressing all of the generalizations embodied in the data.

In the most recent version of the Standard Theory, the form of grammar consists of five components: phrase structure, transformations, lexicon, semantic rules, and phonological rules (see Figure 1). The last two components are interpretive and constitute the empirical basis for the grammar as a whole (see Chapters III and IV of this thesis). The first three components are generative in the sense of completely explicit. In Chomsky and Lasnik (1977), the base consists of the phrase structure rules. The output of the base rules is a set of "initial phrase markers" (IPM). The transformational rules operate on the IPM's to generate the class of "surface structures" (SS) and lexical insertion takes place in SS. Semantic rules and phonological rules interpret SS's, i.e., provide them with a phonological form and a logical interpretation or "reading". (cf. Chomsky and Lasnik, 1977:431 and n. 18)

The model imposes many constraints on the way rules can operate. For example, the rules apply in blocks, i.e., all Phrase Structure Rules apply before all Transformational Rules. Moreover, all rules are optional (including lexical insertion rules, (cf. Jackendoff, 1972), and all rules are unordered (cf. Fiengo, 1977; Chomsky and Lasnik, 1977: 431).

The research strategy for those working on the model itself, that is, on the metatheory, has been to discover ways to constrain the rules permitted by the various components. Constraints have been proposed for the phrase structure rules ($\bar{X}$ theory, cf. Chomsky, 1970; Jackendoff, 1977), the lexical insertion rules (Chomsky, 1970; Jackendoff, 1972) and the transformational component (Chomsky, 1973 and elsewhere; Ross, 1967; Emonds, 1971, 1976; Jackendoff, 1972; Wasow, 1977; Bresnan, 1976).

As all of the above-mentioned authors point out, a major effort is needed to restrict the transformational component, for it is the major source of excessive power permitted by the model. Restrictions on transformations fall into two classes:

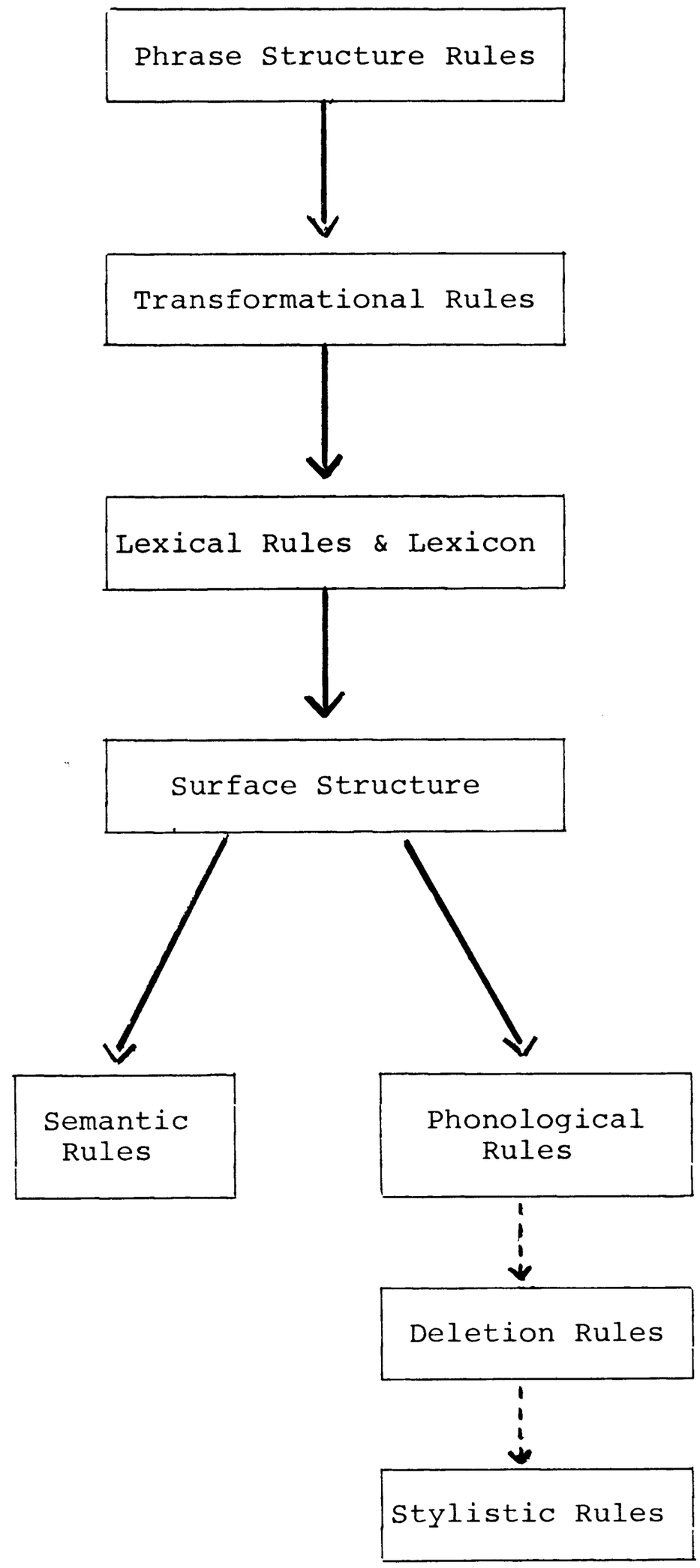


Figure 1

The model

restrictions on function and restrictions on form (Chomsky, 1973). An important functional restriction is that transformations may not extract NP's from embedded tensed sentences in English (the so-called Tensed-S Condition). An important formal restriction is that transformations are structure-dependent (and only structure-dependent), i.e., they may not refer to lexical properties of lexical items, but only to major category features, called "the terms of the proper analysis", *viz.* NP, VP, PP, P, N, S, AUX, and so on. This dissertation falls within the program of limiting the class of grammars of Rejang by stating a general condition on the function of transformational rules, i.e., that they may not move an NP in the core grammar of Rejang.

1.5 Recent theoretical advances

The Rejang Noun Phrase Movement Prohibition Hypothesis (NPMPH) to be defended in this dissertation would not have been a possible hypothesis without some theoretical advances that have come in the wake of Chomsky's *Aspects of the theory of syntax* (1965).

1.5.1 The lexicalist hypothesis

The Lexicalist Hypothesis was originally proposed by Chomsky (1967, 1970) to account for the unpredictable behavior of derived nominals in English, while maintaining a transformational account of gerundive nominals. This work for the first time distinguished regular from sub-regular syntactic processes, and associated the power of transformational analysis very strongly with regular syntactic processes. Thus, Chomsky concluded that since gerundive nominals were regularly derivable from underlying sentences, they could be derived by transformations, but that the less predictable derived nominals must be base-derived, despite the fact that in many ways derived nominals resembled sentences. Chomsky's original proposal was that lexical items be allowed to appear in the lexicon as unspecified for the category features N or V, but subcategorized in such a way as to capture the relatedness between the verb and the associated derived nominal (cf. Chomsky, 1970:22).

Chomsky's work on derived nominals in English opened the way for there to be more than just transformational rules as the only means of relating two elements in the grammar. It now became possible to express certain regularities in the Lexicon, (and yet others by means of the $\bar{X}$ convention cf. Chapter II).

The work of Jackendoff (1972) has replaced Chomsky's original proposal of abstract (partially specified) lexical items. In Jackendoff's version of the Lexicalist Hypothesis,lexical items are fully specified, and a new kind of rule is introduced to capture the relatedness between lexical items such as verbs and associated derived nominals. The new rule type is called "lexical redundancy rule" (originally suggested as a possibility by Chomsky, 1965:168).

The importance of the Lexicalist Hypothesis to the thesis of this dissertation is that it permits the maximally general statement of the Rejang NPMP Hypothesis as a plausible theory of a human language. It does so because it automatically removes a great number of possible NP Movement rules from the general theory of language. In particular, it removes from the theory of language the technique of the generative semanticists (Lakoff, 1971; McCawley, 1968) of deriving lexical items by means of transformations "lowering" NP's from higher sentences, often of purely abstract character.

Moreover, recent work within the Extended Standard Theory of Chomsky and his associates has further reduced the number of NP Movement rules that need to be assumed for the analysis of languages like English. Oehrle (1975) has argued that "dative movement" is not a transformational process in English because there are lexical exceptions. Wasow (1977) has argued that English has two passivization processes, one transformational, but the other base-derived. The regularities associated with the lesser productive non-transformational processes are captured by means of lexical redundancy rules. Wasow makes a similar case for base-derived causative verbs in English.

The trend is so strong that Freidin (1974) and Bresnan (1976), according to Wasow (1977:328), "have suggested that all structure-preserving transformations . be re-formulated as lexical redundancy rules".

Finally, Chomsky and Lasnik's work on filters and semantic rules of obligatory control, serve to remove yet another class of potential NP Movement rules from the grammar of English, namely the "raising to object" rules (cf. Postal, 1974, for a counter-argument).

If all of these recent developments are adopted and extended, and applied to the data of Rejang, then it becomes possible to suggest an NP Movement Prohibition as a possible hypothesis about a type of human language.

1.5.2 Core grammar

The concept of "core grammar" developed in recent works by Chomsky (cf. Chomsky and Lasnik, 1977:430) is important to the thesis of this dissertation, for it removes two possible counterexamples to the thesis that have been found in the data.

Excluded from the core grammar of Rejang are the rules of "scrambling". Scrambling rules apply at the end of the grammar and account for unusual word orders. In Rejang, they are always accompanied by marked intonation patterns.

The phenomenon of scrambling has been intensively studied for Bahasa Indonesia by Halim (1974). Halim found that a discourse model was necessary to explain fully the number of possible word orders in

sentences in Bahasa Indonesia. Moreover, he presents a detailed study of the intonational and stress changes that accompany the scrambling rules in Indonesian.

In field work on Rejang, it was found that precisely the same scrambling and intonational features that Halim found in Indonesian were operative in Rejang. This suggests typological relevance for Halim's work (see Chapter VI).

Another type of rule that falls outside the core grammar of Rejang is the rule that moves a quantifier phrase. Rejang quantifier phrases may appear either before or after the head Noun. (cf. Greenberg, 1975: 27 for some discussion of this phenomenon of "apparent free variation" of the relative ordering of quantifier phrases in the world's languages.) If the Rejang quantifier phrase is an NP, then the rule moving it from the base position to the variant position would be an NP Movement rule. However, under the assumption that quantification and quantifier movement lie outside the general theory of core grammar, we are justified in regarding the Rejang data on quantifier movement to also lie outside the domain within which the major claims of the thesis are made.

The following quotation by Chomsky and Lasnik sums up the theory of core grammar.

> The transformational rules of the core grammar are unordered and optional. Structural conditions are severely restricted. Neither truth functions (*or*, *not*, etc.) nor quantification is permitted. (Chomsky and Lasnik, 1977: 431)

According to Bever, Katz, and Langendoen (1976), the theory of core grammar represents Chomsky's response to the dilemma posed by his 1965 theory in *Aspects*.

In the 1965 model, transformations were expected not only to generate all and only the sentences of the language, but also to account for "degrees of grammaticalness". Chomsky recognized two kinds of oddity associated with sentences like the following:

(1) Colorless green ideas sleep furiously.
(2) John died the cat.

In sentence (1), the oddity is atributable to violations of what Chomsky called "selectional restrictions". That is, there is nothing wrong with the sentence syntactically, except that it makes no semantic sense due to the selectional relations among the lexical items. Sentence (2), however, is deviant in quite a different way. In sentence (2) there appears to be a syntactic violation because an intransitive verb appears in a sentence that looks to be transitive.

In the *Aspects* model, both kinds of violation were excluded as ungrammatical, although on a different basis. Whereas (1) was considered ungrammatical because it violated selectional restrictions, (2) was excluded because it violated subcategory co-occurrence restrictions.

In his recent works, Chomsky has returned to the position stated earlier, in 1957, that the grammar should account only for subcategory restrictions, but not selectional restrictions. That is, the sentence (1) must be considered grammatical in English (although "unsemantic"), whereas (2) is ungrammatical.

The reason that the *Aspects* model looked attractive, for a while at least, was that it offered hope that a viable new linguistic level could be postulated, a level that would serve as the repository not only of the base structure of sentences, but also of the information necessary for semantic interpretation, and thus solve, in part at least, the ancient problem of the relationship between language and thought. The particular assumption upon which this hope rested was called the Katz-Postal Hypothesis, after Katz and Postal (1964).

Linguists who developed the Katz-Postal Hypothesis, and who considered that the most important research into linguistic theory depended upon this hypothesis, called themselves "generative semanticists". This name represented in part the attempt of many linguists to associate linguistic underlying, or "deep" structure, with universal semantic structure. Investigation of the problem of "degrees of grammaticalness" became an important focus of research for linguists like Lakoff, McCawley, and Postal.

Chomsky, on his part, quickly retreated from the position of the generative semanticists on the grounds that the domain of their research interests included too much of what he considered "mysterious" (cf. Chomsky, 1975, Chapter IV). Chomsky concluded that much more work needs to be done in the field of linguistic structure and the theory of competence before very much of interest can be claimed for the relationship of thought and language.

According to Bever, Katz, and Langendoen (1976), [reported in Townsend and Bever, 1977:2], Chomsky's answer to post-*Aspects* speculation was that

> . . . phenomena such as degrees of grammaticalness are peripheral phenomena that are not crucial to the main form of linguistic theory . . . Linguistic theory should provide a general characterization of linguistic knowledge. Other properties of the linguistic organism, such as belief systems, processing mechanisms, etc., may interact with linguistic knowledge when language is used.

It might be added that Chomsky's program seems more suitable than the generative semanticists' for field study of a previously unstudied language such as is represented in this dissertation, because the goal of the research is restricted to structural matters that can be described and, with an adequate grammar, partially explained by means of formal rules. This is a much more modest goal than the attempt to include "degrees of grammaticalness" and even to attempt to match rules with semantic classes of Verbs and Nouns. This is not to say that such

work is not important, but only to deny that attempts at formal accounts of languages, such as the present dissertation, have no more place in linguistics. On the contrary, it is believed that formal descriptions should precede attempts at semantic explanations for syntactic phenomena. This dissertation is partly an attempt to demonstrate the viability of Chomsky's "absolute autonomy" thesis for field linguistics.

1.5.3 Trace theory

In the most recent version of the Standard Theory, transformations are optional and unordered. This improvement of the theory is due to the work of Chomsky in developing his theory of "traces" and of Fiengo (1974, 1977) in observing that the theory of traces permits transformations to be formulated as applying optionally. Trace-theory permits the old "deep structure" of *Aspects* to be eliminated. In *Aspects* and also in later versions of the Extended Standard Theory, it was held that the level of deep structure was necessary for the correct interpretation of grammatical relations — Subject, Direct Object, Indirect Object, and so on. Transformations that move NP's, such as the "Agent Postposing" and "NP Preposing", remove the "logical" subject and object from their deep structure positions, making interpretation of grammatical function dependent upon the original deep structure positions. But according to the later versions of the model, NP Movement rules leave behind a trace from which can be read the grammatical relations that the moved NP (which binds the trace as in anaphoric reference) has to the verb. The relevant quotation is as follows:

> . . . we do have a simple way to derive the 'logical form' of the sentences in question from surface structures in which trace appears . . . when a transformation moves a phrase P from position X to position Y, it leaves in position X a trace t bound by P. (Chomsky, 1975:95)

Chomsky's trace theory appears to be necessary to constrain the theory of NP Movement in English and enable grammatical relations to be read off of (an enriched version of) surface structure. The following sentence offers a simple illustration of how traces function in the interpretation of sentences.

(3) *What* did John see t?

In sentence (3), Chomsky assumes that the underlined phrase has moved from the position marked "t" to the front of the sentence in a transformation called WH-Movement (cf. Chomsky and Lasnik, 1977:433). The marker "t" remains in the old position of the moved WH-phrase and is bound by the moved phrase in the same way that a pronoun is bound semantically by its antecedent.

Through the use of traces, Chomsky is able to maintain his theory that, in English, the direct object function is interpretable solely on the basis of the phrase structure configuration, namely NP, VP (cf. *Aspects*, 1965:69). Under the assumptions of trace theory, it is possible to interpret an NP as the Direct Object even after it has been moved from its original base structure position by a transformation. That is, in sentences like (3), the trace "t" still occupies the position specified as NP, VP, S. It is understood that "t" is "bound by" the moved phrase *what*, i.e., is co-referential with it.

Trace theory is important for the present dissertation for two reasons. First, adopting trace theory has an indirect effect of making the Rejang NP Movement Prohibition Hypothesis more plausible than it would have been before trace theory was introduced into the Extended Standard Theory as a "minor notational revision . . . with far-reaching consequences for particular grammars". (Lightfoot, 1979) If, as claimed in this dissertation, no NP can be moved in Rejang, it follows that traces are not necessary to determine grammatical relations of NP's in surface structure. However, it is necessary that grammatical relations be interpretable in surface structure. Trace theory merely permits this interpretation in languages richer in movement rules than Rejang.

Second and more importantly, trace theory permits a systematic analysis of an apparent exception to the main thesis of this dissertation (cf. Chapter II, 2.12).

It is highly significant that the model of language expounded by Chomsky and Lasnik (1977) is able to suggest solutions to several otherwise baffling problems in the data. It is important to note also that the suggested solutions to the Rejang problems posed in this dissertation have been derived with no major revisions to the general theory.

The value of the general theory is that it permits the linguist working with "exotic" language material to suggest language-particular solutions, just so long as those solutions are sufficiently general to appear *prima facie* interesting. In other words, it frees the investigator to develop a special theory of the grammar.

The thesis of this dissertation is that the grammar of Rejang is organized around a principle of fixed Noun Phrase ordering in surface structure. The principle enables a psychological strategy to hold throughout the adult grammar, namely, the strategy that interprets the first Noun Phrase in any sentence to be the Subject (see 1.7, 1.8 and Chapter III).

1.6 The Rejang noun phrase movement prohibition hypothesis

The thesis of this dissertation is that Rejang grammar has a transformational component, but one that is constrained in such a way that no movement of a Noun Phrase is permitted. If the thesis is correct, then there is automatically an explanation for a number of facts peculiar to Rejang and many Western Austronesian languages. For example, a non-Subject Noun Phrase is

never permitted to appear before the verb in a sentence. One aspect of this peculiar constraint is mentioned in Keenan and Comrie (1977:68-69). Moreover, Keenan (1972:169) has suggested that the explanation, for Malagasy at least, requires some constraints on the permitted movement of Noun Phrases by transformations.

This dissertation attempts to go beyond Keenan and Comrie's formulation of the problem. Here the attempt is made to explain certain features of the syntax of a Western Austronesian language in terms of a theoretically circumscribed general prohibition on NP movement rules.

The data that the NP Movement Prohibition theory attempts to explain may be illustrated with English data briefly below. The problem for any theory of Austronesian languages is to explain why the analogues of the following English sentences are ungrammatical:

(i) *What* did John see?
(ii) I know *what* John saw.
(iii) I know the man *whom* John saw.
(iv) *Whose* nose is long?
(v) *Who* did John give the book to?
(vi) *The book* is easy to read.
(vii) *what* did John claim that Mary bought?
(viii) *Who* is Mary taller than?

In Rejang, the analogues of all eight of the above sentences are ungrammatical.

The facts of the English sentences are presumably accounted for by some base rules supplemented by one or more NP movement rules. However, in Rejang, it is suggested that the ungrammaticality of (i)-(viii) is to be explained most simply within a theory in which no NP Movement transformations ever apply. Within such a theory of the grammar of Rejang, all proposed universal conditions on NP Movement, such as the "tensed-S condition" and the "specified Subject condition," and so on, cannot be verified but are all simply vacuous.

Previous investigators into the syntax of Western Austronesian languages have attempted to explain why sentences analogous to (i)-(viii) are ungrammatical. For example, Keenan (1972 and 1976) has suggested a rather large number of constraints on NP movement rules for Malagasy. Moreover, Keenan utilized his proposed constraints to argue the case for a particular view of universal grammar, one which permits a much richer variety of theoretical entities than is permitted in the Extended Standard Theory.

For example, Keenan (1972:172) described a "basic constraint" on Malagasy relativization as follows: "An NP position in a S can be relativized into if and only if it is in the Subject position of the S". Thus Keenan's explanation of the ungrammaticality of the analogue of (iii) in Malagasy is that the direct object (*whom*) is not "accessible" to relativization and movement (fronting).

According to the thesis of this dissertation, the deeper principle underlying the ungrammaticality of (i)-(viii) is a general constraint against NP Movement. Hence, it is not a case of a peculiar condition on "accessibility" to relativization. Rather, a general constraint holds throughout the grammar disallowing movement of any NP, including the "deep structure" Objects in (i)-(iii).

What is particularly odd about the ungrammaticality of the Rejang analogues of sentences (i) and (ii) is that the constraint is only against non-Subject NP's appearing before the Verb. But Prepositional Phrases may appear there. The analogues of the following sentences are grammatical in Rejang:

(ix) *To whom* did John give the money t?
(x) I know the man *to whom* John gave the money t.

Keenan and Comrie (1977:67-68) have noted the same phenomenon in Toba Batak, and have found it to be an exception to their proposed Universal Noun Phrase Accessibility Hierarchy. According to their prediction, if (ix) and (x) are grammatical, then (i) and (ii) should also be grammatical. But (i) and (ii) are ungrammatical in Rejang and Toba Batak.

In order to explain the exception, Keenan and Comrie propose that the grammar of Toba Batak can be complicated in the following way. They assume that the ungrammaticality of (i) and (ii) is only superficial; that (i) and (ii) are actually well-formed intermediate structures that are subject to a special rule of "obligatory passivization". Through this special process, (i) and (ii) are transformed into the grammatical analogues:

(i)' *What was seen by John?*
(ii)' *I know the man who was seen by John.*

The theory of "obligatory passivization" would be very complex if actually formulated precisely. It is important to note that Keenan himself (in Hawkins and Keenan, 1974) failed to find psycholinguistic support for any "promotion to subject" strategy in relative clauses. Such a strategy is inherent in the thesis of "obligatory passivization" to explain the ungrammaticality of (ii) beside the grammaticality of (ii)' in Toba Batak and other Western Austronesian languages.

The question posed by Hawkins and Keenan was whether "promotion to relativize" might be a strategy that can function to simplify the grammar. The results, however, were negative, and the authors concluded that "promoting to relativize is certainly not universally easier than relativizing directly". (cited in Keenan and Comrie:89)

In this dissertation, on the other hand, in order to explain the Rejang analogues of (i)-(ii) and (ix)-(x), the opposite position to that of Keenan is adopted. That is, it is assumed that the exceptional ungrammaticality of (i) and (ii) is not to be explained as an "opaque" or hard-to-learn feature of

the grammar of Rejang. Rather, the explanation derives from recognition of an important principle of the language, namely that no Noun Phrase can ever be moved. This principle entails that the grammatical relations of Subject, Object, and Indirect Object must be always interpretable on the basis of surface structure word order.

It is a feature of the general theory adopted here that the analogue of *I know the man who was seen by John* need not be derived by rules that move NP's. Rather, in this dissertation, it is argued that passive sentences are base-derived (cf. Chapter IV). Hence the analogue of the underlined sentence is generated directly by the base component of the grammar. The advantage of such an approach is seen in the overall effect on the grammar, wherein the ungrammaticality of (i)-(viii) are all explained by a single hypothesis.

1.7 The relation of the NPMPH to a perceptual strategy

The thesis, if correct, may be said to facilitate a universal perceptual strategy that has been reported by Bever (1970). The strategy is: "take the first Noun of any sentence to be the subject". Research by Sheldon (1974) has confirmed Bever's theory that all children pass through a period where the above-mentioned perceptual strategy is applied to every sentence. Sheldon found that all children pass through a period of actively misinterpreting those sentences in which the first noun is the object rather than the subject. (cf. Sheldon, 1974:21)

The implications of these findings for the grammar of Rejang presented in this thesis appear to be as follows: Rejang (and typologically similar languages) is organized in such a way that when children learning the language pass through the stage when the perceptual strategy mentioned above is operative, the children's projected grammars are almost totally confirmed by the subsequent data of the language, up to the adult grammar. One further modification that the adult grammar of Rejang imposes on the learner is embodied in the following strategy:"Take the first non-Obligue Noun of any sentence to be the Subject". (cf. 3.1.1, Case-Marking, p.29).

1.8 The relation of the hypothesis to the projection problem

If the thesis is correct, then the problem of how Rejang children acquire competence in their language may be partially solved because a large number of possible analyses of individual sentences is automatically ruled out. For example, if we assume that the thesis is correct, then it follows that Rejang passives must be base-derived, not formed by rules pre-posing and post-posing NP's.

1.9 Relation of the hypothesis to the form of linguistic theory

The thesis of this dissertation is "theory bound" in the sense that it is plausible only within the theory of transformational grammar, and specifically within the version of the theory that incorporates the Lexicalist Hypothesis. Put in another way, the Rejang NPMPH "follows from" a general theory that permits transformational rules, but that does not *require* that NP Movement rules be an essential part of the core grammar of every language. Therefore, if there are transformationalist theories that make *essential* use of NP Movement rules (generative semantics and relational grammar are obvious candidates), then the accumulated evidence in support of the Rejang grammar presented in this dissertation suggests that the more restricted theory of transformations espoused by Chomsky and Jackendoff is a better theory.

* * *

Chapter Two

WH-MOVEMENT

2.0 Introduction

The purpose of this chapter is to suggest that a transformational approach to certain kinds of sentence embedding problems has advantages. At the same time it is seen that no transformational rules that move Noun Phrases are necessary.

The importance of demonstrating the advantages of a transformational approach to syntax in this dissertation should be fairly obvious. The thesis of this dissertation is that Rejang has no NP Movement transformations. This thesis is of possible interest only if it can be shown that it has explanatory power.

Of course, it might be the case that Rejang is a language that does not have a transformational component at all (cf. Hale *et. al.*, 1977). If this were the case, then the thesis of this dissertation could be only trivially true, at best. It is therefore necessary to show that Rejang does have a transformational component, but one which is typologically unusual because no movement of an NP is ever permitted.

In this chapter, three construction types are discussed: Questions, Embedded Questions, and Relative Clauses. The goal of the description is to show that the same transformational rules of WH-ATTACHMENT and WH-MOVEMENT apply in all three constructions. This approach attempts to capture the relatedness among the constructions.

The organization of this chapter is as follows. First, some preliminary observations on Rejang sentences are made, followed by an introduction to the role of Phrase Structure rules and the $\overline{X}$ convention in the grammar of Rejang. Finally, a transformational approach to certain cases of sentence embedding is developed.

The most important rule as far as the dissertation is concerned is the rule called here WH-MOVEMENT (to emphasize its universality). It is found that in Rejang, the rule of WH-MOVEMENT, applying in Questions, Embedded Questions, and Relative Clauses, can be stated most simply as applying only to Prepositional Phrases, never to Noun Phrases.

2.1 Preliminary observations of Rejang sentences

Rejang is a "nucleus-initial" language (cf. Hale *et. al.*, 1977), i.e., complements follow the head or nucleus of the phrase. Moreover, modifiers also follow their heads. Thus in the terminology of Greenberg (1963), Rejang is a "rigid VO language ".

The following sentences illustrate the basic order of Rejang sentence constituents.

(1) i Objects follow the Verb

Ali kemlea? bu?ung ?o[1]
1 2 3 4

'Ali sees the bird.'
1 2 4 3

ii NP's follow Prepositions

Ali alew may umea? Zul
1 2 3 4 5

'Ali went to Zul's house.'
1 2 3 5 4

iii Possessive NP's follow the Noun [see 4-5 in (ii) above].

iv Articles follow the Noun [see 4 in (i) above].

v In the Comparative, the Standard follows the Adjective

Dèsi alep kuñaè Hanis
1 2 3 4

'Desi is pretty(er) than Hanis.'

vi Adjectives follow the Noun

Dèsi smulen alep
1 2 3

'Desi is a pretty girl.'
1 3 2

vii Relative Clauses follow the Noun

do?o bu?ung di kenlèa? Ali ?o
1 2 3 4 5 6

'That is the bird (*that) seen
1 6 2 3 4

by Ali.'
5

It is a special feature of Rejang that none of the orders described in (1) i - vii may be re-ordered by a movement rule.

We take it for granted that the grammar should attempt to capture cross-category generalizations associated with the rigid ordering of heads with respect to complements.

Not included in the above list is the following generalization:

(2) Prepositional Phrases follow the verb

Jon mliė bukew ʔo magea Ali
1 2 3 4 5 6

'John gave the book to Ali.'
1 2 4 3 5 6

Prepositonal Phrases differ from other kinds of complements in Rejang in that they may occur in other positions besides following the nucleus, or governing, Verb. Consider the following two sentences (both Questions):

(3) i *Jon mliė bukew ʔo magea api*
1 2 3 4 5 6

'John gave the book to whom?'
1 2 4 3 5 6

ii *magea api Jon mliė bukew ʔo*
1 2 3 4 5 6

'To whom did John give the book?'
1 2 3 4 5 6

The sentence (3) i conforms to the generalization that complements follow the nucleus in Rejang, but (3) ii does not. Sentences (3) i - ii are variant forms of the same Question, if a certain degree of abstractness is permitted in the statement of the relationship between the two sentences. In the grammar presented in this dissertation, they are called WH-Questions, and *api* is called a WH-Pronoun.

In Rejang, WH-Questions may occur as embedded sentences following certain verbs such as *namen* 'know'. As expected, the embedded sentence follows the nucleus Verb.

(4) Embedded Questions follow the Verb

uku namen magea api Jon mliė
1 2 3 4 5 6

bukew ʔo
7 8

'I know to whom John gave the book.'
1 2 3 4 5 6 8 7

Sentence (4) above may be described as "related to" sentence (3) ii in the following way: sentence (3) ii is embedded as a complement of the verb *namen*.

Furthermore, within the complement sentence, as in (3) ii, the Prepositional Phrase precedes the Verb. What is interesting about this is that, in (4) the Prep Phrase *need not* precede the Verb. Put in another way, it is permitted for (3) i to be a complement of the Verb *namen*. That is, the following sentence is perfectly normal in Rejang:

(5) *Uku namen Jon mliė bukew ʔo*
1 2 3 4 5 6

magea api
7 8

'*I know John gave the book to
1 2 3 4 6 5 7

whom.'
8

The grammaticality of (5) indicates that not only may Prep Phrases precede or follow the verb in WH-Questions (as in English), but they may precede or follow the verb in embedded WH-Questions as well.

How does this fact relate to the generalization that complements follow the nucleus in Rejang? We can preserve the generalization by adopting a transformational approach to sentences (3) ii and (4). If sentences (3) ii and (4) are derived not by the base rules of the grammar but by transformations, then the generalization can be said to apply only to structures generated by the base. An added benefit of the transformational approach is that an explanation for the grammatical sentence (5) becomes available. That is, if (3) ii is "derived from" sentence (3) i by a transformational rule that is "optional", then sentence (4) may be derived from sentence (5) by the same rule. Hence Rejang Prep Phrases may freely occur either before or after the verb in WH-Questions and embedded WH-Questions. The facts of both sentence types may be described together in a transformational approach. (See pp. 25f.)

Finally, notice that the English gloss of sentence (5) is ungrammatical. At this point, it is an open question whether to consider it an "odd fact" about English that embedded WH-Questions are restricted by WH-Movement, thus missing out on a generalization. That is, it is clear that in English, WH-Movement is "obligatory" in certain contexts. However, given our assumption that in the core grammar, all transformations are optional, the Rejang case, which shows identical structures for WH-Questions and embedded WH-Questions, must be considered as the "normal" (unmarked) structure from the point of view of universal grammar.

At the very least, this justifies attempting to approach sentences (3) ii and (4) transformationally. This justification is independent of the previous one, namely, that the transformational approach permits the generalization to be maintained that complements follow the nucleus in Rejang.

Another reason for attempting to approach sentences (3) ii and (4) transformationally relates to the problem of Verb subcategorization (cf. Chapter III). The

verb *mlìè* 'give' need not be subcategorized to "take" a Prep Phrase either before it or after it, as would be necessary if sentences (3) i - ii were to be treated exactly the same in the grammar. If a transformational approach is adopted, then *mlìè* may be subcategorized to take a Prep Phrase in the environment: _____ NP PP. This environmental statement in the lexicon conforms to the generalization that, in base structures, complements follow the nucleus.

In the next section, the Phrase Structure component of the grammar is developed in such a way that the generalization relating to Rejang "nucleus-initial" structure is emphasized.

2.2 Cross-category generalizations

It is assumed that the basic features of the syntax are as follows:

(6)

	+V	-V
+N	Adjective	Noun
-N	Verb	Preposition

From the above basic features, the major category symbols of the base rules are "projected", according to the conventions of the $\bar{X}$ theory (cf. Chomsky, 1970, and Chomsky and Lasnik, 1977:430-431). The convention adopted for Rejang in this thesis is described in the chart below:

(7)

NP	VP	AP	PP	i
$\bar{N}$	$\bar{V}$	$\bar{A}$	$\bar{P}$	ii
N	V	A	P	iii

In the Phrase Structure (also called base) rules of this thesis, the symbols N, V, A, and P are terminal nodes interpreted according to the feature system (6) above. In (7) iii, these symbols are dominated by the symbols $\bar{N}$, $\bar{V}$, $\bar{A}$, and $\bar{P}$. These symbols are interpreted as non-terminal nodes of the grammar designating the heads of phrases. As will be seen, heads of phrases may be expanded into an appropriate complement and the terminal nodes shown in (7) iii.

The heads of phrases may be represented by an abstract schematism known as $\bar{X}$. The interpretation of $\bar{X}$ is any or all of $\bar{N}$, $\bar{V}$, $\bar{A}$, or $\bar{P}$.

Dominating the symbols $\bar{N}$, etc., in (7) ii are the symbols NP, VP, AP, and PP. These were represented in Chomsky (1970) as $\bar{\bar{N}}$, and so on. In this thesis, we shall use the symbols NP, VP, etc., for ease of reading.

The symbols represented in (7) will be further explained in the discussion that follows.

The nucleus-initial structure of Rejang illustrated in sentences (1) i - vi and (2) may be described by the following schemata, which represent the major cross-category generalizations of the grammar. The schemata may be thought of as representing parallelisms discovered in the Phrase Structure rules. Put in another way, the schemata represent constraints on the Phrase Structure rules, because the PS rules to be developed below must conform to the schemata.

The fact that in Rejang complements follow the nucleus may be represented by the following rule schema:

(8) $\bar{X} \longrightarrow X \quad \ldots$

:where X represents any N, V, A, or P, and ... represents the full range of complements of N, V, A, or P.

The rule schema (8) is interpreted to mean that for all major categories of the grammar, $\bar{X}$ is expanded into X + complement. This expresses the generalization embodied in the typological statement: Rejang is a rigid VO language.

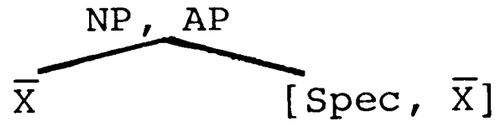
2.3 Specifiers

An important feature of the $\bar{X}$ theory is that the $\bar{X}$ constructions themselves are dominated by higher nodes and introduced together with their appropriate "Specifiers".

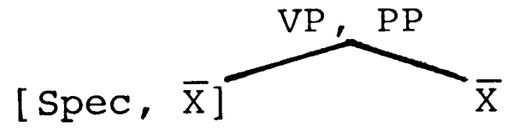
The major category NP is expanded into $\bar{N}$ + Determiner; VP into (Aspect)(Mode)+$\bar{V}$; AP into $\bar{A}$+Adv; and PP into Adv + $\bar{P}$.

The position of the Specifiers in relation to their sister nodes divides Rejang major category phrases into two types, as expressed below:

(9) i Substantive Phrases (NP's and AP's)



ii Predicative Phrases (VP's and PP's)



As is illustrated above, in the "substantive-phrase" type, the Specifier follows $\bar{X}$, whereas in the "predicative-phrase" type, the Specifier precedes $\bar{X}$. These are illustrated with sentences below:

(10) i $\bar{N}$ + Determiner

tun di teko ʔo adɨ̀ba tɨ̀aʔ ku
$\bar{N}$ Det $\bar{N}$ Det
1 2 3 4 5 6 7

'The man who came is my father.'
4 1 2 3 5 7 6

ii $\bar{A}$ + Adverb

biney lut
$\bar{A}$ Adv.
1 2

'very brave'
2 1

(11) i Aspect + Mode + $\bar{V}$

Alui bi ʔarus bɨ̀lɨ̀ʔ may umeaʔ
Aspect Mode $\bar{V}$
1 2 3 4 5 6

'Alui has had to go home.'
1 2 3 4- 5-6

ii Adverb + $\bar{P}$

kelmen naʔ tebo
Adv $\bar{P}$
1 2 3

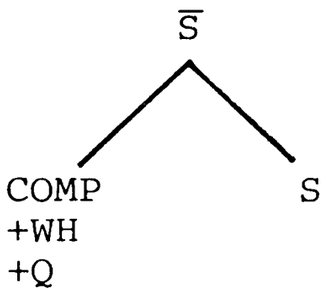
'yesterday on the mountain'
1 2 3

2.4 Sentential specifiers

According to Bresnan's theory (1970), sentences are also universally introduced by Specifiers. The class of sentential Specifiers are called "complementizers", symbolized COMP. Constructions consisting of the nodes COMP + S are introduced as an expansion of the major category $\bar{S}$.

Following Bresnan, we assume that derivations in the grammar may begin with expansion of the node $\bar{S}$. The following is the partial underlying structure for WH-Questions in Rejang:

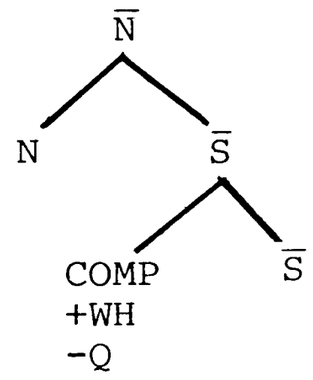
(12)



Bresnan's approach permits parallel underlying structures to be posited for both WH-Questions and Relative Clauses in Rejang. That is, whereas the derivation of WH-Questions begins with $\bar{S}$, relative clauses contain an embedded $\bar{S}$ dominated by $\bar{N}$. The following is the proposed partial structure of Rejang

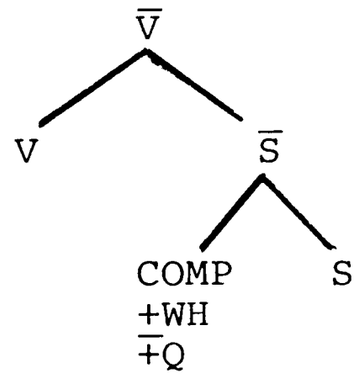
Relative Clauses:

(13)



We shall continue to exploit the parallelisms and assume the following base structures for embedded questions. There are two possibilities, represented by the feature ±WH in the COMP node:

(14)



The above three base structures presuppose a set of Phrase Structure rules and the existence of a set of complementizers. The development of these structures will proceed below preliminary to the description of Rejang Relative Clauses, Questions, and Embedded Questions.

2.5 Phrase structure rules

The following is a set of Phrase Structure rules for a fragment of the grammar of Rejang. A few modifications of the rules will be proposed as we proceed with the analysis.

(15)

$\bar{S} \longrightarrow$ COMP S

S $\longrightarrow$ (NP) VP

NP $\longrightarrow$ (Quantifier Phrase) $\bar{N}$ (Determiner)

$\bar{N} \longrightarrow$ N ({ NP (PP) / $\bar{S}$ })

VP $\longrightarrow$ (Aspect) (Mode) $\bar{V}$

$\bar{V} \longrightarrow$ V ({ (NP) (NP) (PP) (PP) / $\bar{S}$ })

2.6 Complementizer (COMP)

The symbol $\bar{S}$ appears in three places in the PS rules (15). $\bar{S}$ is expanded into COMP + S. The Rejang complementizers are introduced by the PS rules by base expansion of the COMP node as follows:

(16) COMP ⟶ ±Question
±WH

-Q
-WH ⟶ *bahwo* 'that'

-Q
+WH ⟶ *di* relativizer

+Q
-WH ⟶ ±direct

-direct ⟶ *amen* 'if'

+direct ⟶ *jano* question particle

+Q
+WH ⟶ Ø zero morpheme introducing WH-questions

2.7 The feature +WH

In addition to appearing on two complementizers, *di* and Ø, the feature +WH is assumed to appear also in the feature specifications of certain Pronouns and Determiners. The feature +WH is extracted from the Rejang Pronouns and Determiners in the following two sub-sections.

2.7.1 Determiners

There are eight classes of Determiners in Rejang (see Figure 2). They are introduced by the following lexical subcategory rules. These rules serve to state the feature composition of items in the lexicon.

(17) Det ⟶ ±NP

-NP ⟶ +Article
±quantity

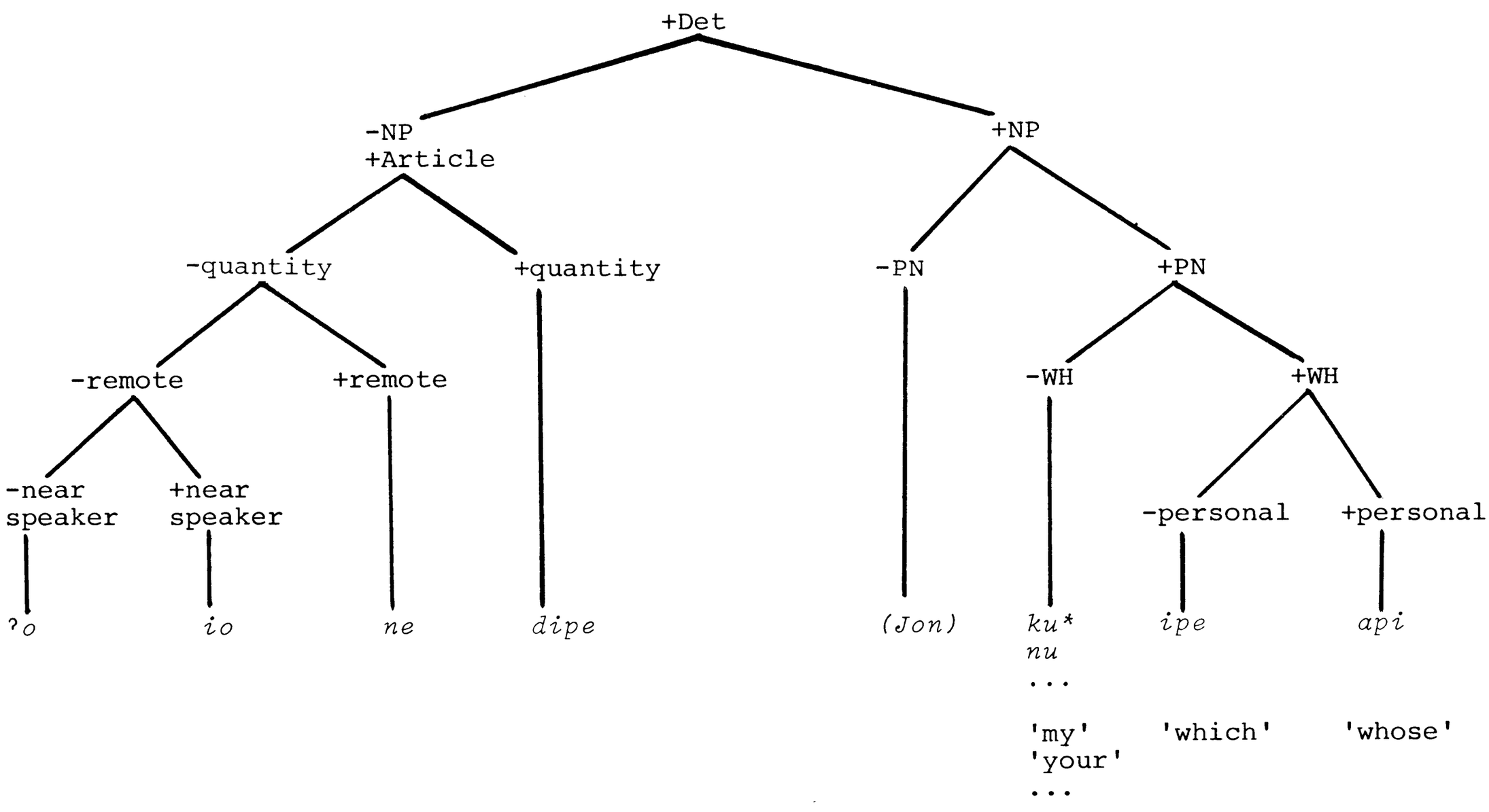
-quantity ⟶ ±remote

-remote ⟶ ±near speaker

+Det
+NP ⟶ ±PN

+PN ⟶ ±WH

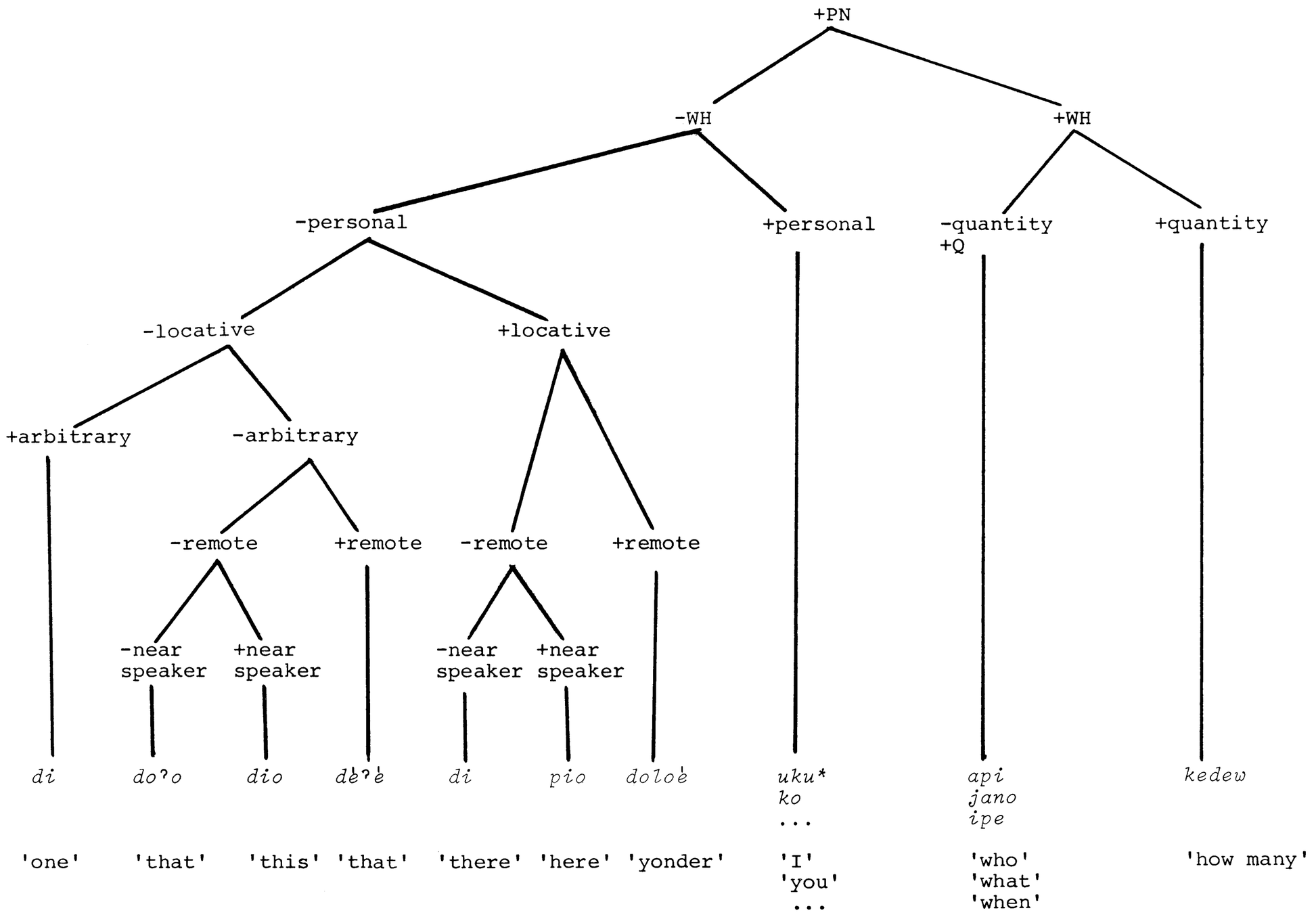
+WH ⟶ ±personal



*The personal pronouns are further developed in Chapter III.

Figure 2

Feature tree showing determiner system



*The personal pronouns are further expanded in Chapter III.

Figure 3

Feature tree showing pronoun system

2.7.2 Pronouns

In Rejang there are four major subclasses of Pronouns. They are introduced by the lexical subcategory rules below. We are interested here in the class of WH-Pronouns.

(18)
+N ⟶ ± PN
+PN ⟶ ±WH
-WH ⟶ ±personal
-personal ⟶ ±locative
-PN, +WH ⟶ ±quantifier

2.8 Yes/no questions

We have developed sufficient structure to begin the transformational analysis of Rejang sentences.

There are three types of Yes/No Questions in Rejang.

The first type is introduced by the complementizer *jano* followed by a sentence in the normal order.

(19) *jano Jon bulèa? temokoa bukew*
1 2 3 4 5

'Is John permitted to buy a book?'
1 2 3 4 5

In the second type of Yes/No Question, the Mode morpheme (represented by *bulèa?* in (19)) occurs in the COMP position, replacing *jano*.

(20) *bulèa? Jon temokoa bukew*
1 2 3 4

'May John buy a book?'
1 2 3 4

The following sentence is ungrammatical, with *bulèa?* inverted with the Subject, but *jano* undeleted:

(21) **jano bulèa? Jon temokoa bukew*

The relationship between sentence (19) and sentence (20) may be captured by assuming that sentence (19) is base-derived and that sentence (20) is derived from sentence (19) by a rule that moves the Mode morpheme into the COMP position, replacing the complementizer *jano*.

In order to account for sentences (20)-(21), we assume the following Initial Phrase Marker and the rule (23).

(22)

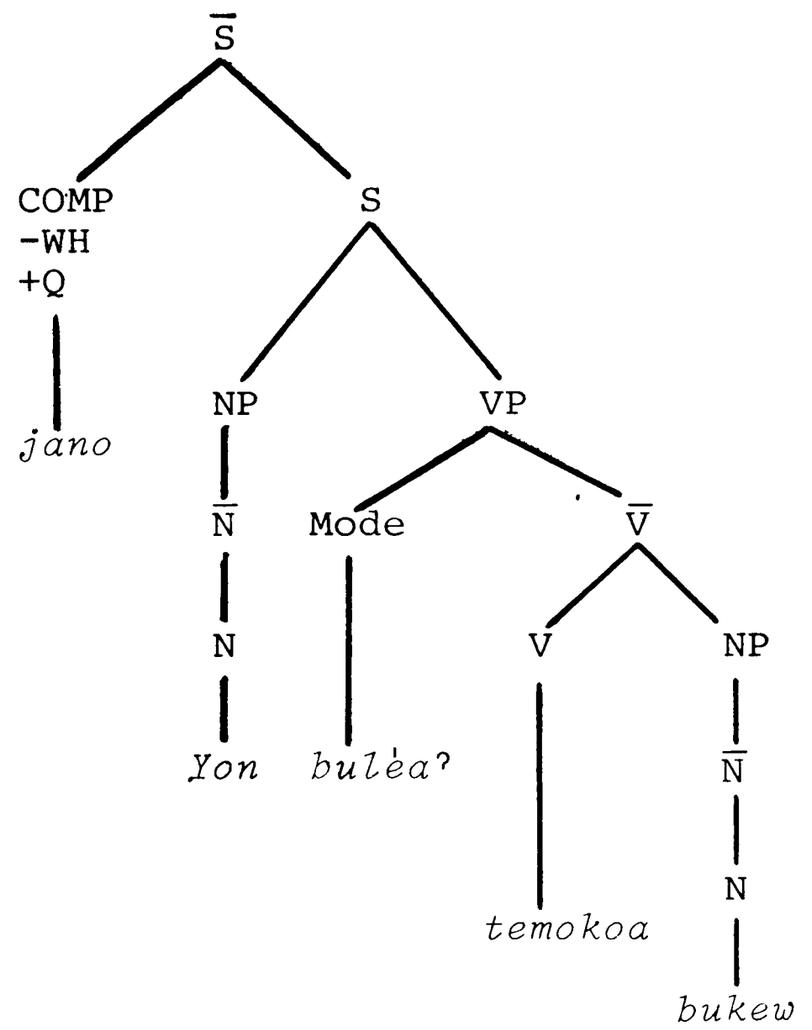


Figure 4

IPM of yes/no questions

(23)

	SD	*jano*	*Jon*	*bulea?*	*temokoa*	*bukew*
		1	2	3	4	5
	SC	3	2	∅	4	5

In the above derivation, the rule, called MODE MOVEMENT, is expressed in terms of a Structural Description (SD) and a Structural Change (SC). The factors of the transformational rule are numbered, and these numbers are called the "terms" of the SD. The terms of the SD undergo the change as indicated in the SC, that is, the third term replaces the first term.

The following is a more formal account of the same rule of MODE MOVEMENT:

(23')

$$\text{SD}\quad \underset{\bar{S}}{\left[\begin{matrix}\text{COMP}\\ +\text{WH}\\ +\text{Q}\end{matrix}\right.} \underset{S}{-\left[\text{X} - \text{Mode} - \text{Y}\right]} \underset{\bar{S}}{\left.\right]}$$

1 2 3 4

SC 3, 2, ∅, 4

The third type of yes/no question is not accounted for formally in this dissertation. In this type, the negativizer *coa* 'not' occurs at the end of the question with the meaning ' ...or not?'. The examples below illustrate this, together with some variations depending on the position of the Mode morpheme.

(24) i *Jon bulèa? temokoa bukew, coa*
1 2 3 4 5

'John may buy a book, or not?'
1 2 3 4 5

ii *bulèa? Jon temokoa bukew, coa*
1 2 3 4 5

'May John buy a book, or not?'
1 2 3 4 5

iii *Jon temokoa bukew, bulèa?, coa*
1 2 3 4 5

'Jon (will) buy a book, may
1 2 3 4

(he) or not?'
5

2.9 WH-questions

There are three major types of WH-questions in Rejang depending on the constituent within the NP that is questioned. This may be the whole NP, the Determiner, or the Quantifier Phrase. Within the Determiner, a further distinction is made between the Article and the Possessive NP; and within the QP, either the whole QP or just the Determiner of the QP may be questioned. The possibilities are therefore five, as illustrated below:

(25) i Entire NP questioned.

Api teko?
1 2

'Who came?'
1 2

ii Determiner of head noun questioned.

Kuyu? ipe teko?
1 2 3

'Which dog came?'
2 1 3

iii Possessive NP questioned.

Kuyu? api teko?
1 2 3

'Whose dog came?'
2 1 3

iv Quantifier NP questioned.

Kuyu? kedew teko?
1 2 3

'How many dogs came?'
2 2 1 3

v Determiner of quantifier NP questioned.

Kuyu? telew di dipe teko?
1 2 3 4 5

'Which three dogs came?'
3-4 2 1 5

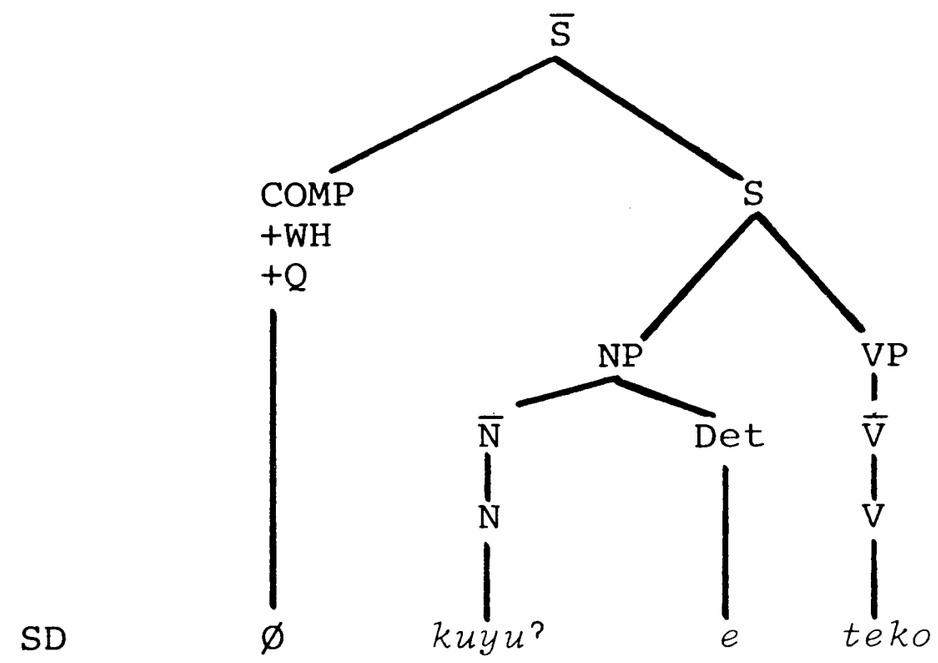
2.9.1 WH-attachment in questions

The five types of WH-questions in (25) may be accounted for by assuming an underlying COMP S structure, where the COMP is +WH, +Q (morphologically Zero). The questioned element is further assumed to be an "empty" node dominated by NP. The "empty" node is symbolized "e".

We then must assume two transformational rules: one to attach the feature +WH from the COMP position to the element marked "e"; and a second to insert the appropriate WH-Pronoun into the empty node, now marked +WH. (A late deletion convention will erase the COMP node.)

Below is the proposed tree structure for sentence (25) ii, followed by a derivation.

(25) ii'



#1 Ø *kuyu?* *e* *teko*
+WH +WH

#2 Ø *kuyu?* *ipe* *teko*
+WH +WH

#3 *kuyu?* *ipe* *teko*
+WH

Output: *kuyu? ipe teko*
1 2 3

'Which dog came?'
2 1 3

Figure 5

IPM of determiner WH-question

The explanation of the rules above is

as follows: Rule #1 is WH-Attachment, attaching the feature +WH from the COMP position to the node marked "e". Rule #2 is lexical insertion of the appropriate WH-Pronoun. In this case the Pronoun must be a Determiner. Then, Rule #3 simply deletes the COMP node by a general convention.

2.9.2 WH-movement in questions

In Rejang, WH-Movement in Questions is simply formulated as an optional transformation applying to the domain of Prepositional Phrases.

In the preceding illustrations of WH-Questions, the function of the NP that contained the WH-element was the Subject. But non-Subject NP's may also be questioned, i.e., there is no restriction on the rule of WH-Attachment in Rejang. The following four sentences illustrate further possibilities for WH-Questions in Rejang, depending on the function of the NP containing the WH-feature.

(26) Direct Object Questioned[2]

Jon bulèa mu? jano
1 2 3 4

'John may eat what?'
1 2 3 4

(27) Indirect Object Questioned

Jon mliè api bukew ?o
1 2 3 4 5

'John gave whom the book?'
1 2 3 5 4

(28) Oblique Object Questioned
(=Object of a Preposition)

Jon mliè bukew ?o magea api
1 2 3 4 5 6

'John gave the book to whom?'
1 2 4 3 5 6

(29) Oblique Subject Questioned
(=Agent of the Passive)

bukew ?o nliè api magea Alui
1 2 3 4 5 6

'The book was given by whom to
2 1 3 3 4 4 5

Alui?'
6

As demonstrated informally in sentences (3) i and ii of this chapter, if an Oblique Object (=Object of a Preposition) is questioned, it may optionally be fronted by a rule of PP Movement. This provides evidence of a fifth type of Rejang question:

(30) Fronted Oblique Object Questioned

magea api Jon mliè bukew ?o t
1 2 3 4 5 6

'To whom did John give the book t?'
1 2 3 4 6 5

The above sentence is accounted for in this dissertation as follows: sentence (30) is derived from sentence (28) by an optional rule of WH-MOVEMENT that moves the PP containing the WH-Pronoun *api*, *jano*, or *ipe* to the COMP position, to the right of the complementizer.

Below we can see a proposed tree structure for sentence (30) followed by a derivation.

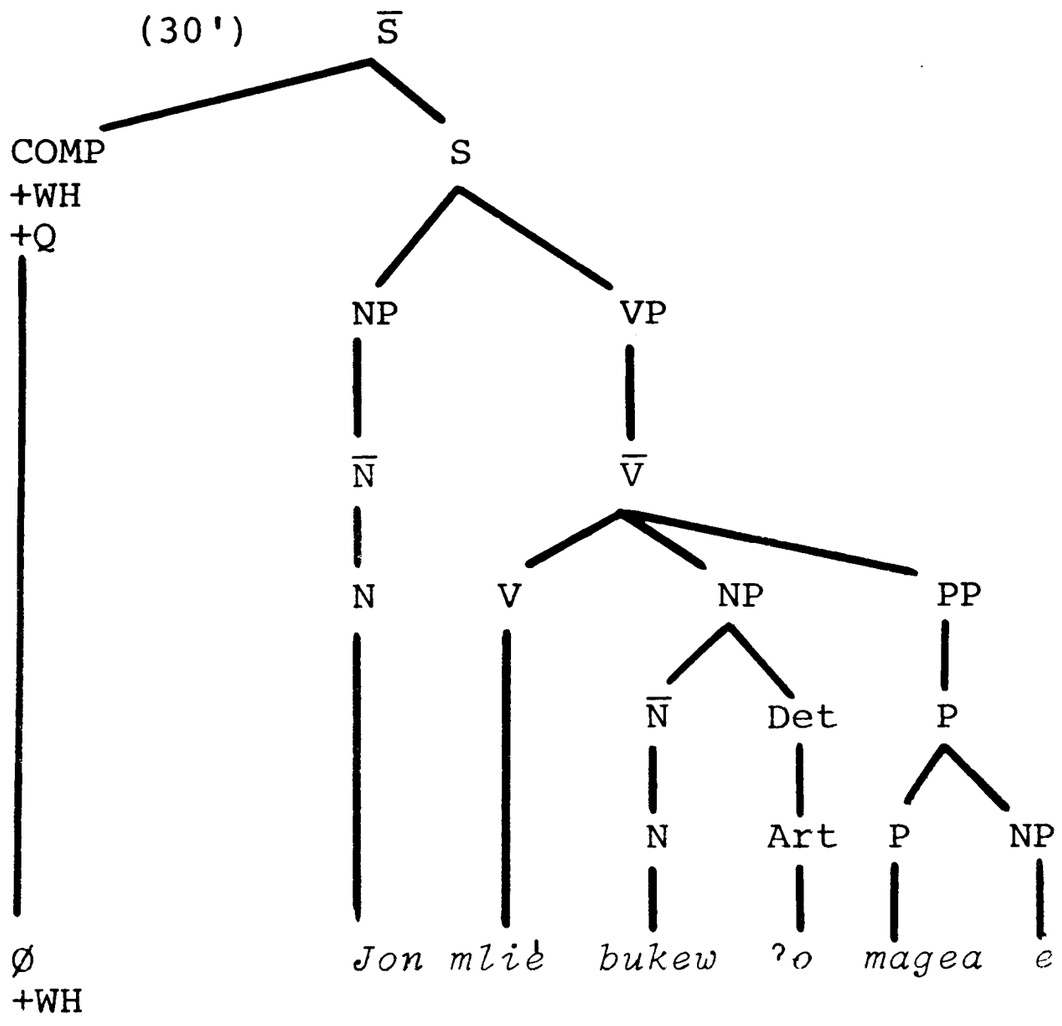


Figure 6

IPM of oblique object WH-question

Output: *megea api Jon mliè bukew ?o*
1 2 3 4 5 6

"To whom did John give the book?"

The explanation of each of the rules in the preceeding derivation is as follows: Rule #1 is WH-Attachment, which attaches the feature WH from the COMP position to the empty element, marked "e". Rule #2 is lexical insertion of the appropriate WH-Pronoun from the lexicon. Rule #3 is the rule of WH-Movement, which moves the Prep Phrase that contains the WH-Pronoun from the position after the Verb to the COMP position, to the right of the complementizer. This movement rule is marked by the trace "t" in the position of the moved phrase. Rule #4 is the rule that deletes the complementizer node.

The formal statement of the rule of WH-Movement in Rejang Questions is as follows:

(31) SD $\overline{S}\left[\begin{matrix}\text{COMP} \\ +\text{WH} \\ +\text{Q}\end{matrix} - X - \left[\begin{matrix}P \\ PP\end{matrix} + \begin{matrix}NPe \\ +WH \\ PP\end{matrix}\right] - Y\right]\overline{S}$

1 2 3 4

SC 1+3. 2, Ø, 4

Condition: Optional

2.9.3 Some ungrammatical WH-questions

The following is the evidence that NP's may not be moved by the rule of WH-Movement in Rejang questions. All of the following sentences were found to be ungrammatical in Rejang.

(32) i **jano Jon kemlea?*
'What did John see?'

ii **Kuyu? ipe Jon kemlea?*
'Which dog did John see?'

iii **Kuyu? api Jon kemlea?*
'Whose dog did John see?'

iv **Kedew kuyu? Jon kemlea?*
'How many dogs did John see?'

v **Kuyu? telew di dipe Jon kemlea?*
'Which three dogs did John see?'

vi **api Jon mliė bukew*
*'Whom did John give the book'

vii **tun ipe Jon mliė bukew*
*'Which man did John give the book'

viii **Ste?ey api Jon mliė bukew*
*'Whose wife did John give the book'

ix **tun kedew Jon mliė bukew*
'how many people did John give the book?'

x **tun duew di dipe Jon mliė bukew*
?'Which two men did John give the book?'

xi **api Jon kenlea?*
'By whom was John seen?'

xii **tun ipe Jon kenlea?*
'By which man was John seen?'

xiii **ste?ey api Jon kenlea?*
'By whose wife was John seen?'

xiv **ste?ey kedew Jon kenlea?*
'By how many wives was John seen?'

xv **ste?ey poloa di dipe Jon kenlea?*
'By which ten wives was John seen?'

xvi **api Jon mliė bukew magea*
'Who did John give the book to.'

xvii **tun ipe Jon mliė bukew magea*
'Which man did John give the book to?'

xviii **ste?ey api Jon mliė bukew magea*
'Whose wife did John give the book to?'

xix **kedew ste?ey Jon mliė bukew magea*
'How many wives did John give books to?'

xx **ste?ey pat di dipe Jon mliė bukew magea*
'Which four wives did John give books to?'

2.9.4 WH-adverbs

In addition to the preceding types of Rejang WH-questions, there remains one more type that is not accounted for in this dissertation (although it presents no difficulty in principle).

In Rejang the Adverbs *bene* and *tengėn* represent the semantic notions of REASON and TIME, respectively, and are used in WH-Questions as illustrated below:

(33) i *bene Jon temokoa telew buea?*
1 2 3 4 5

bukew?
6

'Why did John buy three
1 2 3 4

(*Classifier) books?'
5 6

ii *tengėn si teko?*
1 2 3

'When did he come?'
1 2 3

2.10 Embedded WH-questions

In Rejang, certain "psych" verbs like *namen* 'know' and *pėkėr* 'think' permit WH-Questions to appear as verbal complements. The following sentences illustrate embedded WH-Questions.

(34) *uku coa namen mene Alui la? alew*
1 2 3 4 5 6 7

'I don't know why Alui wants to go.'
1 2 3 4 5 6 7

(35) *uku coa namen may ipe Jon la? alew*
1 2 3 4 5 6 7 8

'I don't know (*to) where John
1 2 3 4 5 6

wants to go.'
7 8

In this dissertation, it is assumed that the structure that underlies embedded WH-Questions is V $\overline{S}$, and that $\overline{S}$ is expanded exactly as in WH-Questions into COMP S.

Note that in English, there is one difference between WH-Questions and embedded WH-Questions: in embedded WH-Questions, WH-movement is obligatory.

That the above statement is not true of Rejang is evidenced by the following perfectly normal sentence (cf. p. 10):

(36) *uku coa namen Jon la? alew may ipe*
1 2 3 4 5 6 7 8

'I don't know John wants to go
1 2 3 4 5 6

where?'
7-8

But since (36) is grammatical in Rejang, there are strong reasons for considering it as the proto-type of the underlying structure for Rejang Embedded WH-Questions (cf. 2.1, examples (3) - (5) for the arguments that apply here).

We may take a simpler example to illustrate the derivation of Rejang Embedded WH-Questions. Consider the following sentence:

(37) *uku namen magea api Jon mliė*
1 2 3 4 5 6

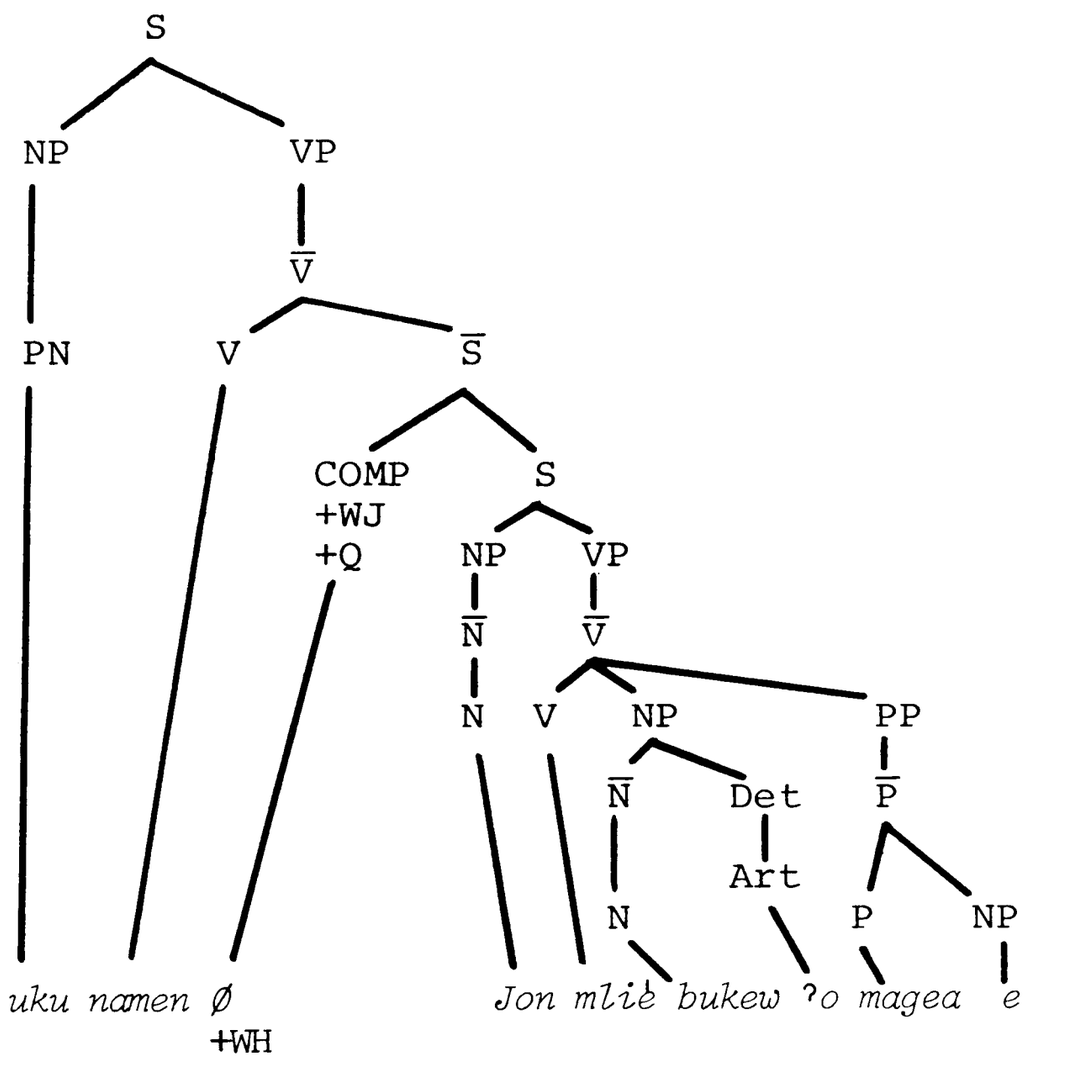
bukew ?o
7 8

'I know to whom John gave the
1 2 3 4 5 6 8

book.'
7

The following is the proposed initial phrase marker for sentence (37), followed by a derivation:

(37')



#1 *uku namen Ø* *Jon mliė bukew ?o magea e*
+WH +WH

#2 *uku namen Ø* *Jon mliė bukew ?o magea api*
+WH +WH

#3 *uku namen Ø* *magea api Jon mliė bukew ?o t*
+WH

#4 *uku namen Ø* *magea api Jon mliė bukew ?o t*

Figure 7

IPM of embedded WH-question

The explanation of the rules in the above derivation is as follows. Rule #1 is WH-Attachment, which attaches the feature +WH from the COMP position to the position marked "e". Rule #2 inserts the appropriate WH-Pronoun from the lexicon. Rule #3 is the rule of WH-Movement, which moves the Prep Phrase containing the WH-Pronoun from its post-verbal position in the base phrase marker, to the complementizer position to the right of the complementizer. Rule #4 deletes the complementizer.

2.10.1 Formal statement of WH-movement in embedded WH-questions

The rule of WH-Movement in Embedded WH-Questions closely resembles the rule of WH-Movement in Questions. Later we shall

consider the possibility that they are the same rule (cf. 2.14).

(38)

SD $X - \left[_{\bar{V}} V - \left[_{\bar{S}} \begin{matrix}COMP \\ +WH \\ +Q\end{matrix} - Y - \left[_{PP} \begin{matrix}P + NPe \\ +WH\end{matrix}\right]\right] - Z\right]_{\bar{V}} - W$

1 2 3 4 5 6 7

SC 1, 2, 3+5, 4, Ø, 6, 7

Condition: Optional

Note that the above rule resembles the WH-Movement rule for Questions. The difference is that the terms 1, 2, and 7 are absent from the former rule. Note, however, that in both cases the rules are optional (cf. p. 10 for some discussion).

2.10.2 The explanatory power of the Rejang noun phrase movement prohibition hypothesis

According to the analysis of embedded WH-Questions presented above, it is necessary to generate a number of initial phrase markers (IPM's) that cannot be transformed into grammatical surface structures because of the Rejang prohibition against NP Movement rules. This, at least, is what is claimed in this thesis. That is, if an IPM is generated by the base rules in which an empty element "e" appears dominated by an NP that is not in turn dominated by a PP, there is nothing to prevent WH-Attachment from applying to "e". Then, however, there is tension created between the (universal) tendency to WH-Fronting, and the Rejang tendency against fronting an NP. In this case the universal tendency is countered by the NP Movement Prohibition, and the IPM must be discarded as "not a deep structure of Rejang".

The evidence that a rule of WH-Fronting is universal is found in Chomsky and Lasnik (1977:433-434). The evidence that WH-Fronting of NP's is the expected or "unmarked" case in languages that have WH-Fronting of PP's is found in Keenan and Comrie (1977).

2.11 Relative clause formation

There are two major types of Rejang Relative Clauses depending on the position within the NP that is relativized: either the whole NP may be relativized, or the Possessive NP (dominated by Det) may be relativized. Other positions within the NP, namely the Article and the Quantifier Phrase, may not be relativized. (This is probably derived from universal restrictions on Relative Clause formation.)

Relative Clause formation in Rejang is further restricted in that only two functions of NP's in sentences may be relativized, namely, Subjects and Oblique Objects (the objects of Prep Phrases, cf. Chapter III). The remaining three functions of NP's in sentences — Objects, Indirect Objects, and Oblique Subjects — may not be relativized in Rejang.

2.11.1 Relativization of subjects and oblique objects

The first type of Rejang Relative Clause is described here as dominated by $\bar{S}$ functioning as the complement of a Noun (cf. Bresnan, 1970). $\bar{S}$, as usual, expands as COMP S. The complementizer for Relative Clauses is *di*. It is a particle with no semantic content. The evidence for this is that *di* may co-occur with the Relative Pronouns *api* 'who', *jano* 'what', and *ipe* 'where'.

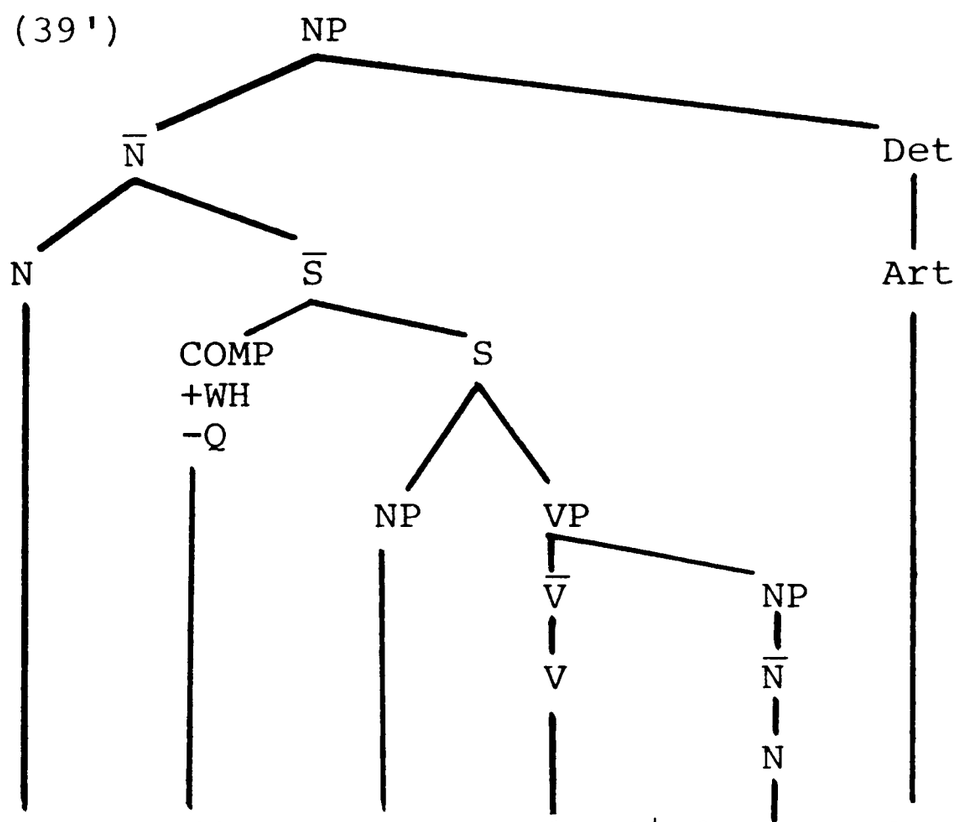
The following is an example of a Rejang Relative Clause, followed by a derivation.

(39) *tun (api) di kenlèa Jon ʔo ...*
1 2 3 4 5 6

'the man (*who) that was seen
6 1 2 3 4 4

by John ...
5

(39')



SD: *tun* *di* *e* *kenlèaʔ* *Jon* *ʔo*

#1 *tun* *di* *e* *kenlèaʔ* *Jon* *ʔo*

#2 *tun* *di* *+WH api* *kenlèaʔ* *Jon* *ʔo*

#3 *tun* *Ø* *api di kenlèaʔ* *Jon* *ʔo*

#4 *tun* *Ø* *Ø di kenlèaʔ* *Jon* *ʔo*

Figure 8
IPM of subject relative clause

The above derivation is explained as follows:

Rule #1 is WH-Attachment, placing the feature +WH from the COMP position to the position marked "e".

Rule #2 is lexical insertion of an appropriate WH-Pronoun from the lexicon into the "e" position.

Rule #3 is a new rule of COMP Placement. This rule applies parallel to COMP Deletion in WH-Questions. In Relative Clauses, the COMP *di* is never deleted but must be placed to the right of the Subject NP (see below for the universal status of this rule).

Rule #4 is an optional rule in Rejang deleting the WH-Pronoun. This rule could perhaps be abandoned and in its place allow the lexical insertion process (#2) to remain optional.

2.11.2 Rejang COMP placement and universal grammar

As an alternative to the rule of COMP Placement proposed above, it would be possible to derive the Relative Clause (39) by means of an NP Movement rule that positioned the Subject NP to the left of the complementizer *di*. In other words, it is possible to assume that the complementizer *di* is fixed in its position and that the relativized Pronoun *api* is moved into COMP position. In fact, to do so would bring the grammar into conformity with a proposed universal rule for WH-Movement suggested by Chomsky and Lasnik (1977:433), such that WH-Movement always results in the movement of the WH-Phrase "into the COMP position, to the left of the complementizer".

If Chomsky and Lasnik are indeed correct, then the claim of this dissertation that Rejang has no NP Movement rules would have to undergo a (perhaps trivial) weakening. However, there is evidence from Rejang WH-Movement in Relative Clauses that the WH-Phrase is not universally positioned to the left of the COMP. The data come from WH-Movement of Prep Phrases in Rejang.

Consider the following sentences:

(40) i *tun di magea api Jon mliė*
1 2 3 4 5 6

bukew t ʔo ...
7 8 9

'the man (*that) to whom
9 1 2 3 4

John gave a book t ...'
5 6 7 8

ii **tun magea api di Jon mliė*
1 2 3 4 5 6

bukew t ʔo ..
7 8 9

'the man to whom (*that) John
9 1 2 3 4 5

gave the book t ...'
6 7 8

The only difference between (i) and (ii) above is the position of the complementizer *di*. In (i) it occurs to the left of the relativized Prep Phrase in a grammatical sentence, whereas in (ii) *di* occurs to the right of the relativized phrase, and the sentence is ungrammatical.

The Rejang data suggest that Chomsky and Lasnik's proposed universal placing the moved WH-phrase to the *left* of the complementizer is correct only for moved NP's, but not for PP's which are subject to WH-Movement.

2.11.3 WH-movement in relative clauses

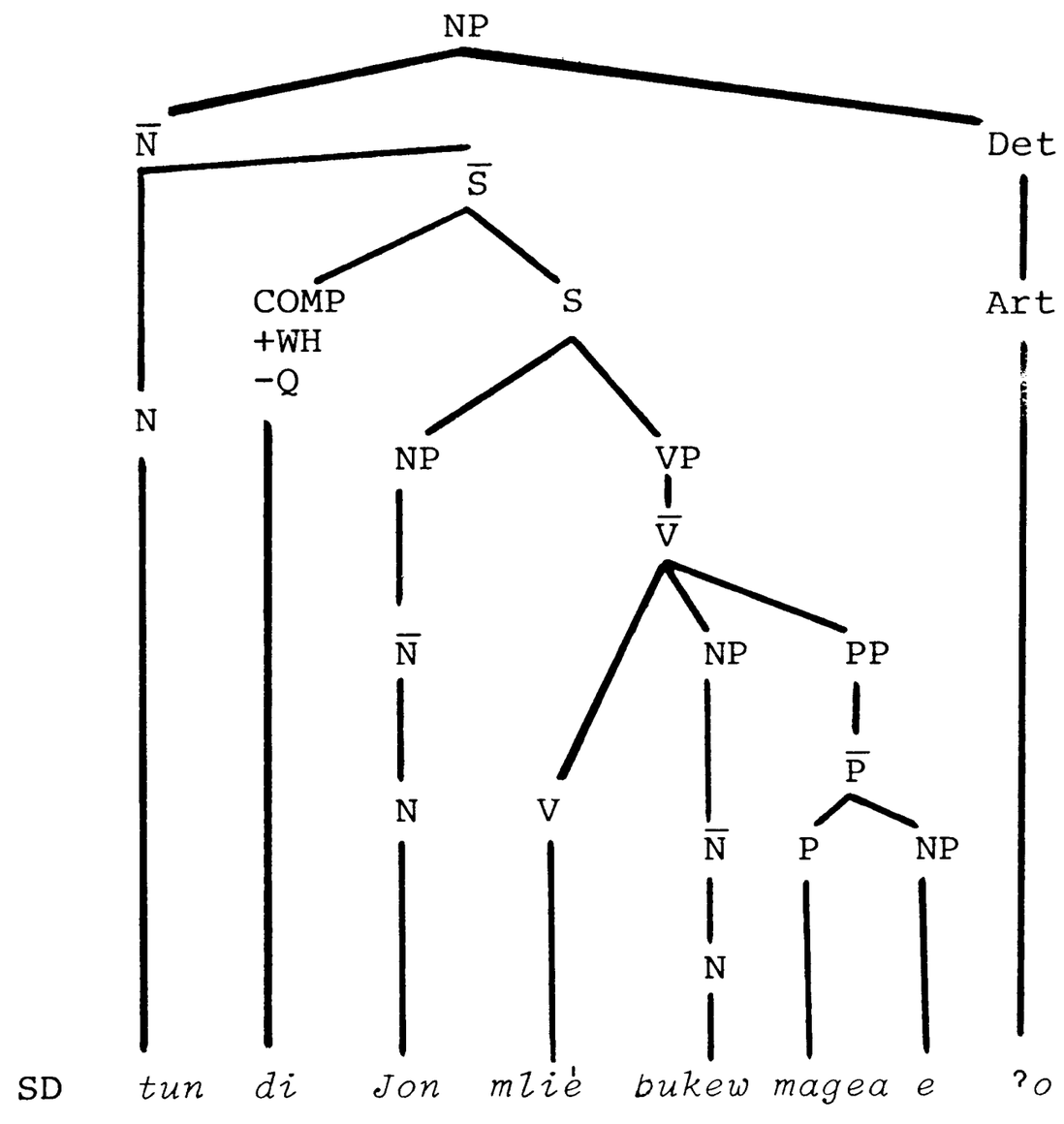
As in embedded WH-Questions, WH-Movement is obligatory in Rejang Relative Clause formation if and only if the WH-phrase is dominated by a PP. It is assumed that the obligatoriness of the WH-Movement process is assigned to a property of universal grammar (cf. 2.9.2).

The following is the proposed derivation of the sentence (40) i discussed above.

Figure 9

IPM of Oblique Object Relative Clause

(40) i'



#1 *tun di Jon mliė bukew magea e ?o*
+WH

#2 *tun di+magea e Jon mliė bukew Ø ?o*
+WH

#3 *tun di magea api Jon mliė bekew Ø ?o*

Output: *tun di magea api Jon mliė bekew ?o ...*
1 2 3 4 5 6 7 8

'the man (*that) to whom John gave
8 1 2 3 4 5 6

a book ...'
7

The formal statement of the rule of WH-Movement in Relative Clauses is as follows:

(41)

$$SD \quad X - \begin{bmatrix} N \\ \overline{N} \end{bmatrix} - \begin{bmatrix} COMP \\ +WH \\ -Q \\ \overline{S} \end{bmatrix} - Y - \begin{bmatrix} P \\ + \\ NPe \\ +WH \end{bmatrix}_{\overline{S}} - \begin{bmatrix} Z \\ \overline{N} \end{bmatrix} - W$$

1 2 3 4 5 6 7

SC 1, 2, 3+5, 4, Ø, 6, 7

2.11.4 Illustration of ungrammatical relative clauses

Following are eight types of ungrammatical Relative Clauses illustrated. The explanation suggested in this thesis is that these sentences represent the outputs of NP movement processes that place a base-derived post-verbal NP into COMP position. But such movement is never permitted in Rejang, even if there exists a universal NP Movement process that would otherwise apply. The explanation is that Rejang is organized around a different universal principle, one which interprets the first non-oblique NP in every sentence as the Subject (cf. Chapter III). This principle, in Rejang, would block any movement of a non-Subject NP to the COMP position, because such movement would place a non-Subject NP first in the string.

The following Relative Clauses have been found to be ungrammatical in Rejang:

(42) i **tun api di Jon kemlėa?*
'the man whom John saw'

ii **tun di nyung ne Jon kemlėa?*
'the man whose nose John saw'

iii *tun api di Jon mliė caci*
'the man whom John gave the money'

iv **tun di kuyu? ne Jon mliė telang*
'*the man whose dog John gave a bone'

v **tun di Jon mliė caci magea*
'the man whom John gave money to'

vi **tun di wa? ne Jon mliė caci magea*
'the man whose aunt John gave money to'

vii **tun api di Jon kenlėa?*
'the man whom John was seen by'

viii **tun di kuyu? ne Jon kenlėa?*
'the man whose dog John was seen by'

2.11.5 Relativized topics

It appears that in Rejang a possessive NP cannot be relativized and fronted by the rule of WH-Movement. Consider the following phrase:

(43) *tun (api) di umea? ne ley ?o*
1 2 3 4 5 6 7

'the man (*who)(*that) his house
7 1 2 3 5 4

is big...'
6

'the man whose house is big...'

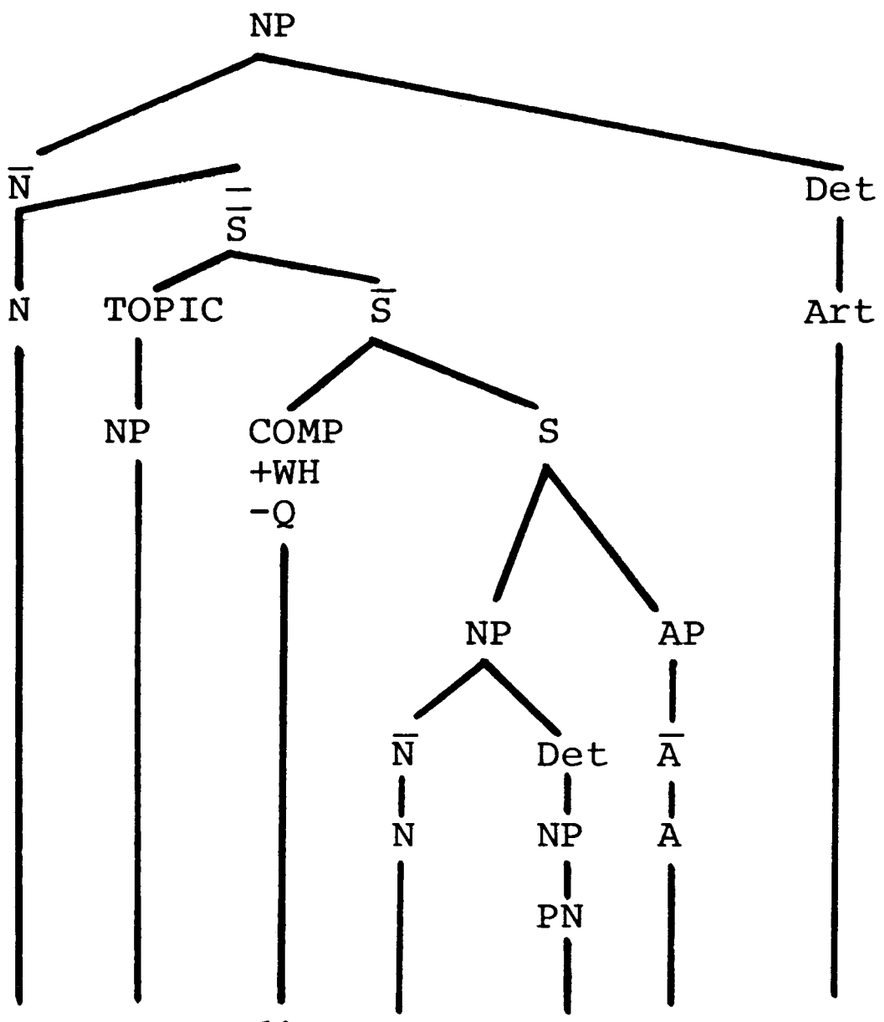
Relative Clauses like (2)-3-4-5-6 in the above phrase can be accounted for most simply by assuming an underlying structure different from the COMP S structures assumed so far for all other cases of sentence embedding.

Relative clauses like the above are assumed here to be derived from an underlying TOPIC $\overline{S}$ structure. This assumption will require a slight revision of the Phrase Structure rules. The following rule must be added to the grammar:

(44) $\overline{\overline{S}} \longrightarrow$ TOPIC $\overline{S}$

Consider now the proposed derivation of the Relative Clause embedded in the phrase (43)

(43')



SD	*tun*	*e*	*di*	*umea?*	*ne*	*ley*	*?o*
#1	*tun*	*e* (+WH)	*di*	*umea?*	*ne*	*ley*	*?o*
#2	*tun*	*api*	*di*	*umea?*	*ne*	*ley*	*?o*
#3	*tun*	*Ø*	*di*	*umea?*	*ne*	*ley*	*?o*

Output: *tun (api) di umea? ne ley ?o ...*
1 2 3 4 5 6 7

'the man (*who)(*that) his house is big...'
7 1 2 3 5 4 6

'the man whose house is big...'

Figure 10

IPM of topic relative clause

The rules included in the derivation above are as follows:

Rule #1 - WH-Attachment
Rule #2 - Lexical insertion of the WH-Pronoun *api*
Rule #3 - Optional deletion of the WH-Pronoun

The above derivation requires two revisions of the PS rules, as follows:

(44) $\bar{\bar{S}} \longrightarrow$ TOPIC $\bar{S}$

(45) S $\longrightarrow$ (NP) AP (=Adjective Phrase)

Both of the above PS rules are independently needed in the grammar.

Sentences with Topics are common in Rejang. Consider the following sentence:

(46) *Zainubi, si bi bə́lə́?*
1 2 3 4

'Zainubi, he has gone home.'
1 2 3 4 4

In the above sentence, *Zainubi* is the Topic, and this is followed by a normal sentence. In Bresnan's approach adopted here, normal sentences are dominated by $\bar{S}$ the same as embedded sentences. We have so far ignored this feature of normal (declarative) sentences.

The claim made by the above derivation is that in Rejang, the Determiner cannot be relativized, even when it is an NP. The explanation proposed in this thesis is that relativization of a possessor NP would require NP Movement, and such is prohibited in Rejang.

2.12 An apparent counterexample to the Rejang NPMPH

A very interesting sentence type occurs in Rejang that appears to be an exception to the main thesis that Rejang does not permit NP Movement rules. The following type of sentence may occur in both main and subordinate clauses:

(47) *pilem ?o coa si temoton*
1 2 3 4 5

'That movie he didn't see.'
2 1 4 3 5

It is entirely possible that (47) is derived by an NP Movement rule of "topicalization". In such a proposed derivation, the Object NP, *pilem ?o* might be moved from the position following the verb, *temoton*, to the front of the sentence.

If the above is indeed the correct derivation of the sentence, then this sentence is a clear counterexample to the main thesis of this dissertation that no NP can ever be moved in Rejang.

In order to maintain the thesis of this dissertation, it is necessary to consider an alternative analysis of (47) that does not require NP Movement.

What is interesting about sentences like (47) is that their occurrence is highly restricted in Rejang. In particular, the following sentence without the negativizer *coa* is ungrammatical:

(48) **pilem ?o si temoton t*
1 2 3 4 5

'That movie he saw t.'
2 1 3 4 5

Moreover, if another verbal element is added after *coa* in (48), the result is also ungrammatical, as the following shows:

(49) **pilem ʔo coa si laʔ temoton t*
1 2 3 4 5 6 7

'That film he doesn't want to
2 1 4 3 5

see t'
6 7

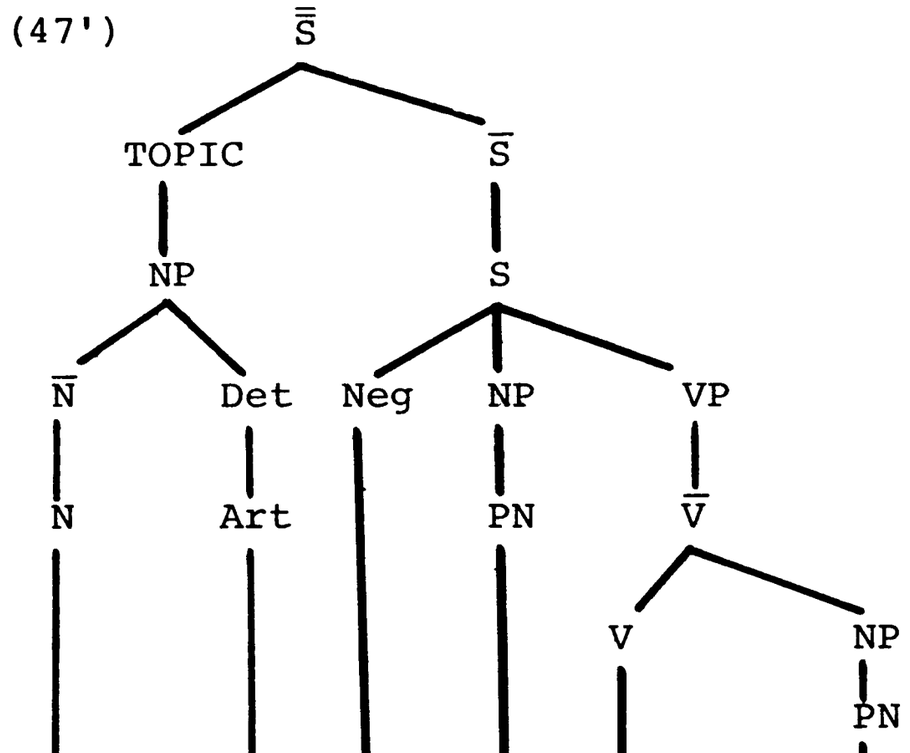
These restrictions suggest that topicalization may not be the correct explanation for sentences like (47). Rather than formulate such a restricted topicalization transformation, an alternative explanation that simultaneously accounts for the grammaticality of (47) and the ungrammaticality of (48) and (49) is certainly desirable.

We can account for the ungrammaticality of (48) and (49) easily enough by assuming that the Rejang NPMPH is correct, i.e., that no NP can be moved from the position marked "t" to the front of the sentence.

This explanation alone does not account for the fact that (47) is grammatical, however. What it does is suggest that (47) must be derived by some means other than topicalization and NP Movement.

It may be that (47) is derived, not by NP Movement, but by deletion from an underlying TOPIC $\bar{S}$ structure. Consider the following possible derivation for (47):

(47')



SD: *pilem* *ʔo* *coa* *si* *temoton* *ne*
1 2 3 4 5 6

SC: *pilem* *ʔo* *coa* *si* *temoton* *ø*
1 2 3 4 5 6

'That film he didn't see (it)'
2 1 4 3 5 6

Figure 11

IPM of apparent counterexample sentence

It is important to note that the negativizer *coa* is not the only verbal element that can occur in the above type of sentence. Apparently, any verbal element that can co-occur with a full verb may appear in the position of *coa*, e.g., *bulèaʔ* 'may,' and other Mode morphemes, *bi* PAST, and other Aspect morphemes, and *laʔ* 'want', *mulay*, 'begin,' and other "subject control" verbs (cf. Chapter IV for a discussion of verbs of obligatory control).

Below is another example of this unusual Rejang sentence type occurring in a Relative Clause.

(50) *doʔo ba paè di mulay si mūʔ ʔo*
1 2 3 4 5 6 7 8

'That indeed is the rice-plant
1 2 8 3

that he began to eat.'
4 6 5 7

2.13 Sentential nominals

Before leaving the subject of WH-Questions and Relative Clauses, it is necessary to describe a construction that resembles both in certain respects.

A favorite type of question in Rejang is Equational in structure with a Sentential Nominal as predicate. The Equational sentence appears in (51) ii below:

(51) i *jano namūng Mustapa*
1 2 3

'What was discarded by Mustafa?'
1 2 3

ii *jano di namūng Mustapa*
1 2 3 4

'What was the thing discarded
1 2 3

by Mustafa?'
4

According to Soemarmo (1971), sentences like (51) i above are ungrammatical in Javanese and certain dialects of Bahasa Indonesia. However, both sentences are grammatical in Rejang.

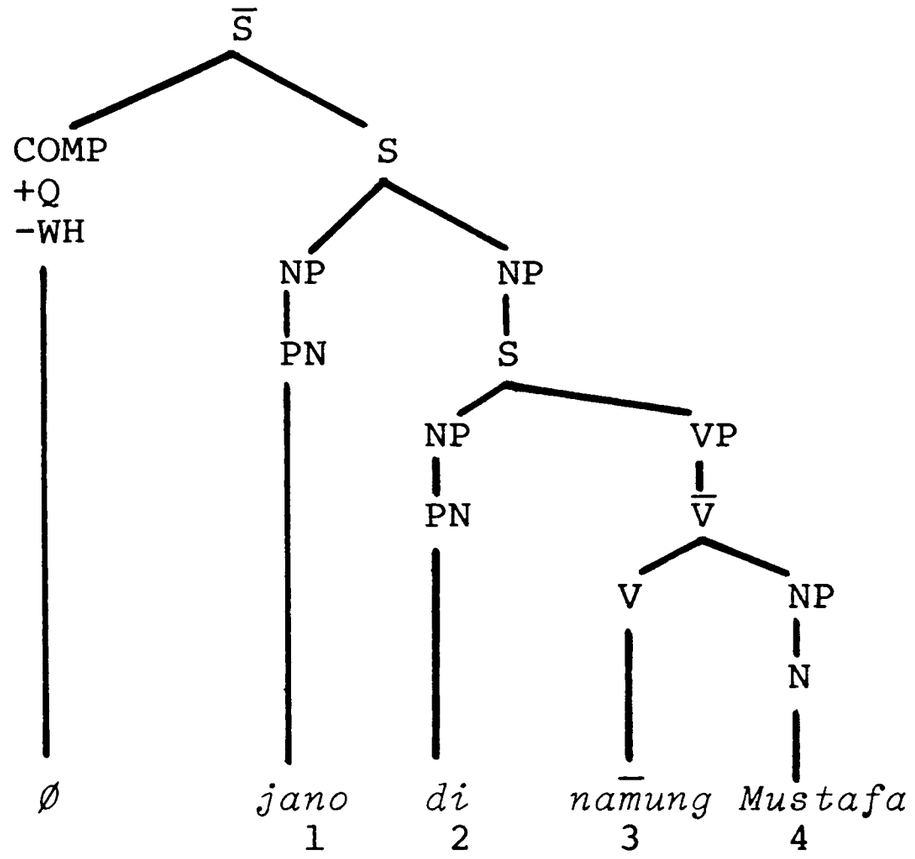
So far our rules do not generate Equational sentences. This defect is corrected by revising the PS rules to include the following:

(52) S ⟶ NP NP

The revised rules generate the following

structure. Selection of the "arbitrary definite" Pronoun *di* in the position of "Subject" of the predicate NP results in a Sentential Nominal.

(52) ii'



'What was the one discarded by Mustafa?'
1 2 2 3 4

Figure 12

IPM of equational sentence with sentential nominal

It is assumed that no rules apply to the IPM (52) ii' to derive the sentence (51) ii except COMP Deletion.

2.13.1 Ungrammatical sentential nominals

As in all Rejang sentences, no non-Subject NP may appear before the verb. This constraint applies even when the NP is *di* in a Sentential Nominal construction. Hence the following sentence is ungrammatical:

(53) **jano di Mustapa namung t*
1 2 3 4 5

'What was the one Mustafa
1 2 3

discarded t?'
4 5

In this dissertation, the ungrammaticality of (53) is accounted for by the Rejang Noun Phrase Movement prohibition Hypothesis. That is it is claimed that no NP, such as *di* in (53), is permitted to move from the position marked "t" in the derivation of any sentence.

The ungrammaticality of (53) stands as further evidence in favor of the principle of the Rejang NPMP hypothesis.

2.14 WH-movement as one rule in Rejang

Ross (1967) first suggested that the various WH-Movement rules proposed for English to account for aspects of Relative Clauses, Questions, and Embedded Questions, might be a single rule applying in all three constructions. The issue is problematic in English because NP Movement rules apply differently in the three constructions. Hence, the conditions on WH-Movement are highly complex in languages like English.

However, in Rejang, it has been suggested in this dissertation that the process of WH-Movement is much simpler because it only applies in Prep Phrases.

In this section, we shall consider the possibility that Rejang WH-Movement is a single rule that is constrained only by universal conditions.

In fact, if we adopt the condition of "minimal factorization" of transformational rules which was proposed by Chomsky (1977: 10), then it follows almost of necessity that all three of the WH-Movement rules proposed in this chapter are but instances of a single rule.

The formal statement of the rule of WH-Movement in Rejang Questions is as follows (repeated from p. 17):

(31) SD $\overline{S}\left[\begin{bmatrix}\text{COMP}\\ +\text{WH}\\ +\text{Q}\end{bmatrix} - X - \begin{bmatrix}\text{P} & + & \text{NPe}\\ \text{PP} & & +\text{WH}\ \text{PP}\end{bmatrix} - Y\right]\overline{S}$

1 2 3 4

SC 1+3. 2, Ø, 4

Condition: Optional

The rule of WH-Movement in Rejang embedded WH-Questions is below (repeated from p. 20):

(38)

SD $X - \left[\begin{matrix}V - \left[\begin{matrix}\text{COMP}\\ +\text{WH}\\ +\text{Q}\end{matrix} - Y - \left[\begin{matrix}\text{P} + \text{NPe}\\ \text{PP}\quad +\text{WH}\end{matrix}\right] - Z\right] - W\\ \overline{V}\end{matrix}\right]$

$\overline{S}$ $\overline{S}$ $\overline{V}$

1 2 3 4 5 6 7

SC 1, 2, 3+5, 4, Ø, 6, 7,

Condition: Optional

Finally, the rule of WH-Movement in Rejang Relative Clauses is repeated here:

(41)

SD $X - \begin{bmatrix} N \\ \overline{N} \end{bmatrix} - \begin{bmatrix} COMP \\ +WH \\ -Q \\ \overline{S} \end{bmatrix} - Y - \begin{bmatrix} P \\ PP \end{bmatrix} + \begin{bmatrix} NPe \\ +WH \\ PP \end{bmatrix}_{\overline{S}} - Z \Big]_{\overline{N}} - W$

	1	2	3	4	5	6	7
SC	1,	2,	3+5,	4,	Ø,	6,	7

Condition: Obligatory

If we examine the rules proposed in this chapter to describe WH-Movement in Relative Clauses, Questions, and Embedded WH-Questions, we find more similarities than differences. The differences are to be found only in: (a) obligatory *vs.* optional conditions on rule applicability; (b) the use of "end variables"; and (c) the presence of "constant" category symbols $\overline{N}$ (in Relative Clauses) and $\overline{V}$ (in Embedded WH-Questions) as environmental conditions on the rules.

The similarity among the three rules is that internally in all three rules a Prep Phrase containing the feature +WH in the NP position is moved to the COMP position, to the right of the complementizer.

Let us simply assume that obligatory WH-Movement in Relative Clauses derives from universal grammar, so is not "charged against" the grammar of Rejang. Similarly, optional movement in WH-Questions represents the unmarked case (cf. p. 10 for the arguments that apply here). That leaves only the matter of "end variables" and "constants".

But it is precisely the presence of unchanged "constants" like $\overline{N}$ and $\overline{V}$ in the WH-Movement rules for Relative Clauses and Embedded WH-Questions that the condition of "minimal factorization" assumes must be eliminated. If they are in fact eliminated, then the difference between the two WH-Movement rules would be eliminated. The following is the relevant quotation from Chomsky's recent work:

> If a term $_i$ of a structural description is a constant or variable category, then the factor satisfying $_i$ must be changed by the rule.
>
> (Chomsky, 1975c,:10)

What this is interpreted to mean in the present context is that since $\overline{N}$ and $\overline{V}$ in the statement of the WH-Movement process in Relative Clauses and Embedded WH-Questions do not change, they should be replaced by variables.

If $\overline{N}$ and $\overline{V}$ are replaced by variables, then there is only one further change necessary to make all three WH-Movement rules identical. What is needed is merely to add an "end variable" to the rule for WH-Questions, and assume that when the rule applies to WH-Questions, the left-end variable is null.

The following, then, is the proposed form of the unitary rule of WH-Movement in Rejang that applies in Relative Clauses, WH-Questions and Embedded WH-Questions.

(54) Revised rule of WH-MOVEMENT

$X - \begin{bmatrix} COMP \\ +WH \\ \overline{S} \end{bmatrix} - Y - \begin{bmatrix} P \\ PP \end{bmatrix} + \begin{bmatrix} NPe \\ +WH \\ PP \end{bmatrix} - Z \Big]_{\overline{S}} - W$

1	2	3	4	5	6
1,	2+4,	3,	Ø,	5,	6

The importance of attempting to determine that WH-Movement is a single rule in Rejang is as follows. It is obvious that WH-Questions, Embedded WH-Questions, and Relative Clauses share certain features in the grammar of Rejang. For example, all three construction types make use of the same three WH-Pronouns in analogous or identical ways. Moreover, all three constructions are restricted in identical ways, namely, no NP may occur in initial position of its clause unless that NP is the Subject of its clause.

The transformational analysis permits the grammar to capture the obvious relatedness among the three construction types. It is difficult to imagine how a nontransformational approach could succeed in relating these constructions.

In terms of the thesis of this dissertation, this demonstration of the advantages of the transformational approach has had two purposes. First, we wanted to show part of the evidence for the main thesis that NP's cannot be moved in Rejang; and second, we wanted to show that the thesis has explanatory power. It is only within a transformational framework that such a thesis could have an explanatory role.

Of course, many problems of fact and principle remain to be worked out. The preceding discussion is far from exhaustive. However, it is hoped that at least the outlines of the theory of the Rejang Noun Phrase Movement Prohibition Hypothesis are clear, and that the aim of achieving the beginning of an explanatory account has received some initial support. In Chapter IV the hypothesis will be tested against data that are far less tractable than have been encountered in the relatively "clear cases" that have been studied here.

2.15 Summary of PS rules and transformations

In this section the rules of the grammar of Rejang that have been developed so far are summarized, with the exception of lexical subcategory rules and rules expanding COMP (for which see the appropriate sections of this chapter).

2.15.1 PS rules

(i) $\bar{\bar{S}} \longrightarrow$ Topic $\bar{S}$

(ii) $\bar{S} \longrightarrow$ COMP S

(iii) $S \longrightarrow \left\{ \text{NP (cop)} \left\{ \begin{matrix} \text{PP} \\ \text{NP} \end{matrix} \right\} \right.$
$\left. \text{(NP)} \left\{ \begin{matrix} \text{VP} \\ \text{AP} \end{matrix} \right\} \right\}$

(iv) $\text{NP} \longrightarrow \left\{ \text{(QP)} \begin{matrix} \bar{N} \\ \text{PN} \\ \text{S} \end{matrix} \text{(Det)} \right\}$

(v) $\bar{N} \longrightarrow \text{N} \left\{ \text{(N)} \left(\left\{ \begin{matrix} \text{PP} \\ \text{QP} \end{matrix} \right\} \right) \right.$
$\left. \left(\left\{ \begin{matrix} \text{VP} \\ (\bar{\bar{S}}) \end{matrix} \right\} \right) \right\}$

(vi) $\text{Det} \longrightarrow \left\{ \begin{matrix} \text{Art} \\ \text{NP} \end{matrix} \right\}$

(vii) VP $\longrightarrow$ (Asp) (Modal) $\bar{V}$

(viii) $\bar{V} \longrightarrow \text{V} \left\{ (ba)\ (\text{NP})\ (\text{NP})\ (\bar{S})\ (\text{PP})\ (\text{PP}) \right\}$

(ix) $\text{AP} \longrightarrow \bar{A}$ [Spec, $\bar{A}$]

(x) $\bar{A} \longrightarrow \text{A} \left(\left\{ \begin{matrix} \text{PP} \\ \bar{S} \end{matrix} \right\} \right)$

(xi) $\text{PP} \longrightarrow$ [Spec, $\bar{P}$] $\bar{P}$

(xii) $\bar{P} \longrightarrow \text{P} \quad \text{NP}$

(xiii) $\text{COMP} \longrightarrow \begin{bmatrix} \pm\text{Q} \\ \pm\text{WH} \end{bmatrix}$ (cf. pp.)

2.15.2 Summary of transformational rules

MODE MOVEMENT

$$\text{SD} \quad \begin{bmatrix} \text{COMP} \\ +\text{WH} \\ +\text{Q} \\ \bar{S} \end{bmatrix} - \begin{bmatrix} \text{X} - \text{Mode} & \text{Y} \\ S & S \end{bmatrix}_{\bar{S}} \qquad (23')$$

	1	2	3	4
SC	3,	2,	Ø,	4

Condition: Optional

WH-ATTACHMENT

SD	X	-	COMP +WH	Y	-	NPe	- Z
	1		2	3	4		5
SC	1		2	3	4 +WH		5

Condition: Obligatory

WH-MOVEMENT

$$\text{X} - \begin{bmatrix} \text{COMP} \\ +\text{WH} \\ \bar{S} \end{bmatrix} - \text{Y} - \begin{bmatrix} \text{P} + \text{NPe} \\ +\text{WH} \\ \text{PP} \end{bmatrix}_{\text{PP}} - \text{Z} \Big]_{\bar{S}} - \text{W}$$

1	2	3	4	5	6
1,	2+4,	3,	Ø,	5,	6

Condition: Optional in WH-Questions and embedded WH-Questions; Obligatory in Relative Clauses (cf. pp. 10 and 25f.)

COMP PLACEMENT

$$\text{X} - \begin{bmatrix} di \\ \bar{S} \end{bmatrix} - \begin{bmatrix} \text{NPe} & - & \text{Y} \\ +\text{WH} & & \\ S & & S \end{bmatrix} \Big]_{\bar{S}}$$

SD	1	2	3	4
SC	1,	Ø,	3+2,	4

Condition: Obligatory

* * *

NOTES:

1. Orthographic symbols have the usual values except as follows: *e* is schwa; *ė* is mid front: *ny* and *ng* are [ɲ] and [ŋ] respectively; and $\vec{m}$, $\vec{n}$, *ny*, and *ng* are ingressive nasals that contrast with egressive nasals in Rejang. See Chapter V.

2. See Chapter III for definitions of these NP functions.

Chapter Three

GRAMMATICAL RELATIONS AND CO-OCCURRENCE

3.0 Introduction

The purpose of this chapter and the next one is to propose a nontransformational approach to the description of Rejang simple sentences.

The major claim of this chapter is that a universal principle governs the interpretation of the grammatical relations of NP's in surface structure. The principle is simply that the first non-oblique NP in every sentence is the Subject.

Grammatical relations of Rejang NP's in sentences are determined both by surface word order and by a simple case-marking system. (Verbal affixes are redundant, in this system.)

Also included in this chapter are certain related problems of semantic interpretation, namely, co-occurrence of lexical items and, in an Appendix, the determination of thematic relations.

Strictly speaking, everything in this chapter lies outside the bounds of formal syntax with the exception of the rules of co-occurrence defined on strictly formal structure presented in 3.2. Nevertheless, there are two reasons for including this chapter here.

First, since the inception of transformational-generative grammar, the attempt has been made to define formal structure in such a way that the link-up with functional structure is at least possible to study. In the first chapter of *Syntactic Structures*, Chomsky suggested that "this purely formal investigation of the structure of language has certain interesting implications for semantic studies". (1957:12) Moreover, in keeping with the goals of traditional grammar, Chomsky attempted, in *Aspects* (1965), to define the grammatical relations "subject" and "object" in terms of the formal properties of phrase markers. Finally, in his 1972 paper "Some Empirical Issues in the Theory of Transformational Grammar", Chomsky attempted to determine "case" (thematic) relations based on formal properties of the grammar including lexical properties of verbs. Hence it is obviously important that a transformational-generative grammar attempt to state the relationship between the formal syntax and the semantics.

Second, this chapter has been included here because of the special problem of attempting to formulate syntactic arguments in an "exotic" language which most readers may not be expected to know in advance of reading this dissertation.

In the following chapter the attempt is made to argue for a nontransformational approach to both simple sentences and aspects of the complementizer system. Many of the arguments depend upon concepts to be developed in this chapter. Many of the concepts are not unique to Rejang, e.g., Subject, Object of the Preposition, etc. The only problem is how to recognize them in the grammar of Rejang.

In an even more language-independent way, the concepts of "case" grammar are universal: agent, location, and so on are readily accessible to the intuition of the reader (even if they defy exact definition).

It is hoped that the discussion of these concepts in this chapter will clarify the arguments of the next chapter.

The only "exotic" category to be introduced in this dissertation is the "Oblique Subject". However, this category of Rejang is easily recognized in terms of its thematic functions as either agent of the passive or experiencer of verbs like *sendi* 'sadden'.

In this chapter we assume a sharp distinction between purely semantic and purely formal co-occurrence relations among lexical items in sentences. The distinction was drawn in Chapter I over the following two English sentences:

(1) Colorless green ideas sleep furiously.

(2) John died the dog.

Sentences like (1) violate no formal properties of English. Formally, it is an English sentence. Its oddity is semantic — it is difficult to imagine the conditions under which it might be true. The oddness of (2) is entirely different. The verb *died* is intransitive in normal sentences, but in (2) it appears to be transitive, if it is interpretable at all. The judgments about (2) do not involve the semantics but the formal subcategories of the grammar.

It is important to note that in the grammar presented so far, both types of sentences, or their analogues in Rejang, are permitted. In this chapter we shall present semantic rules to exclude (2)-type sentences while continuing to permit (1)-type violations.

3.1 Grammatical relations

As mentioned above, there are five NP functions recognized in the grammar of Rejang

presented in this dissertation. They are Subject (SU), Object (O), Indirect Object (IO), Oblique Subject (OBLSu) and Oblique Object (OBLO). These functions will be defined in the following two sections.

3.1.1 Case-marking of nouns in the lexicon

The theory of Rejang grammatical relations proposed in this thesis is as follows:

(3) In Rejang, grammatical relations are determined on the basis of the Phrase Structure Rules and the case-form (±Oblique) of Nouns in surface structure.

Case-form is overtly manifest only in Pronouns. However, Nouns are assigned case-form by the following Lexical Subcategorization Rule:

(4) +N ⟶ +Pronoun, ±Oblique

The subcategorization of Nouns and Pronouns into the two case-forms +Oblique and -Oblique, and the utilization of these features in the grammar, permits many simplifications (see Appendix II of this chapter).

The following subcategorization rule accounts for the two classes of Rejang personal pronouns based on the distinction of case-form.

(5) i +PN, +personal ⟶ +Oblique, ±Plural

ii +PN, +personal, -plural

	-Oblique	+Oblique
1st pers.	*uku*	*ku*
2nd pers.	*ko*	*nu*
3rd pers.	*si*	*ne*

+PN, +personal, +plural

	-Oblique	+Oblique
1st pers. excl.	*kèmè*	*kèmè*
incl.	*ite*	*te*
2nd pers.	*udi*	*udi*
3rd pers.	*si, tobo?o*	*ne, tobo?o*

Figure 13. System of personal pronouns

The problem of Rejang grammatical relations can be illustrated by the active/passive pair of sentences below. Note that there is no agentive Preposition parallel to the English 'by,' so that the agent of the passive is interpreted solely by position following the Verb, and by the case-form of the agentive NP. Consider the following sentences:

(6) i *Jon kemlèa? Alui.*
1 2 -Obl 3

'John sees Alui.'
1 2 3

Jon kemlèa? si.
4 5 -Obl 6

'John sees him.'
4 5 6

ii *Jon kenlèa? Alui.*
1 2 +Obl

'John is seen by Alui.'
1 2 2 3

Jon kenlèa? ne.
4 5 +Obl

'John is seen by him.'
4 5 5 6

All four sentences are parallel in structure (as expected if they are base-derived): NP - V - NP. They differ formally only in the verbal affix and in the case-form of the PN. Functionally, they do not differ in the Subject position — all sentences have the leftmost NP as the Subject. The functional difference is found only in the post-verbal NP (ignoring for the moment the thematic relations). In the (i) sentences, the post-verbal NP is the Direct Object, whereas in the (ii) sentences the post-verbal NP is what we term here the Oblique Subject, i.e., the one and only permitted Oblique NP to be associated with the Verb in the Rejang sentence.

The facts can be accounted for by assuming that the case-form of the Noun (or Pronoun) enters into the determination of grammatical relations in the following way: N's and PN's are marked ±Oblique by Rule 4, and are inserted freely into surface structure prior to Verb selection. Verbs are subcategorized in terms of the case-forms of the Nouns (or Pronouns) that can co-occur with them in sentences. A sentence will receive a semantic interpretation only if the case-forms of the Nouns (or Pronouns) in the sentence are not distinct from the case-form features included in the verb as part of its subcategory frame.

Hence *kemlèa?* and *kenlèa?* will be subcategorized in part as follows in the Lexicon:

(7) */kemlɛ̀a?/* +Verb +___-Obl */kenlɛ̀a?/* +Verb +___+Obl

Notice that the case-form feature does not mention the *function* of the post-verbal NP. The fact that the +Obl NP that occurs post-verbally after *kenlɛ̀a?* is the OBLSu, and that the -Obl NP after *kemlɛ̀a?* is the O, is determined by interpretive rules, as given below.

Obviously, there is some redundancy in the morphological markings. Either the case-form of PN's is redundant, or the verbal prefixes/infixes are redundant. According to the assumption of the Standard Theory that Nouns are selectionally dominant, we are led to adopt the Noun-first strategy here.

3.1.2 Determination of Rejang grammatical relations

We now define Rejang grammatical relations, as follows:

(8) i The SU is the left-most non-Oblique Noun in surface structure sentences (dominated by S).

ii The O is the right-most non-Oblique Noun, unless it has already been interpreted as the SU.

iii The IO is the middle-most non-Oblique Noun (note that there must be three non-Oblique Nouns to define 'middle-most').

iv The OBLSu is the only permitted Oblique Noun associated with the Verb. A General Lexical Redundancy Rule guarantees that the OBLSu is interpretable only if it occurs directly after the Verb in surface structure.

v An OBLO is a Noun that is the Object of a Preposition.

3.1.3 Illustrations of NP functions in sentences

The NP functions as defined above will be illustrated below.

(9) i Topic-Comment Sentences

Jon, si bi bɛ̀lɛ̀?
-$\overline{\text{Obl}}$
1 2 3 4

'John, *he* has gone home.'
1 2 3 4 4

In the above sentence, *si* is the Subject (SU) of the matrix sentence (which is dominated by S). *Jon* is the Topic, dominated by $\overline{\text{S}}$.

ii Equational

Zainubi mahasiswa
-Obl -Obl
1 2

'Zainubi is a student.'
1 2

In the above sentence, *Zainubi* is the left-most non-Oblique Noun, and is thus the SU. *Mahasiswa* is the right-most non-Oblique Noun. Unless our definition is modified, this will be interpreted by Rule (8) ii as the Direct Object (O), which is obviously not correct. How to remedy this defect of the definitions is not entirely clear. The problem comes up only in connection with the definition of the O function.

iii Existential-Locative

Sriviwati adɛ̀ na? Cu?up.
-Obl
1 2 3 4

'Sriviwati is in Curup.'

Sriviwati is the left-most non-Oblique Noun, hence the SU.

iv Existential-Indefinite

Ade bukew na? mija
-Obl
1 2 3 4

'There is a book on the table.'
1 1 2 3 4

Our definition (8) i forces us to recognize *bukew* as the Subject. This seems a good result. *mija* is the OBLO.

v Meterological

biley io ujen
-Obl
1 2 3

'This day is raining.'
2 1 3

biley here is recognized as the Subject of the meterological sentence.

vi Stative

Jon sedi kemlɛ̀a? si
-Obl -Obl
1 2 3 4

'John is sad to see him.'
1 2 3 4

In the above sentence, *Jon* is the SU. *si* is the O of *kemlèa?* by virtue of the fact that it is the right-most non-Oblique Noun associated with the Verb.

vii Stative-Causative

Jon sendi ku
-Obl +Obl
1 2 3

'John saddens me.'
1 2 3

Jon is the Subject; *ku* is the Oblique Subject (OBLSu). Note that the Verb is not passive: *-n-* is the causative affix, homophonous with the passive affix.

viii Intransitive, Verb-first

alew ba Jon
-Obl
1 2 3

'John indeed went.'
3 2 1

Jon is the SU.

ix Transitive-Active, Verb-first

temokoa Jon stom
-Obl -Obl
1 2 3

'John bought a car.'

Jon is the SU by Rule (8) i and *stom* is the O by Rule (8) ii.

x Transitive-Active, Verb-second

Alui jemuoa desiket pisang
-Obl -Obl
1 2 3-4 5

'Alui sold a hand of bananas.'
1 2 3 4 5

Alui is SU; *pisang* is O.

xi Transitive-Passive, Verb-second

bukew ?o tenokoa Jon
-Obl +Obl
1 2 3 4

'That book was bought by John.'
2 1 3 3 4

bukew is SU; *Jon* is OBLSu (and will be interpreted as animate agent, cf. p. 35f.).

xii Transitive-Passive, Verb-first

tenokoa Jon bukew ?o
+Obl -Obl
1 2 3 4

'That book *was* sold by John.'
4 3 1 1 2

bukew is the SU by Rule (8) i; *Jon* is the OBLSu by Rule (8) iv.

xiii Double-Object, Verb-second
(Verb-first doesn't occur)

Hanis mlièl Ali caci
-Obl -Obl -Obl
1 2 3 4

'Hanis gave Ali money.'
1 2 3 4

Hanis is SU; *caci* is O; and *Ali* is IO by Rule (8) iii.

xiv Double-Object, Passive, Verb-second (Verb-first doesn't occur)

Ali nlièl Hanis caci
-Obl +Obl -Obl
1 2 3 4

'Ali was given by Hanis money.'
1 2 2 3 4

Ali is SU; *caci* is O; and *Hanis* is OBLSu.

3.1.4 The subject of imperatives

In imperative sentences, the left-most Noun is deleted. Here it is necessary to recall the definition of "surface structure" in Chomsky and Lasnik (1977). We assume that the interpretation of grammatical relations takes place *before* the SU of imperative sentences is deleted.

There are two imperatives in Rejang. One deletes the SU, the other the OBLSu. They are the active and passive imperatives, illustrated below:

(10) i Active Imperative, transitive (Prefix *k-*).

Ø klièl Ali caci
(-Obl) -Obl -Obl
1 2 3

'Give Ali money!'
1 2 3

The missing SU can be recovered by the

grammar because its status is known by virtue of the imperative sentence. That is, it is known that the missing SU is 2nd person, not a substantive name nor an arbitrary reference. Hence the deletion is "recoverable" (cf. Chomsky, 1965:145).

ii Passive Imperative, transitive (Prefix *n*-)

Ali nliė Ø caci
-Obl
1 2 (+Obl) 4
3

'Ali will be given money
1 2 2

(by you)!'
3

In the above sentence, the missing NP is known to be +Obl, and in fact is the animate agent. If, as assumed here, the deletion takes place after the grammatical relations have been determined, then our definitions of Rejang grammatical relations do not have to be revised because of the data of imperative sentences. (cf. Chomsky and Lasnik, 1977:427)

3.2 Co-occurrence restrictions

In this section is presented a fragment of the grammar presented in Chapter II, together with two additional rules subcategorizing Verbs into intransitive and transitive, and the transitive Verbs into non-Oblique and Oblique.

(11) i $S \longrightarrow NP \frown VP$

ii $NP \longrightarrow \bar{N}$ (Det)

iii $\bar{N} \longrightarrow N$

iv $VP \longrightarrow \bar{V}$

v $\bar{V} \longrightarrow V \frown$(NP)

vi $+N \longrightarrow [\pm\text{Oblique}]$

vii $+V \longrightarrow \pm [+\_\_\_\_\_NP]$

viii $[+V\_\_\_\_NP] \longrightarrow \pm [+\_\_\_\_NP, +Obl]$

Also we assume the following two general conventions: the first an assumption discussed in Chomsky (1965:85); and the second a rule of semantic interpretation.

(12) In the development of a phrase marker, Nouns [subcategorized ±Oblique according to Rule (11) vi above] are inserted prior to the selection of Verbs, and Verbs are subcategorized in terms of Nouns.

(13) Assign the mark * (ungrammaticality) to the sentence if the Verb's subcategory feature contradicts the categorial and subcategorial information contained in the phrase marker into which the Verb has been inserted.

The theoretical justification for the interpretive convention (13) is provided by the following quotation from Chomsky:

> ... a grammatical sentence is one that is generated by the rules (and) is not assigned * in the course of derivation... (Chomsky, 1973:282)

We further assume that the Rejang Lexicon contains the following partial lexical entries:

[*/matiė/* 'die' +V +[+___]] [*/monoa?/* 'kill' +V +[+___NP -Obl]] [*/nonoa?/* 'be killed' +V +[+___NP +Obl]]

[*/sendi/* 'sadden s.o.' +V +[+___NP +Obl]] [*/buka?/* 'open' +A +[+___]] [*/muka?/* 'open s.t.' +V +[+___NP -Obl]]

[*/nuka?/* 'be opened' +V +[+___NP +Obl]] [*/sedi/* 'sad' +A +[+___]]

[*/kemlaley/* 'look around' +V +[+___]] [*/kenlaley/* 'cause s.o. to look around' +V +[+___NP +Obl]]

[*/Jon/* 'John' +N -Obl] [*/Jon/* 'John' +N +Obl] [*/uku/* 'I' +N +PN -Obl]

[*/ku/* 'me' +N +PN +Obl]

The lexical entry for the Verb *matiė* 'die' includes the subcategory feature +[+___]. This indicates formally that the Verb is "intransitive", i.e., it does not permit an NP to follow it in grammatical sentences. The entry for *monoa?* 'kill' includes the subcategory feature +[+___NP -Obl]. This indicates that it is "transitive" and, moreover, its following NP is -Oblique. By the definitions provided on p. 30, the non-Oblique NP in post-Verbal position is

a Direct Object if it has not already been interpreted as the subject. The lexical entry for *nonoa?* 'be killed' indicates that it too is "transitive", but its following NP is +Oblique, and so on. The features that indicate co-occurring NP's are called "contextual features" and the features like +N, +A, and so on that indicate categorial information and, in more detailed entries, semantic information, are called "inherent features".

Given the grammar (11) and the general interpretive rule (13) we can account for formal syntactic co-occurrence restrictions in Rejang. The following are some examples of sentences violating co-occurrence restrictions.

(14) i **Jon matiê kuyu?*

+NP [+V [+ [+ ___]]] +NP
-Obl -Obl

*'John died the dog.'

The violation in (14) i above is marked to indicate that the Verb is subcategorized as "intransitive" yet it is followed by an NP as if it were "transitive". By virtue of the contradictory features co-occurring in the sentence, the sentence is assigned * which means "interpreted to be ungrammatical". The next example illustrates a violation of the features +Oblique. The Verb requires an OBLSu (an $\overline{NP}$ marked +Obl), but co-occurs with a non-Oblique NP. Hence, by Interpretation Rule (13) the sentence is assigned *.

ii **Jon sendi uku*

+NP [+V [+ [+ ___ NP]]] +NP
-Obl +Obl +PN
-Obl

*'John saddened I.'

One additional interpretive rule is needed in order to account for all co-occurrence restrictions relating to the features +Oblique in sentences. The rule must state that only one NP in any sentence may be marked +Oblique, and it must occur immediately after the Verb. All other NP's associated with the Verb must be -Oblique. The following rule applies to initial Phrase Markers *before* the insertion of Verbs.

(15) Assign * to any sentence with a +Oblique NP unless the +Oblique NP occurs immediately after the Verb.

The above rule must be stated so as to allow +Oblique NP's to occur also as the OBLO of the Preposition *gi* 'for' and as the Possessive NP complement of N's. Thus, (15) applies only to the NP's with "grammatical relations" to the Verb.

Rule (15) accounts for the ungrammaticality of the following sentences irrespective of the choice of Verbs.

(16) i **ku ____ Alui*

+NP +V +NP
+PN
+Obl
1 2 3

*'Me (fought, loved, etc.) Alui.'
1 2 3

ii **uku ____ nu caci*

+NP +V +NP +NP
+PN +PN +Obl
-Obl +Obl
1 2 3 4

*'I (was given) by you by money.'

In (16) i the violation is that the +Oblique NP occurs before the Verb, and this is excluded by rule (15). In (16) ii on the other hand, the +Oblique NP occurs after the OBLSu, and this is also excluded by (15).

The grammar (11) and the conditions and rules (12), (13), and (15), together with the proper form of the lexical entries, will account for the co-occurrence restrictions that relate to the formal primitives of Rejang grammar.

* * *

APPENDICES

I. Thematic relations and semantic redundancy

In this section is presented the beginnings of a fuller theory of the semantic structure of Rejang. The intention is to show one way in which the grammatical primitives of Rejang might interact with universal semantic primitives. Of particular interest is the interaction of grammatical and thematic relations. The theoretical framework for the discussion continues to be Jackendoff (1972). Also consulted were Jackendoff (1976) and Anderson (1977).

Jackendoff (1972; 1976) and Anderson (1977) are the sources of the following definitions of semantic primitives and thematic relations that will be assumed here.

A1. A. Semantic Primitives

(i) INDIVIDUAL, CAUSE, EVENT = (CAUSE (x,e))

(ii) INDIVIDUAL, LET, EVENT = (LET (x,e))

(iii) INDIVIDUAL, CHANGE = (CHANGE (x))

(iv) INDIVIDUAL, GO, INITIAL STATE, FINAL STATE = (GO (x,y,z))

(v) INDIVIDUAL, BE, STATE = (BE (x,y))

B. Thematic Relations

Theme = the individual that changes, goes, or is — the first argument, x, of CHANGE, GO, BE.

Agent = the individual that causes events or lets events occur — the first argument, x, of CAUSE, LET.

Source = initial state of argument that moves — the second argument, y, of GO.

Goal = final state of argument that moves — the third argument, z, of GO.

Location = state where the individual is — the second argument, y, of BE.

Applying these definitions to Rejang lexical entries for Verbs, we assume that the Theme is interpreted as the SU of *alew* 'go,' the O of *temokoa* 'buy,' and the SU of the existential-locative verb *adè* 'be'. In the lexicon, the semantic primitives are assigned to the lexical items as part of their feature specification. For example:

A2.
$$\begin{bmatrix} /alew/ \\ +V \\ + + \underline{\quad} \\ (GO(x,y)) \end{bmatrix}$$

$$\begin{bmatrix} /temòkoa/ \\ +V \\ + \begin{bmatrix} + \underline{\quad} NP \\ \quad -Obl \end{bmatrix} \\ (CAUSE\ (x\ (GO\ (x,y,z)) \\ (by\ means\ of\ purchase, \\ \ etc.))) \end{bmatrix}$$

$$\begin{bmatrix} /adè/ \\ +V \\ + \begin{bmatrix} + \underline{\quad} \end{bmatrix} \\ (BE\ (x,y)) \end{bmatrix}$$

In the entry for *temokoa* 'buy' a complex semantic interpretation is assumed. The full specification of the meaning of 'buy' is not attempted, since this is, presumably, a problem of universal semantics, not of the particular grammar of Rejang, with which we are concerned here. The meaning is presumably related to the primitives CAUSE and GO as indicated, such that an Agent causes a Theme to move (perhaps in an abstract sense) from a source (the store) to a goal (the purchaser). In Jackendoff's theory, the purchaser is permitted to be both the Agent and the Goal. This seems correct from an intuitive point of view, and is assumed to be correct.

In the lexical entries for *alew*, *temokoa*, and *adè* given above, there are four lines of features associated with each entry. The first is phonological information, presented between slashed lines, / /. The second is categorial information, e.g., +V. The third is subcategory information, $\begin{bmatrix} + \begin{bmatrix} + \underline{\quad} \end{bmatrix} \end{bmatrix}$ or $\begin{bmatrix} \begin{bmatrix} + + \underline{\quad} NP \\ \quad -Obl \end{bmatrix} \end{bmatrix}$.

The fourth is the semantic information provided by the semantic primitives CAUSE, GO, CHANGE and BE. A subject of much current controversy is the question of how the semantic information represented on the fourth line is to be associated with the subcategory information on the third line. That is, given a partial entry such as was shown for *temokoa* above, how does the grammar indicate that the semantic "subject" of GO winds up as the O of the Rejang Verb *temokoa*?

In the Standard Theory from the beginning to the present it has been assumed that the lexical entry for each Verb must provide the connecting link between semantic primitives and subcategory features. This idea was first expressed in Chomsky (1972:171 ff.) and carries over into Jackendoff's work (1972; 1976). The effect that this assumption has on lexical entries may be seen by comparing the following entry for *temokoa* 'buy' with the previous, less fully developed entry:

A3.

(i) */temokoa/* 'buy'

(ii) +V

(iii) + [NP (-Obl) ____ NP (-Obl) (*kunaé* NP (+P)) (PP)]

(iv) Agent Goal; Theme; Source; (Instrument, Beneficiary, etc.)

(v) (CAUSE (x (GO (x,y,z)) (by means of purchase etc.))

The added line associating thematic relations with NP's and PP's is necessary in order to connect the x's, y's, and z's to the subcategory features of the Verb. As has been indicated in the definitions of the semantic primitives, information is provided about the existence of Agent, Theme, Source, and Goal actants associated with the Verb *temokoa*, but the definitions themselves cannot indicate which NP's in each Verb's subcategory frame are to be associated with these thematic relations. The importance of this is seen when the active-passive pair are compared.

A4.

/temokoa/
+V
+ [+NP (-Obl) ____ NP (-Obl) (*kunaé* NP (+P)) (PP)]
Agent Goal; Theme; Source; ...

(CAUSE (x (GO (x,y,z)) (by means of purchase, etc.))

/tenokoa/
+V
+ [+NP (-Obl) ____ NP (+Obl) (*kunaé* NP (+P)) (PP)]
Theme; Agent Goal; Source; ...

(CAUSE (x (GO (x,y,z)) (by means of purchase, etc.))

Comparing the two entries, it is seen that they differ in the relative positions of the Agent-Goal and the Theme actants. In *temokoa* the Agent-Goal is associated with the SU, whereas in *tenokoa* the Agent-Goal is associated with the OBLSu. However, in both entries, the Agent-Goal is associated with the argument x of CAUSE. The association is effected both by the general definitions of the semantic primitives, and lexically by the added line indicating the thematic functions that are associated with each NP in the subcategory frame. Put another way, given the definitions of Agent, Theme, etc., it is known on the basis of the semantic structures represented at the bottom of the lexical entries that the thematic functions Agent, Theme, Source, and Goal are relevant to the meaning of the words *temokoa* and *tenokoa*. What would not be known in the absence of line (iv) associating these thematic functions with NP's in the Verb's subcategory frame, is just which x or y or z is associated with which NP.

Given entries like 3 and 4, it is obvious that there is a lot of redundancy in the last two lines of each lexical entry. This is semantic redundancy. For example, given (CAUSE (x,e)) and the specification of which NP is the Agent, it is possible to predict that the other NP must be the Theme, if and only if (e) of CAUSE includes the primitives GO or CHANGE. Rules predicting thematic functions would be concerned with the evaluation of the entry's "inherent" redundancy.

Another kind of redundancy, of more interest in this thesis, is that associated with the syntactic redundancy rules (43) i - viii in the following chapter. In those rules, two separate but intimately related rules are presented in pairs. It would of course be possible to present an associated semantic rule with each pair, making triplets — redundancy rules for phonological, syntactic and semantic information associated with lexical entries. In fact, Jackendoff's theory presents something like all three, with the difference, however, that Jackendoff attempts to *combine* the two kinds of rules that I have been referring to as "syntactic" and "semantic", into a single rule type. Thus, in Jackendoff's theory there are only two rules, in pairs: morphological and semantic. In this thesis, it is assumed that there are three, in triplets: morphological, syntactic, and semantic. The reason for this change is primarily convenience, so that the lexical redundancy rules (43) i - viii in 4.8 do not have to depend on the theory of semantic representation. It is this part of Jackendoff's theory which is open to criticism even within the Standard Theory (see Hust, 1978, and Hust and Brame, 1976). But even more importantly, the thesis of the autonomy of syntax (Chomsky, 1975a) which underlies the approach to the next chapter, appears to lead to the correct results independently. Consequently, the study of semantic function and semantic redundancy rules does not contribute directly to the choice of grammars in Rejang.

An important innovation of Jackendoff's theory of thematic relations is his recogni-

tion that the Theme of certain verbs of motion can be simultaneously an Agent. Thus Jackendoff's theory (unlike Fillmore [1968] and Starosta [1978]) permits some NP's to function as more than one thematic relation (cf. discussion of *temokoa* 'buy' above).

This assumption also seems necessary in Rejang to capture the sense of agency associated with the prefix/infix *m-/-em-*. Compare the following sentences:

A5. (i) Active Verb: *mlie̊* 'give'

(ii) Causative: *mley* 'cause s.o. to vomit'

(iii) Motion with agency: *kemlaley* 'turn around'; *mjepang* 'go to Japan'

(iv) Motion without agency: *alew* 'go'; *geruta?* 'move'

We assume that A5 (iii) verbs have subjects that are simultaneously Agent and Theme. The evidence for this is that all verbs in the class A5 (iii) correspond with causative transitive verbs by Rule (43) viii of Chapter IV. Thus, not only does the affix */-em-/* correspond to agency in these intransitive motion verbs, but just these intransitive, agentive motion verbs are related to the transitive class of oblique causatives, e.g., *kenlaley* 'cause s.o. to look around'; *njepang* 'cause s.o. to go to Japan.' Moreover, some verbs such as *njepang* seem to serve the double functions of Predicate and Goal. These results follow nicely from Jackendoff's approach.

Many rules that would relate the semantic content of lexical entries to one another would no doubt be universal. Anderson (1977) makes an excellent case for associating the Subject and Direct Object of active Verbs with Agent and Theme. Moreover the associated passive Verbs may be universally interpreted with respect to the thematic functions of their NP's as follows: the Agent of the active Verb is associated with a non-Subject position in the passive sentence; whereas the Theme of the active Verb is associated with the Subject position in the passive sentence. This statement is certainly true of Rejang. Hence, the rule is probably universal; certainly it is near-universal. For that reason, however, the rule does not contribute to the choice of grammars of Rejang, and is not discussed further here.

Of course, there remain many problems of fact and principle associated with semantic representation and semantic redundancy, but it is assumed that the majority of conceivable topics in this domain do not bear on the thesis of this dissertation. Before moving on to a discussion of Rejang syntactic and lexical redundancy, however, it will be useful to discuss the status of the notion "Oblique Subject" (OBLSu) that has been proposed as a grammatical primitive in Rejang. If the OBLSu is truly a grammatical primitive, then it must have some status in relation to UG, if only as a typological feature associated with the "variety of the world's languages".

II. The oblique subject and universal grammar

We have seen that Oblique Subjects occur only in postverbal position and only with Verbs that are associated with other Verbs by redundancy rules. OBLSu as a category functions in the following sentence types:

A6. (i) Agent of Passive

Rosdiana kenlè̊a? Zainubi
-Obl +Obl
1 2 3

'Rosdiana was seen by Zainubi.'
1 2 3

(ii) Oblique or Secondary Agent in Causative Verbs of Motion (see A5 (iii) above — Motion with agency):

(a) *Rosdiana kenlaley Alui*
-Obl +Obl
1 2 3

'Rosdiana caused Alui to look around.'
1 2 3 2 2 2

(b) *tè̊a? ne njepang Sabidin*
-Obl +Obl
1 2 3 4

'His father sent Sabidin to Japan.'
2 1 3 4 3 3

(iii) Oblique or Secondary Animate Theme in causative Verbs expressing emotion (cf. Rule (43) vii Chapter IV

(a) *Alui sendi ku*
-Obl +Obl
1 2 3

'Alui saddened me.'
1 2 3

(b) *pelawen ?o sendi iño?*
-Obl +Obl
1 2 3 4

'The fight saddened mother.'
2 1 3 4

In the above sentences, the term "oblique subject" seems superior to the alternative designations in universal terms. Hence if *ku* and *iñoʔ* in (iii) (a-b) are "Themes" then something seems lost because they must also be animate. Fillmore's term "Experiencer" might be appropriate, but I do not think it is more expressive than "oblique subject", particularly when all the uses of the OBLSu are compared. Finally, one more use of the OBLSu is the Agent NP of Nominals that are associated with Verbs by rule (cf. p. 51):

(iv) Agent of Nominals in NP's

pelawen Alui ngèn blañó
-Obl +Obl -Obl
1 2 3 4

'Alui's fight against the Dutch.'
2 1 3 4

In a recent publication, Chomsky (1977: 15) discussed the notion of the relationship between Subjects and Possessive phrases as "a promissory note in the absence of a theory of subject-predicate and possessive interpretation...but such a theory is certainly necessary..."

This completes our discussion of semantic interpretation. It is assumed that going deeper into the semantics of Rejang would not contribute to the goal of verifying the thesis, or of validating the overall grammar further.

However, more data on Rejang morphology are certainly relevant. In the last chapter of this dissertation, a reasonably complete discussion of Rejang morphology is presented.

* * *

Chapter Four

FURTHER ARGUMENTS AGAINST NP MOVEMENT RULES

4.0 Introduction

The purpose of this chapter is to complete the arguments begun in Chapter II that Rejang has a transformational component, but no rules that move an NP. The specific claim of this chapter is that the Rejang NPMPH holds throughout the grammar, not just for Relative Clauses and Questions.

The topics to be taken up in order in this chapter are: the criteria for distinguishing lexical and transformational rules; the complementizer system; a synopsis of the grammar as presented in Chapters II and III; VSO sentences; Nominals; dative, passive, and causative verbs; and a set of morphological and syntactic redundancy rules.

The argument of this chapter is that if lexical redundancy rules can replace transformations in a number of cases, then a corresponding number of NP Movement rules is automatically replaced.

In order to eliminate a number of semantic topics that are beyond the scope of the present thesis, it will be convenient to distinguish among three kinds of redundancy rules: morphological, syntactic and semantic. The latter type has received only passing mention in connection with thematic function of Nouns in Chapter III, Appendix I. Syntactic and morphological rules operate only on formally given structures, in accordance with the thesis of the absolute autonomy of syntax from semantics. The autonomy thesis has been described by Chomsky as follows:

> The absolute autonomy thesis implies that the formal conditions on 'possible grammars' and a formal property of 'optimality' are so narrow and restrictive that a formal grammar can in principle be selected . . . on the basis of a preliminary analysis of data in terms of formal primitives excluding the core notions of semantics. (Chomsky, 1975b:177)

The importance of the autonomy of syntax thesis for the present discussion is as follows. We assume that the NPMPH can be verified or falsified independently of a semantic theory of Rejang. Hence, it is assumed that to add semantic data to the rules (43) i - viii of this section would not add to their testability.

The method of demonstrating the viability of the Rejang NPMPH in this chapter is to present alternative descriptions of each topic. In each case, it is conceivable that the data could be accounted for by NP Movement rules. However, in every case it is shown that alternative descriptions that do *not* involve NP Movement rules are better-motivated. Put in another way, the problem of choice of grammars (discussed in Chapter I of this thesis) is focused on the choice between rules that move NP's and rules that do not. The claim is that the Rejang language learner fixes upon a choice of grammars wherein NP Movement rules are prohibited. Thus the Rejang learner, it is claimed, must utilize Bever's "Strategy D" — favoring the first NP in the sentence as the Subject — as a pervading principle of linguistic performance, and he must incorporate this principle into his grammar in the form of a condition on the functioning of rules, namely the NPMPH.

The method of this chapter differs from that followed in Chapter II. There it was sufficient merely to list ungrammatical sentences that were explainable in terms of the NPMPH applied to WH-Phrases. The demonstration of the effect of the NPMPH in WH-Phrases could be direct, because sentences with non-Subject NP's in COMP position are ungrammatical in Rejang.

However, in this chapter the data are more complex and the problem requires a more sophisticated approach. For example, we want to show that passive sentences are not derived transformationally by NP Movement rules. But it is not the case that passive sentences are ungrammatical. Rejang does have passive sentences. The problem is how to account for them. In terms of our thesis, the problem is how to account for them in a way that is consistent with an overall grammar of Rejang that is highly valued in terms of a reasonable evaluation measure.

What is needed at the outset is a way of determining when transformational rules are called for in the EST, and when NP Movement rules in particular are needed. If it can be shown that the desired analysis is forced by the data, given the EST model of language, then empirically the case for the thesis is strong. The thesis is less strong if the model must be changed to accommodate the thesis, due to the unfamiliarity of the primary data (the fact that we are working with an "exotic" language). This seems to be a simple matter of logic from the point of view of the field worker.

Many people have noted that within the EST it is often possible to present the same data either transformationally or through the use of Lexical Redundancy Rules. This, of course, is a defect of the theory

that must be remedied. Thomas Wasow (1977) has developed a set of criteria for distinguishing lexical from transformational rules. From the point of view of this thesis, it is highly important to note that NP Movement rules can only be transformations; lexical rules cannot move constituents. It follows that any rule that can be re-formulated as a lexical rule can be used potentially to support our thesis.

4.1 Wasow's criteria

In an important article that contributes directly to the problem of narrowing the choice of grammars, Wasow (1977) proposes five independent criteria for choosing between rule types within the framework of the EST. Table 2 below is an adaptation of Wasow's five criteria for distinguishing lexical from transformational rules. We have changed Wasow's Criterion 3, and placed it first on our list. The reasons for this are given below in 4.10. The other four criteria of Wasow's are retained without change.

Table 2

Criteria for distinguishing lexical and transformational rules

	Transformational rules	Lexical rules
Criterion 1	Must be structure-dependent, i.e., may refer only to the "terms of the proper analysis," e.g., NP, P, S, V, etc.	May be formulated in terms of features relating to subclasses of lexical items, e.g., ±Causative, ±Oblique, etc.
Criterion 2	May not change node labels, e.g., N to V.	May relate items of different lexical categories, e.g., Nouns to Verbs.
Criterion 3	May deface phrase structure as given by PS Rules.	Must be structure-preserving.
Criterion 4	May be fed by other transformations (intrinsic ordering).	Must apply before all transformations.
Criterion 5	May not have idiosyncratic exeptions.	Often have idiosyncratic exceptions.

4.2 Further Aspects of the complementizer system

In Chapter II it was argued that NP Movement is excluded in Rejang Relative Clauses, Questions, and Embedded Questions. These three construction types were assumed to be derived from an underlying COMP S structure.

There are a number of Verbs and Adjectives that also take COMP S complements. For example, the phrase *mulay mu?* 'begin to eat' is assumed to be derived from an underlying structure V $\overline{S}$.

If the thesis of this dissertation is to be maintained, it is necessary to show that NP Movement never occurs in the derivation of sentences with Verbs that take sentential complements.

Put in another way, it is necessary to explain the unusual ungrammaticality of Rejang sentences like the following:

(1) **jano Jon madea? bahwo Dèsi*
1 2 3 4 5

temokoa t
6 7

'What did John say that Desi
1 2 3 4 5

bought t.'
6

(2) **bukew ?o mudea? mbaco t*
1 2 3 4

'The book is easy to read t.'
2 1 3 4

Presumably the English analogues of the above two ungrammatical Rejang sentences may be grammatical in part because NP Movement rules are permitted. However, in a language without NP Movement rules, the above two sentences must be ungrammatical, as the Rejang evidence shows.

In Rejang, the ideas expressed by (1) and (2) above are represented by the following sentences:

(1') *Jon madea? bahwo Dèsi temokoa*
1 2 3 4 5

apa?
6

'John said that Desi bought what?'
1 2 3 4 5 6

(2') *bukew ?o mudea? nbaco*
1 2 3 4

'The book is easy to be read.'
2 1 3 4 4

4.2.1 Verbs of obligatory control

In this section and the next, further aspects of the Rejang complementizer system will be developed. Specifically, we are interested in the "double-function" of certain NP's in the following two sentences:

(3) *Jon mulay m̄u?*
1 2 3

'John began to eat.'
1 2 3

(4) *Jon mloa Alui m̄u?*
1 2 3 4

'John ordered Alui to eat.'
1 2 3 4

In sentence (3) *Jon* is simultaneously the Subject of both verbs *mulay* and *m̄u?*. In (4) *Alui* is simultaneously the Object of *mloa* and the Subject of *m̄u?*. The facts of the double-functions will not be questioned further here. The problem is how to account for the double-functions, as described.

The underlying structure for sentences embedded to verbs of obligatory control are assumed to be parallel to the structure for embedded questions. The difference is that the COMP has the features [-WH, -Q] and is morphologically Zero.

The following is the underlying structure for all the sentences to be discussed in the remainder of this section.

(5)

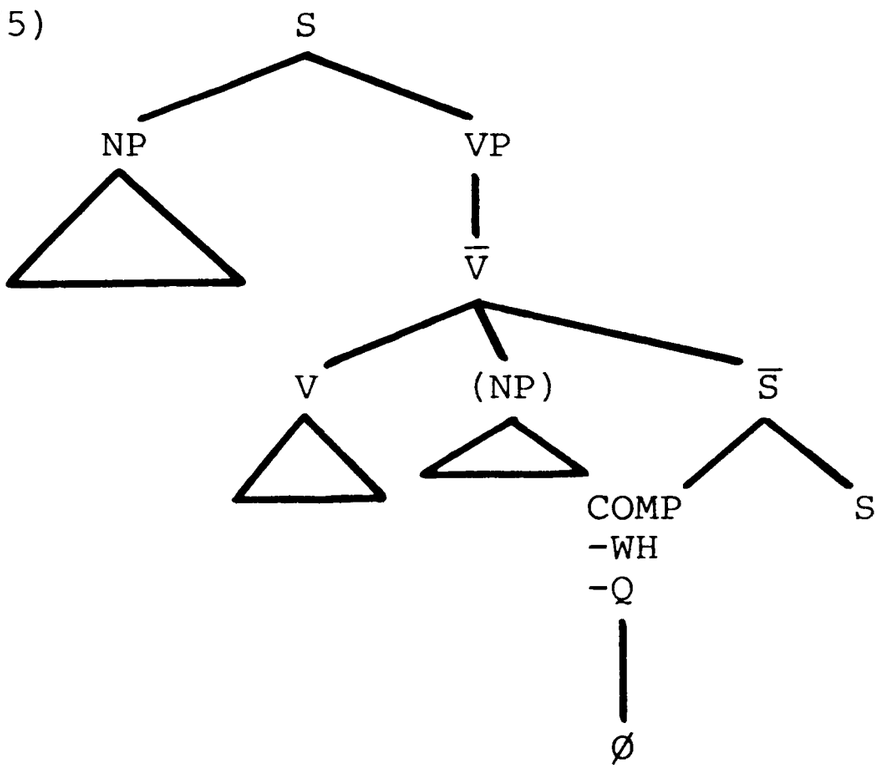


Figure 14

Underlying structure of sentences with verbs of obligatory control

The Standard Theory treatment of verbs similar to those found in (3) and (4) in English was to derive the double-function NP from the SU position of the embedded sentence by an NP Movement rule. For example, (4) could be derived from the following IPM:

(6) *Jon mloa PRO* [*Alui m̄u?*]S
1 2 3 S 4 5

'John ordered ___ [Alui eat.']S
1 2 3 S 4 5

If (6) underlies (4), then a rule is needed to "raise" *Alui* from the position of SU of the embedded S to the position of O of the matrix S, replacing PRO.

If such an account of the derivation of (4) is correct, then our NPMPH is falsified, and cannot be maintained as a principle of Rejang grammar. In order to maintain the NPMPH, it is necessary to seek a better analysis for (3) and (4) than is available under the assumption of SU "Raising".

Recent developments in the Standard Theory have moved away from "raising" rules of the kind suggested above. Instead, two devices have been suggested, namely filters, and rules of obligatory control. It appears that Rejang has no need for the theory of filters (the reason seems to be that the theory of filters is needed only for languages with NP Movement rules). However, rules of obligatory control appear to be adequate to account for the problems raised by "double-function" phenomena posed by data like (3) and (4).

In Chomsky and Lasnik (1977), reasons are given for preferring the control-approach over the transformational approach to sentences like (3)-(4). They are related to Criterion 1 of Table 2, *viz.* the generalizations that can be stated depend on lexical properties (features) of Verbs. For example, the following two sentences are ungrammatical because of lexical properties of the verbs involved:

(7) **Jon mulay Alui m̄u?*
1 2 3 4

**'John began for Alui to eat.'*
1 2 3 4

(8) **Jon mloa m̄u?*
1 2 3

**'John ordered to eat.'*
1 2 3

The explanation for the ungrammaticality of (7) and (8) is as follows: the verb *mulay* cannot be inserted into the frame NP___NP S̄, whereas the verb *mloa* can only be inserted into that frame. The information about the insertability of Verbs into IPM's must be recorded as part of each Verb's subcategorization features (cf. Chapter I and Chapter III). Crucially, *mulay* has the property that its Subject must be co-referential with the "missing' Subject of the embedded sentence; whereas *mloa* has the property that its Object must be co-referential with the embedded sentence's "missing" Subject. Facts such as these are essential for the proper interpretation of verbs like *mulay* and *mloa*. Rules that mention features such as those that reflect these facts cannot, by Criterion 1 of Table 2, be transformational rules.

The features of obligatory control are assigned as part of the subcategorization of each verb in the Lexicon. This means

that the property of NP control is assigned to the verb. That is, in spite of the fact that the Verb's SU or O is the "controlling" NP, it is the Verb's subcategory features that determine whether the SU or the O is the controller. Thus for *mulay* the SU is the controller; for *mloa* the O is the controller.

According to Chomsky and Lasnik:

> . . . control may be assigned by virtue of properties of the matrix verb; that is, the NP subject of the embedded sentence will be assigned either the index of the matrix object (as in our example 4,RM) or of the matrix subject (as in 3 above, RM). (Chomsky and Lasnik, 1977:440)

What is meant by the term "index" is that a rule assigns a co-referentiality index to the Subject of the embedded sentence, and that this co-referentiality is "controlled" by either the matrix Subject or the matrix Object. Hence the whole question of "double-function" NP's is taken away from the transformational component and re-assigned to the semantic component. The rule of "obligatory control" is an interpretive rule based on features that must be assigned to the Verbs. *mulay* is therefore entered in the Lexicon with the feature [+subject control], and *mloa* is entered with the feature [+object control]. The meaning of these features is that they condition the interpretive rule that assigns a co-referentiality index to the Subject of the embedded Verb. Moreover, these same features function to mark as ungrammatical (or uninterpretable) any sentence that occurs with a control verb in the matrix sentence and a full, lexical NP in the position of embedded Subject. That is, the position of the Subject NP of the embedded sentence, the position marked as "controlled" by the control features, must be empty. Thus the following sentences are also ungrammatical:

(9) **Jon mulay Alui mu?* (identical to 7)

(10) **Jon mloa Alui Desi mu?*
1 2 3 4 5

*'John ordered Alui for Desi to
1 2 3 4

eat.'
5

Actually, Chomsky and Lasnik's approach is not new. In 1973, Paul Li published his University of Hawaii dissertation which contained all the essentials of the theory of obligatory control (Li, 1972; 1973:222f.). Moreover, since Li's work, the theory of control has been taught in syntax classes at the University of Hawaii by Stanley Starosta.

We shall now attempt to apply the theory of obligatory control to the data of (3) and (4). Recall that the grammar of Rejang presented in Chapter II included the following PS Rules and the expansion of COMP, repeated here:

(11) i $S \longrightarrow NP\ \ VP$

ii $NP \longrightarrow \bar{N}\ \ (Det)$

iii $\bar{N} \longrightarrow N$

iv $VP \longrightarrow \bar{V}$

v $\bar{V} \longrightarrow V\ (NP)\ \bar{S}$

vi $\bar{S} \longrightarrow COMP\ \ \ S$

vii $COMP \longrightarrow \begin{matrix}+WH \\ \underline{+}Q\end{matrix}$

viii $\begin{matrix}-WH \\ -Q\end{matrix} \longrightarrow \underline{+}\ bahwo$

ix $-\ bahwo \longrightarrow Zero$

x $+\ bahwo \longrightarrow bahwo$ 'that'

xi $+V \longrightarrow \begin{matrix}+subject\ control \\ (scon)\end{matrix}$

xii $-scon \longrightarrow \begin{matrix}+object\ control \\ (ocon)\end{matrix}$

Rules (11) i - x are PS Rules (Chapter II), whereas Rules xi - xii are Subcategorization Rules (see Chapter II, p. 13 for a description of this rule type).

Rules (11) viii - x further expand the rule given as Rule (15) in 2.5. Here we are interested only in the Zero complementizer (See 4.2.3 for a discussion of *bahwo*.)

Given the grammar (11), the following structures are assumed to underly (3) and (4).

(3')

$$\left[_{S}\ \textit{Jon}_{N}\ \left[_{\bar{V}}\ \textit{mulay}_{+scon}\ \left[_{\bar{S}}\ \emptyset_{COMP}\ \left[_{S}\ PRO\ \textit{mu?}\right]\right]\right]\ \bar{V}\right]_{S}$$

(4')

$$\left[_{S}\ \textit{Jon}\ \left[_{\bar{V}}\ \textit{mloa}_{+ocon}\ \textit{Alui}\ \left[_{\bar{S}}\ \emptyset_{COMP}\ \left[_{S}\ PRO\ \textit{mu?}\right]\right]\right]\right]_{S}$$

The structures (3') and (4') are base-generated. The only rules that are required are rules that delete the Zero complementizer and PRO, and the interpretive rule that assigns the co-referentiality index of either the matrix Subject or Object to the PRO, or Subject position of the embedded sentence.

Since no transformations apply, it follows that NP movement is not required in the derivation of sentences like (3) and (4). This result conforms to the NPMPH presented in this thesis.

Another verb which shares subcategory features with *mloa* 'order' is *mlie̊* 'cause'. *mlie̊* is homophonous with the verb *mlie̊* 'give.' Consider the following sentence:

(12) *Alui mlie̊ Jon mu?*
1 2 3 4

'Alui let John eat.'
1 2 3 4

The sentence (12) is derived exactly as described for *mloa*. *Jon* is base-derived as the O of the matrix Verb *mlie̊* 'cause.' In the SU position of the embedded S is the element PRO, which is deleted by a general rule. PRO is "controlled" by the O of *mlie̊*, namely *Jon*. This means that *Jon* is "understood" as the subject of *mu?* 'eat' in the embedded sentence. This "understanding" is determined by the lexical properties of the verb *mlie̊*, which is a verb of obligatory object control.

4.2.2 EQUI NP deletion

A class of verbs that superficially resembles the verbs of obligatory control are verbs like *la?* 'want'. However, instead of assigning a feature of obligatory control to *la?*, it is assumed that the rule of EQUI NP Deletion applies.

la? 'want' differs from both *mulay* and *mloa* because it allows two kinds of complements. Consider the following sentences:

(13) i *Jon la? alew.*
1 2 3

'John wants to go.'
1 2 3

ii *Jon la? Alui alew.*
1 2 3 4

'John wants Alui to go.'
1 2 3 4

The sentence (13) i resembles (3), and (13) ii resembles (4). But we have seen in (7) and (8) that *mulay* and *mloa* are more limited in distribution than *la?*. The important property of *la?* is that it appears superficially to be both a subject control verb (13) i and an object control verb (13) ii. But it would be contradictory to enter it in the lexicon with both features, and it would entail loss of generality to enter it into the lexicon twice, once as a subject control Verb and another time as an object control Verb. The solution to problems of this type in the Standard Theory (cf. Akmajian and Heny, 1975) is to assume that a rule of EQUI NP Deletion applies to delete the Subject of the embedded sentence if and only if it is co-referential with the Subject of the matrix sentence. Thus the following sentence is subject to EQUI NP Deletion:

(14) *Jon la? (*Jon) alew*
1 2 3 4

'John wants (*John) to go.'
1 2 3 4

Chomsky and Lasnik (1977:442) maintain that phenomena associated with EQUI are entirely different from obligatory control. The important point here is that a lexical NP can appear in the position of (**Jon*) in (14), namely, either a reflexive phrase or an NP such as *Alui*. But, since a lexical NP can appear there, it follows from the model that PRO cannot appear there; hence (13) cannot be accounted for under the theory of control. As Chomsky and Lasnik state:

> Since a lexical NP can appear in the subject position of the complement (sentence), it follows that PRO cannot appear there. (1977:442)

The reason is that PRO may appear only in positions that cannot be filled by lexical NP's. PRO is either filled by an NP by a transformation, or is deleted. Under our hypothesis that no NP's may be moved in Rejang, it follows that PRO must always be deleted in Rejang, by a rule of maximum generality if the NPMPH is correct.

Notice that sentence (14) is ungrammatical if (**Jon*) is selected. This means that EQUI NP Deletion must be obligatory in such cases. This fact does not conflict with the assumption stated earlier (p. 5) that the transformational rules of the core grammar are optional. EQUI is not, in fact, even classified as a transformation at all but rather is a deletion operation in our framework. (cf. Figure 1, p. 3).

It is important to note also that a reflexive phrase in the form of a Sentential Nominal (p. 24f) may appear in (14) in place of (**Jon*), as the following example illustrates:

(15) *Jon la? di su?ang ne alew*
1 2 3 4 5 6

(John) (want) (one) (self) (the) (go)
1 2 3 4 5 6

'John wants himself to go.'
1 2 3-4-5 6

The conclusion here is that, given the

analysis of EQUI combined with the theory of obligatory control, no movement transformations are required to describe the properties of the Rejang complementizer system. It follows that the NPMPH is not falsified by the data of Rejang complementation.

4.2.3 *bahwo*

This is a complementizer that occurs after epistemic Verbs indicating characteristically human activities such as believing, saying, and so on. It is important to note that none of these verbs can take an animate Object. Thus, the analogues of English "John is believed to be . . . " or "John is said to be . . . " are not transformed sentences in Rejang. The analysis of the following sentences excludes another possible NP Movement rule from the grammar of Rejang, namely "raising-to-subject", which has been proposed to account for the English analogues. Consider the following sentences:

(16) **Jon npecayo maling kerita*
1 2 3 4

'John is believed to have stolen
1 2 3

the bicycle.'
4

(17) *Jon nadea? maling kerita*
1 2 3 4

'John is said to have stolen
1 2 3

the bicycle.'
4

The reason that (16) is ungrammatical is partly because *pecayo* cannot be passive at all (cf. 4.6, example (9) iv: "Psych Verbs"). And although (17) is grammatical; the O of the verb *madea?* is always *what is said*, whereas *the person to whom* it is said appears as the OBLO, e.g.

(18) *Jon maling kerita. Alui madea?*
1 2 3 4 5

ne magea Desi.
6 7 8

'John stole a bicycle. Alui
1 2 3 4

said it to Desi.'
5 6 7 8

In Rejang there is no verb like the English 'tell someone,' but only *madea magea tun* 'tell to someone'.

The sense of (16) is rendered in Rejang by the following sentence containing *bahwo* as the complementizer associated with Verbs like *pecayo* 'believe':

(19) *tun pecayo bahwo Jon maling kerita*
1 2 3 4 5 6

'People believe that John stole
1 2 3 4 5

the bicycle.'
6

4.2.4 On filters

Chomsky and Lasnik (1977) propose a system of filters to account for a number of surface structure constraints on English sentences. The filters are necessitated by the fact that English allows a number of NP Movement rules, and because NP Movement is a highly complex affair that requires a variety of approaches to describe it fully. Among the approaches are transformations to move NP's, and filters to constrain NP Movement. However, by contrast, Rejang appears to have no NP Movement rules, according to our hypothesis. It follows that Rejang should need no filters to account for the properties of the complementizer system. This conclusion is verified by the grammar presented in this chapter. It remains only to show that there are no further problems related to the complementizer system that have not already been accounted for by the grammar.

An especially problematic sentence type that occurs in English is one which Chomsky and Lasnik call sentences of "arbitrary control". These are headed by verbs that are neither verbs of obligatory subject control or object control, yet display the properties of control verbs. Such Verbs are found functioning as Adjectives with embedded complementizer sentences associated with them, such as the English: "It is unclear what to do." Such verbs (or Adjectives) do not exist in Rejang. The sense of this type of sentence is rendered by an embedded Sentential Nominal. Consider the following sentence:

(20) *tun coa namen jano di arus nemu?*
1 2 3 4 5 6 7

'People don't know what is to be
1 2 3 4 6

eaten.'
7

Reasons were given in 2.13 why the embedded sentential nominal in (20) must be passive. If it must be passive, it seems obvious that the phenomenon of "arbitrary

reference" in the Rejang complementizer system should be assigned to the arbitrary reference universally associated with the missing or deleted agent of passive verbs.

4.3 Synopsis of Rejang syntax

The core grammar presented in Chapter II generates Initial Phrase Markers (IPM's) that are abstract. They underlie active, passive causative, SVO, VSO, and many other sentence types. Sentences generated by the base are called base-derived.

Base-derived sentences in Rejang cannot be classified into sentence types on the basis of the IPM's alone. Also needed is information about the case-form of the NP's in the sentence. That is, Rejang has a simple case-marking system that is essential for the interpretation of sentences.

There are only two case-forms: +Oblique and -Oblique. Every Noun is marked for the features ±Oblique by a general rule. There is a maximum of one NP per sentence that may be marked +Oblique (ignoring for the the OBLO of the Preposition *gi*, which must also be +Oblique). This NP has been called the Oblique Subject (OBLSu). All the other NP's associated with the Verb are -Oblique. The left-most non-Oblique NP in any Sentence is the Subject (SU); the right-most non-Oblique NP that is not the SU is the O, and the middle-most non-Oblique NP (given three such) is the IO. In Chapter III, Appendix I, these grammatical functions have been interpreted further as to thematic function.

The PS Rules presented in Chapter II have the function of capturing the word order generalizations of the language. It is shown below that the active and passive sentences are parallel in structure: they differ only in the morphological markings in the Verb and the Pronouns. This grammar has determined that the case-marking on Pronouns, and by extension on Nouns, is basic, and that Verbal affixes are redundant (predictable by rule). This matter will be treated phonologically in 4.9.

Below is a brief fragment of the grammar presented in Chapter II highlighting another parallelism, that between VSO sentences and passive VS sentences. This parallelism underlies our treatment of many of the topics to be discussed in this chapter. The first three rules below are PS Rules; the fourth results from lexical insertion of a Noun into the post-Verbal position that is marked -Oblique; the fifth results from the opposite choice of a Noun Marked +Oblique that has been inserted into the post-Verbal position. All further case-marking, and all Verbal affixes, are predictable, given the case-form of the post-Verbal NP.

(21) i $S \longrightarrow VP$

ii $VP \longrightarrow \bar{V}$

iii $\bar{V} \longrightarrow V \quad NP \quad NP$

iv
```
V  NP  NP
   -Obl
```
mūʔ Ali kan ʔo
1 -Obl 3 4
2

'Ali did eat the fish.'
2 1 1 4 3

v
```
V  NP  NP
   +Obl
```
neməūʔ Ali kan ʔo
1 +Obl 3 4
2

'The fish *was* eaten by
4 3 1 1

Ali.'
2

Sentences with the structure (21) iv are VSO sentences, according to our definitions of Rejang grammatical relations. Sentences with the structure (21) v are passive sentences with verb-first order. Ignoring the Agent phrase, they are VS in structure.

4.4 VSO order and nominals

The grammar of Chapter II generates VSO and VS sentences in the base, and also certain types of Nominals. If it is true that VSO and VS sentences are base-derived, then their structure exactly parallels Nominal phrases. Consider the parallelism of the following two phrases:

(22) i *melawen Alui ngèn Blaño*
1 2 3 4

'Alui did fight against the
2 1 1 3

Dutch.'
4

ii *pelawen Alui ngèn Blaño*
1 2 3 4

'Alui's fight against the
2 1 3

Dutch.'
4

The parallelism between Nominal phrases and VSO and VS sentences is captured by the $\bar{X}$ theory applied to the data of Rejang. But this parallelism does not prove that VSO and VS sentences *must* be base-derived. The necessity condition, however, is fulfilled by the following consideration: it happens that by Wasow's Criteria, *viz* by

Criterion 1 in Table 2, VSO and VS sentences cannot be transformationally derived in Rejang. Consider the following sentences:

(23) i *Alui mu? kan ?o*
1 2 3 4

'Alui ate the fish.'
1 2 4 3

ii *mu? Alui kan ?o*
1 2 3 4

'Alui did eat the fish.'
2 1 1 4 3

(24) i *kan ?o nemu? Alui*
1 2 3 4

'The fish was eaten by Alui.'
2 1 3 4

ii *(?)nemu? kan ?o Alui*
1 2 3 4

'(?)Alui *was* eaten by the fish.'
4 1 3 2

By the analysis of Chapter II, (23) i is parallel in structure to (24) i, and (23) ii is parallel to (24) ii. The parallelism is captured in the base rules. No claim is made about the meaning of the sentences, only their form. The sentence (24) ii, which is marked (?), is in no way unusual, according to our account.

However, let us assume that our account is incorrect, and that the sentences (23) ii and (24) ii are derived from (23) i and (24) i by transformation of 'Verb-Focus.' The rule changes the SVO order of sentence into VSO by fronting the Verb. The claim is that the only change in meaning is that of "focus". But now consider the meaning of (23) ii compared with that of (23) i. Indeed, "Verb-Focus" is plausible as an explanation of the relatedness of (23) i - ii. But now consider the relationship between (24) i - ii. The proposed rule of "Verb-Focus" changes the meaning entirely. Instead of the expected 'The fish did get eaten by Alui', we get (24) ii instead. It appears that the rule of "Verb-Focus" cannot operate "blindly" on the Verb, as required by Criterion 1 of Table 2, but must note whether or not the Verb is active rather than passive. Specifically, it must note whether the post-verbal NP is -Oblique, and if it is, the rule may apply. But by Criterion 1, such a rule cannot be a transformation, but must be a lexical rule. If a way to save the transformational analysis exists, I cannot conceive of it. For if a transformational rule of "Verb-Focus" is proposed to account for (23) ii, then a separate rule will be needed for sentences like (24) ii, deriving them from the following:

(25) *Alui nemu? kan ?o*
1 2 3 4

'Alui was eaten by the fish."
1 2 4 3

In order to derive (24) ii from (25) it will again be necessary to exclude sentences like (23) i from the structural description, even though (23) i and (25) are parallel in structure — indeed, identical. The rule deriving (24) ii from (25) will need to move, not only the Verb, but also the Agent NP (alternatively, it can post-pose the Subject). Again, this rule of '$\bar{V}$-Movement' would have to be formulated so as to apply only to passive sentences. But again, by Criterion 1, such a rule cannot be formulated as a transformation.

The conclusion is that VSO and VO sentences are base-derived in Rejang. The rule relating these sentences with the corresponding SVO sentences must be lexical. (See (43) below for the relevant formulation of the rules.)

It follows that VSO and passive VS sentences are parallel to NP's containing Nominals in the base structure. This is an important result for this thesis, for it removes a potential NP Movement transformation, namely, a rule that relates SVO sentences with NP's containing a Nominal head. That is, if (22) ii had to be derived, not from (22) i, but from the corresponding SVO sentence related to (22) i, then a rule would be necessary to postpose the Subject NP from the SVO sentence, placing it in the post-Nominal position. Given our analysis of VSO and passive VS sentences as base-derived, however, it follows that even if NP's containing Nominals were found to be transformationally derived, no rule of NP Movement would be required, only a rule changing node labels. However, our thesis is even stronger if it can be shown that the parallelism between NP's containing Nominals and VSO and passive VS sentences arises from the fact that they are all base-derived. That NP's containing Nominals as head are in fact base derived also turns out to be necessary by Criterion 2 of Table 2. The conclusion is that all Rejang Verb-first sentences, and NP's with Nominal heads, are base-derived. It follows that none of these structures can involve NP Movement Rules.

4.5 Double-object constructions

In the grammar presented in Chapter II, Rejang double-object constructions were generated by the following rules:

(26) i $S \longrightarrow NP + VP$

ii $VP \longrightarrow \bar{V}$

iii $\bar{V} \longrightarrow V + NP + NP$

iv NP V NP NP
-Obl

Ali mliè uku caci
1 2 -Obl 4
3

'Alui gave me money.'
1 2 3 4

v NP V NP NP
+Obl

Uku nliè Ali caci
1 2 +Obl 4
3

'I was given by Ali money.'
1 2 3 4

As pointed out in 3,2 above, the sentence-types are given solely by the PS Rules such as (26) i - iii above. Lexical insertion must also be partially completed; in particular, the case-form of the NP following the Verb must be known. Hence, (26) iii is the Phrase structure that underlies both (26) iv and (26) v, but only (26) iv is a double-object construction, containing a post-verbal IO and O. (26) v is the passive of (26) iv. The difference between (26) iv and (26) v reduces to the fact that the post-verbal NP in the former is the IO whereas in the latter it is the Oblique Subject, i.e., the Agent of the passive, in this case. The parallelism between the two structures is captured by deriving both by the PS Rules (26) i - iii. In this section we shall argue that (26) iv must be base-derived. In the next section, we shall argue that (26) v — as indeed all passives — must also be base-derived.

Let us now consider the possibility that the preceding account is wrong and that (26) iv must be derived by a transformational rule of "dative movement" from a structure like the following. Consider the pair below [(26) iv is repeated as (27) ii]:

(27) i *Ali mliè caci ngèn uku*
1 2 3 4 5

'Ali gave money to me.'
1 2 3 4 5

ii *Ali mliè uku caci.*
1 2 5 3

'Ali gave me money.'
1 2 5 3

It is plausible to consider that (27) ii is derived from (27) i by two rules: the first moves the NP represented by *uku* into the post-Verbal position, and the second deletes the preposition *ngèn*. If this treatment of the facts is correct, then the NPMPH is refuted, of course. Moreover, it is also plausible to apply a further transformational rule of "passivization" to derive (26) v from (27) ii by formulating more NP Movement rules, and setting up an ordering relation between "dative movement" and "passivization". Here we shall deal only with the proposed rule of "dative movement"; in the next section we shall discuss the passive rule. It is important to note that if we succeed in eliminating "dative movement", then any proposed "passivization" transformation will not have to be "fed" by any preceding transformation (cf. Criterion 4, Table 2).

There are two arguments against the two rules mentioned above to account for the phenomenon of Rejang double-objects. The first is admittedly rather weak. It consists of the observation that "dative movement", even if it were a transformation, could be formulated not as an NP Movement rule, but as a PP Movement rule. Thus, instead of moving the OBLO of the Preposition *ngèn*, followed by deletion of the Preposition, it would be just as well-motivated to move the entire Prep Phrase, prior to deletion of the Preposition. Formulated in this way, the process of "dative movement" would not involve NP Movement. (We saw in Chapter II that PP-Movement is a rule of Rejang.)

The second argument seems much stronger. It argues against any formulation of "dative movement" in Rejang, based on Criterion 1 of Table 2. Consider the following two sentences in comparison with (27) i - ii:

(28) i *Jon mu? kan ngèn tangen*
1 2 3 4 5

'John ate fish with his hands.'
1 2 3 4 5

ii **Jon mu? tangen kan*

*'John ate his hands the fish.'

The sentence (28) ii is ungrammatical. It was formed by blindly (cf. Criterion 1) applying "dative movement" to (28) i. But (28) i is structurally identical to (27) i. It follows that if (27) ii is derived from (27) i by a transformation, then (28) ii must also be derived by the same rule. But (28) ii is ungrammatical in Rejang. It follows that either the transformational account of "dative movement" proposed for (27) i - ii is wrong, or that some special condition is needed to account for the "overgeneration" of (28) ii. What the special condition would be that would prevent "dative movement" to apply to an Instrument NP such as *ngèn tangen* in (28) i is not hard to imagine. It would have to be stated in such a way as to exclude "dative movement" in verbs that are not inherently "dative". Perhaps this could be maintained as a principle of UG. But what it appears to be is rather another way of stating that the phenomenon of double-object constructions is tied in an essential way to the meaning of sentences and the verbs that occur in them. It follows that by Criterion I, the rule needed to relate sentences like (27) i - ii must be lexical (it may also be universal). If it is lexical, then no NP Movement can be involved.

At the root of this argument is the

fact that the Preposition *ngèn* in Rejang occurs with several sub-classes of verbs in Rejang. Hence the structure of several sentence types falls together as NP - V - NP - *ngèn* - NP. In order for any rule to relate structures like (27) i - ii while avoiding reference to other verbs like (28) i, it is necessary to know the sub-class of the verb.

4.6 Passive

In the grammar presented in Chapter II, passive sentences are derived by the rule repeated in this chapter as (1) i - iii and (1) iv. That is, given a base structure NP - V - NP, then if the post-verbal NP is +Oblique, then the sentence *may* be passive. However, as we shall see, not all sentences of the form (1) v are passive; some are causative and non-passive (see below).

Consider the possibility that the passive in Rejang is transformationally derived by two NP Movement rules that exchange the two NP's of an active sentence (subsequent morphological rules would mark the verbal affixes and select the right Pronoun forms). There is no question that such a rule would be "structure-preserving" (cf. Criterion 3). According to Bresnan (1976), as reported by Wasow (1977 : 328), all transformations that are structure-preserving *should* be reformulated as lexical redundancy rules, so that transformations *only* deface structure as given by PS Rules. If we adopt Bresnan's stance, then we have a *prima facie* argument against deriving Rejang passives by transformations. Moreover, the parallelism between active and passive sentences is captured exactly by the PS Rules, as shown in 2.3.0 and again in 3.2 and Rules (21) iv - v of this chapter.

Another argument against transformational derivation of Rejang passives is taken from the fact, to be demonstrated below, that the active-passive relation in Rejang is severely limited. The argument is that by Criteria 1 and 5 of Table 2, transformational derivation of passives is unlikely.

The following are seven classes of verbs that may be inserted into the frame: NP - V - NP, but which cannot be passivized in Rejang.

(29) Copula

i *Zainubi adèba mahasiswa*
1 2 3

'Zainubi is a student.'
1 2 3

ii Existential Possession Verb

Alui adè ana? duey likup
1 2 3 4 5

'Alui has two children
1 2 4 3

(Classifier).'
5

iii Ownership Possession Verb

Sriviwati temon stom.
1 2 3

'Sriviwati owns a car.'
1 2 3

iv Psych Verbs

Uku tinget si
1 2 3

'I remember her/him.'
1 2 3

v Stative Verbs

glas ?o bisey bioa
1 2 3 4

'The glass contains water.'
2 1 3 4

vi Inchoative Verbs

Ali jijey dokter
1 2 3

'Ali became a doctor.'
1 2 3

vii Causative Verbs derived from Stative or Action Intransitive Verbs

(a) *Jon sendi ku.*
1 2 3

'John saddened me.'
1 2 3

(b) *Jon kenlaley ku.*
1 2 3

'John caused me to turn
1 2 3 2

around.'
2

viii Transitive Motion Verbs

Zainube masu? imo
1 2 3

'Zainubi entered the forest.'
1 2 3

The facts are that the following verbs do not exist in Rejang; **nadeba*, **nade*, **tenmon*, **teninget*, **nbisey* or **nisey* (as the passive of *bisey*) **jenijey*, **semdi*, **kemlaley* (as the transitive counterpart of *kenlaley*), and **nasu?*.

It follows that any proposed passive transformation in Rejang would have to be

formulated in such a way as to apply "blindly" to all of the above sentence-types, "overgenerating" massively. Some of the overgeneration could no doubt be taken by universal constraints, e.g., four of the above-mentioned seven classes cannot be made passive in English either. Yet it remains a problem why sentences (29) iv, vii, and viii cannot be passive in Rejang in a transformational approach to passives. However, if passive sentences are base-derived, as contended in this thesis, then the problem does not arise. The lexical rule relating active and passive verbs is permitted to mention verbal subcategory features, and overgeneration is thus eliminated.

Criterion 5 of Table 2 may also be evoked in an argument against transformational derivation of Rejang passives. Consider the following two verbs which may be selected into the frame: NP____NP. They appear to be normal transitive verbs, yet they cannot be passive in Rejang, for no apparent reason.

(30) i *minay* 'request'

Alui minay tulung magea Desi
1 2 3 4 5

'Alui asked (for) help to
1 2 3 3

Desi.'
4

ii *gemilo* 'cause s.o. to go crazy'

Jon gemilo Alui
1 2 3

'John drives Alui crazy.'
1 2 3 4

The attempted passivization of (30) i aborts, i.e., **ninay* doesn't exist. The attempted passivization of (30) ii results in an entirely different sentence. Compare the following sentence with (30) ii:

(31) *Dèsi genilo Jon.*
1 2 3

'Desi attracts John (to dis-
1 2 3

traction!).'
2

Hence there is no way to say 'Alui is driven crazy by John', passivizing (30) ii. Again, if passivization is a lexical rule, then idiosyncratic exceptions like this are just what are expected.

The conclusion is that passives and actives are both base-derived in Rejang, and the rule relating them must be sensitive to the features that determine subcategories of verbs (cf. Criterion 1). Moreover, there are a few (at least) lexical exceptions (cf. Criterion 5). Assuming that active and passive sentences are base-derived, the grammar of Chapter II captures the parallelism of the structure of both actives and passives by means of the Phrase Structure Rules. It follows that no rule of NP Movement may be adduced to account for Rejang passive sentences.

Yet another argument against transformational derivation of Rejang passives is given in the next section, where it is shown that certain causative verbs have a passive form but no active form.

4.7 Causatives

Starosta (1974) has distinguished between two types of causative constructions in UG, syntactic causatives and morphological causatives. Both types occur in Rejang. Syntactic causatives are treated here as a kind of sentence-embedding (see 4.2.1). Here we shall discuss two general types of morphological causatives in Rejang, and argue that both types must be base-derived.

Rejang morphological causatives are related to non-causative, intransitive Verbs and Adjectives. Causative verbs are transitive. Let us define "transitive" informally as any Verb that can be inserted (and interpreted) in the structure NP_____NP.

Not surprisingly, given the grammar presented in Chapter III, Rejang morphological causatives may be divided into two sub-classes according to the case-form of the post-Verbal NP. For convenience, we shall refer to these sub-clases as "non-oblique causatives" and "oblique causatives." They are illustrated below:

(32) i Non-oblique Causative

Jon muka? bang ?o
1 2 -Obl 4
3

'John opened the door.'
1 2 4 3

ii Oblique Causative

Jon sendi ku
1 2 +Obl
3

'John saddened me.'
1 2 3

Both types of causatives are active in the meaning. However, only the non-oblique causative has a passive counterpart, but only if the SU is an animate agent (see below). The reason that (32) i - ii are called "causative" is because of their relationship with the following noncausative,

intransitive Verbs or Adjectives.

(33) i *'bang ?o buka?*
1 2 3

'The door opened.'

ii *Uku sedi*
1 2

'I am sad.'
1 2

It is assumed that an adequate grammar of Rejang must succeed in capturing the relatedness between (33) i and (32) i, and between (33) ii and (32) ii. A transformational approach might proceed as follows: the sentences of (32) are derived from those of (33) by a rule that inserts a "causer" NP into the subject position in (33), then moves the old subject of (33) to the post-verbal position. This approach involves NP Movement, *viz.* movement of the Subject of the intransitive to the position of the Object of the causative.

A transformational approach, of course, would have to ignore the morphological markings, as well as the features that determine them. It follows that the transformational approach would be unable to distinguish between the two types of causatives in (32). Moreover, a transformational approach would presumably attempt to allow causatives like (32) i to feed a passive rule, because of data like the following:

(34) *bang ?o nuka? Jon*
1 2 3 4

'The door was opened by John.'
2 1 3 4

However, the transformational approach would run into difficulty again due to the fact that (32) ii cannot be passivized. Indeed, (32) ii resembles a passive sentence in form, including the morphological markings on the Verb and the post-Verbal NP. In order to avoid 'overgeneration' of the non-existent passive of (32) ii, the passive rule would have to be complicated so as to exclude application to structures like (32) ii.

A much simpler approach is followed in this thesis, where all the structures like those found in (32)-(34) are base-derived. The rules for relating the structures are lexical rules that may refer directly to semantic features associated with the lexical classes of Verbs and Adjectives involved. Moreover, there are many exceptions (Criterion 5), as expected if the relationships are lexical.

For example, if the subject of *muka?* 'open' is an animate agent, the active/passive relation is straightforward, as indicated already by sentences (32) i and (34). However, if the agent is inanimate, the verb must be passive; the corresponding active sentence is ungrammatical, e.g.

(35) i *bang ?o nuka? angin*
1 2 3 4

'The door was opened by the
2 1 3

wind.'
4

ii **angin muka? bang ?o*
1 2 3 4

'The wind opened the door.'
1 2 3 3

Another example of idiosyncratic (or sub-regular) behavior of non-oblique causatives is the verb *gemilo* 'drive s.o. crazy', derived from *gilo* 'be crazy'. One might expect that *gemilo* could be passivized like *muka?*, but attempts to do so result in a totally different sentence.

(36) i *Alui gemilo Zainubi.*
1 2 3

'Alui drives Zainubi crazy.'
1 2 3 2

ii *Zainubi genilo Alui.*
1 2 3

'Zainubi attracts/distracts
1 2 2

Alui.'
3

It is also possible for causative verbs to be ambiguous between their literal and non-literal meanings. Consider the following two readings for the non-oblique causative verb *mley* derived from the Adjective *ley* 'big':

(37) *Alui mley Dèsi.*
1 2 3

i 'Alui raised Desi.'
1 2 3

ii 'Alui caused Desi to vomit.'
1 2 3 2

In reading (i) above, Alui helped Desi to grow up (get big), whereas in (ii) Alui literally caused Desi (i.e., her stomach) to get big so she would vomit. Further, if the O of the (i) reading is inanimate then the meaning is 'expand s.t.': and the SU of the (ii) reading may be inanimate, so that

something caused Desi to vomit. These idiosyncracies of Rejang non-oblique causative verbs do not present a problem for the lexical approach adopted here.

Turning now to the oblique causatives, we find two sub-classes. The first is illustrated by (32) ii. The verbs of this class are derived from Adjectives that express emotions such as *sedi* 'sad', *mengèa* 'angry' and *senang* 'happy'. These all occur as oblique causatives, i.e., *sendi* 'sadden', *nengèa* 'make s.o. angry', *sennang* 'make s.o. happy'. Another sub-class derives from agentive motion verbs, illustrated below:

(38) i *uku kemlaley begutè?*
1 2 3

'I looked around slowly.'
1 2 2 3

ii *coadè smulen di paca?*
1-2 3 4 5

kenlaley ku.
6 +Obl
7

'There is no girl that can
2 1 3 4 5

cause me to look around.'
6 7 6 6

Some verbs in this class, already discussed in Chapter III and called 'incorporated goal verbs', are related to Prepositional phrases introduced by *may* 'to'. Consider the following pair:

(39) i *Sabidin alew may dumey.*
1 2 3 4

'Sabidin went to the field.'
1 2 3 4

ii *Sabidin mdumey.*
1 2

'Sabidin went to the field.'
1 2 2 2

(39) ii is also related to an oblique causative sentence:

(40) *tèa? ne ndumey Sabidin*
1 2 3 +Obl
4

'His father made Sabidin go
2 1 3 4 3

to the field.'
3 3

The conclusion appears to be as follows. Some rules are needed to relate Rejang causative Verbs to certain intransitive Verbs and Adjectives. The rules need to be sensitive to the lexical category features of the base Verbs and Adjectives, and also to the features ±Oblique in the causative verbs. Moreover, there are some idiosyncratic exceptions to these rules. Therefore, by Criteria 1 and 5 of Table 2, the rules in question must be lexical. The other criteria are also satisfied, i.e., the rules are structure-preserving, and no transformational rules "feed" the causativization rules. Hence, again, the rules are lexical. If they are lexical, then no transformations are needed to derive Rejang causatives. It follows that the NPMPH is not falsified by the data of causative constructions.

4.8 Morphological and syntactic redundancy rules

In this section are presented the rules relating active-passive, intransitive-causative, dative-double object, and other pairs argued in this chapter to be lexically related. The rules represent an application of Jackendoff's theory of lexical redundancy (Jackendoff, 1972; 1976). However, the approach followed in this thesis differs from Jackendoff's. Jackendoff combines subcategory features and semantic primitives in his semantic redundancy rules, whereas in this chapter we assume that separate rules are needed (see below). In this section, only formal primitives given by the Grammar of Chapters II and III are mentioned in the rules. Hence, these rules are rules of lexical redundancy that are concerned with formal structure only, "exclusive of the core notions of semantics" (cf. 4.0 above and 4.3 below).

The rules are presented in pairs: a morphological rule relating to phonological features, and a syntactic rule relating to subcategory features.

The function of these redundancy rules is to indicate that certain features associated with two classes of items in the lexicon do not count as independent information. The rules function to capture the relatedness among lexical items, while at the same time stating which features are redundant. It is claimed that the rules represent competence, i.e., what the native speaker knows about the items in the lexicon. The following quotation from Jackendoff is relevant:

> . . . it is necessary to list, for example, both a verb and its nominalization in the lexicon. To capture the relation between them, there must be a way to express the fact that there is less independent information in a pair of items consisting of a verb and its nominalization than in a pair

> consisting of a random verb and noun. One way to capture this redundancy is to consider the measure of information a simple counting of features, but to eliminate all or some of the features of the nominalization to capture the generality; this method, however, is not consistent with our assumption that both the verb and the nominalization are fully specified in the lexicon. Alternatively, one could propose that the regularities are expressed within the measure of information itself, as *redundancy rules* that say that certain shared features of the nominalization do not count as independent information. Such a solution will be assumed here. (Jackendoff, 1972:22)

Of central importance to the validation of the thesis presented in Chapters II, III, and IV (this chapter) are the redundancy rules that are proposed to account for pairs of related lexical items such as active-passive, intransitive-causative, Verb-Nominal, and so on. The reason is as follows. In 4.3-4.7 it was argued that these rules must be lexical, not transformational. However, if the arguments were valid, then there must exist some way to capture the relatedness of the items by lexical rules. The purpose of this section is to present the necessary rules.

In 4.4-4.7 a total of sixteen phrase-types were grouped into eight pairs of classes of related items. It was argued that the pairs of classes must be base-derived and related in the lexicon. The relevant pairings are summarized in Table 3. The lexical rules are formulated in (43) below.

Table 3

List of items related by lexical redundancy rules

(41)

i	SVO order	VSO order
ii	VSO order	Nominal-headed NP's
iii	SV order	VS order
iv	dative Verbs	double-object Verbs
v	active Verbs	passive Verbs
vi	Adjectives	active-causative Verbs (non-Obl)
vii	Adjectives	Oblique causative Verbs
viii	Intransitive Verbs	Oblique causative Verbs

Each pair represented in (41) i-viii must be related by a pair of rules, one morphological and one syntactic. The rules take the following form (cf. Jackendoff, 1976:659):

(42)

a $//yx// \longleftrightarrow //zx//$

b $\left[+V \; + \left[+NP \underline{\quad} NP \; -Obl \; -Obl \right] \right] \leftrightarrow \left[+V \; + \left[+ \; NP \underline{\quad} NP \; -Obl \; +Obl \right] \right]$

The morphological rule (42) a would indicate that the related items share a common set of phonological features, represented by //...x//, and differ by another set of features, represented by //y...// and //z...//. //y,z// are here interpreted to be underlying prefixes, by the rule. The other rule is the syntactic rule associated with the morphological rule. (42) b indicates that the related items are both transitive verbs that differ only in the feature +Oblique associated with the post-Verbal $\overline{NP}$.

No further semantic information appears to be necessary in order to demonstrate that the relatedness between the pairs of items is captured by the grammar. In particular, semantic features do not appear to be necessary, given the independently needed features +Oblique associated with Nouns in Rejang subcategory feature frames.

The following eight pairs of rules relate the discussed in this chapter and summarized in Table 3.

(43)

i SVO and VSO sentences; SV and VS sentences (cf. 3.3)

a $//x// \longleftrightarrow //x//$

b $\left[+V \; + \left[+NP^1 \underline{\quad} NP^2 \; -Obl \; -Obl \right] \right] \leftrightarrow \left[+V \; + \left[+ \underline{\quad} NP^1 \; NP^2 \; -Obl \; -Obl \right] \right]$

ii VSO sentences and NP's containing Nominals as heads (cf. 4.4)

a $//emx// \longleftrightarrow //pengx//$

b $\left[+V \; + \left[+ \underline{\quad} NP \; (PP) \; -Obl \right] \right] \leftrightarrow \left[+N \; + \left[+ \underline{\quad} NP \; (PP) \; +Obl \right] \right]$

iii More SV and VS sentences not accounted for above, i.e., those with post verbal NP's marked +Oblique (cf. 4.4)

a $//x// \longleftrightarrow //x//$

b $\left[+V \; + \left[+NP^2 \underline{\quad} NP^1 \; -Obl \; +Obl \right] \right] \leftrightarrow \left[+V \; + \left[+ \underline{\quad} NP^1 \; NP^2 \; +Obl \; -Obl \right] \right]$

iv Dative and Double-Object constructions (cf. 4.5)

a $//x// \longleftrightarrow //x//$

b $\left[\begin{matrix} +V \\ + \left[\begin{matrix} +NP^1 \\ -Obl \end{matrix} \_\_ \begin{matrix} NP^2 \\ -Obl \end{matrix} \text{ngen } \begin{matrix} NP^3 \\ +P\ -Obl \end{matrix} \right] \end{matrix} \right] \leftrightarrow \left[\begin{matrix} +V \\ + \left[\begin{matrix} +NP^1 \\ -Obl \end{matrix} \_\_ \begin{matrix} NP^3 \\ -Obl \end{matrix} \begin{matrix} NP^2 \\ -Obl \end{matrix} \right] \end{matrix} \right]$

v Active and Passive

a //emx// ⟷ //enx//

b $\left[\begin{matrix} +V \\ + \left[\begin{matrix} +NP^1 \\ -Obl \end{matrix} \_\_ \begin{matrix} NP^2 \\ -Obl \end{matrix} \right] \end{matrix} \right] \leftrightarrow \left[\begin{matrix} +V \\ + \left[\begin{matrix} +NP^2 \\ -Obl \end{matrix} \_\_ \begin{matrix} NP^1 \\ +Obl \end{matrix} \right] \end{matrix} \right]$

vi Adjective and non-Oblique Causative (cf. 4.6)

a //x// ——— //emx//

b $\left[\begin{matrix} +A \\ + \left[\begin{matrix} +NP^1 \\ -Obl \end{matrix} \_\_ \right] \end{matrix} \right] \leftrightarrow \left[\begin{matrix} +V \\ + \left[\begin{matrix} +NP^2 \\ -Obl \end{matrix} \_\_ \begin{matrix} NP^1 \\ -Obl \end{matrix} \right] \end{matrix} \right]$

Example: *buka?* 'open'; *muka?* 's.o. open s.t.'.

vii Adjective and Oblique Causative (cf. 4.7)

a //x// ⟷ //enx//

b $\left[\begin{matrix} +A \\ + \left[\begin{matrix} +NP^1 \\ -Obl \end{matrix} \_\_ \right] \end{matrix} \right] \leftrightarrow \left[\begin{matrix} +V \\ + \left[\begin{matrix} +NP^2 \\ -Obl \end{matrix} \_\_ \begin{matrix} NP^1 \\ +Obl \end{matrix} \right] \end{matrix} \right]$

Example: *sedi* 'sad'; *sendi* 'cause s.o. to be sad'.

viii Intransitive Verb and Causative (Oblique) (cf. 4.7)

a //emx// ⟷ //enx//

b $\left[\begin{matrix} +V \\ + \left[+ \ NP^1 \ \_\_ \right] \end{matrix} \right] \leftrightarrow \left[\begin{matrix} +V \\ + \left[\begin{matrix} + \ NP^2 \\ -Obl \end{matrix} \_\_ \begin{matrix} NP^1 \\ +Obl \end{matrix} \right] \end{matrix} \right]$

Example: *kemlaley* 'look around'; *kenlaley* 'cause s.o. to look around'

The above eight pairs of rules are the last formal rules to be presented in this thesis. A considerable amount of semantic, morphological and phonological data is presented informally in the next section and the final chapter.

The reason for turning to an informal presentation is because the purpose is different from what went before. In preceding sections, a claim was made about NP Movement Rules in Rejang; specifically, that they are prohibited by a language-specific condition on transformations. What follows has as its purpose to add context so that the claim may be shown to be consistent with a reasonably straightforward description of the phonology and morphology of the language.

4.9 Phonological redundancy in the lexicon

Before turning to the phonological part of this dissertation, it is convenient to discuss the relationship between the syntax and the abstract inflectional affixes *//em-//* and *//en-//*. These are realized either as prefixes or infixes (cf. next chapter for the realization rules).

It is to be noted that the affix *//em-//* occurs four times and *//en-//* occurs three times in the eight rules (43) i-viii. In this section, it will be shown that there is redundancy in the rules and the grammar needs to recognize only two different affixes, *//em-//* and *//en-//*. The repetition of these affixes in the rules (43) i-viii, and in the many listings in the lexicon that contain these affixes, is due to the inflectional nature of *//en-//* and possibly *//em-//* as well. (cf. also Chapter III, Appendix 1).

The importance of these two affixes in a theory of performance is illustrated by the following phonological minimal pair. Consider the following two base-generated sentences:

(44) i *mliė Jon caci magea iñno?*
1 2 3 4 5

'John did give money to mother.'
2 1 1 3 4 5

ii *nliė Jon caci magea iñno?*
1 2 3 4 5

'Money *was* given by John to
3 1 1 2 4

mother.'
5

On the phonological level, (44) i-ii constitute a minimal pair, differing only by one phoneme — *m-* and *n-* at the beginning of the utterances. This minimal difference is not fortuitous in these two sentences, but is repeated in all pairs of active and passive sentences except those which have Pronouns appearing in post-Verbal position. However, if Pronouns are substituted for *Jon* in (44) i-ii above, a further contrast can be seen, for (44) i would have *si* and (44) ii would have *ne* in post-Verbal position.

Our treatment of these affixes as predictable does not deny that the contrast between *m-* and *n-* in Verbs is important in understanding how Rejang actually functions in communication. However, it is claimed that the communicative function of these affixes does not play a dominant role in the grammar itself (theory of competence).

Consider the following three facts:

(45) i The affix *//en-//* is totally

predictable on the basis of the feature +Oblique in the subcategory feature of the Verb.

ii In Rejang, there are no nasal clusters whithin the word (no sequences of a nasal consonant plus another consonant) except where the nasal is an infixed form of //*em*-// or //*en*-//.

iii Given (i) and (ii) then, if the nasal is not -nC... then it is -mC...

(45) i above summarizes the fact that the affix //*en*-// is an automatic reflex of passive Verbs and of causative Verbs with post-Verbal OBLSu constituents. In the next chapter it will be shown that infixed -*em*- and -*en*- are in complementary distribution with prefixed *m*- and *n*-. The relationship between these Verb types is illustrated by (46) i-iii below.

(46) i NP *en*+ V NP
-Obl +Obl

ii *Jon kenlea? ku*
1 2 +Obl
3

'John was seen by me.'
1 2 3

iii *Jon sendi ku*
1 2 +Obl
3

'John saddened me.'
1 2 3

(46) i represents the fact that the affix //*en*-// occurs always and only in Verbs that take an OBLSu. //*en*-// is a grammatically conditioned affix, predictable on the basis of information independently needed in the lexical entries for passive and causative verbs.

//*em*-// may also be semantically predictable as a reflex of the features +animate, +Agent associated with the Subject NP, but this has not been fully determined. (cf. p. 36)

4.10 A note on Wasow's criterion 3

In his set of criteria for distinguishing transformational from lexical rules within the framework of EST, Wasow (1977) included one Criterion which stated that lexical rules may sometimes refer directly to grammatical relations, whereas transformational rules may refer only to the terms of a structural description in the usual sense. This particular Criterion takes on interest because of the work being done by Postal (1976), Johnson (1979), and Perlmutter, on "relational grammar", a theory that assumes that there are relational transformational rules that precede structural transformational rules. "Relational" rules refer directly to functional position of NP's such as "subject", "object", and so on.

Wasow's point is that if indeed there are such relational rules, they must be lexical and not transformational rules.

The purpose of this section is not to debate this issue, but rather to explain why it has not been found necessary to suggest that *any* rules of the grammar of Rejang must be "relational" in this sense. For it has been found, in working with Rejang, that reference to SU, O, and so on has not been necessary, given our analysis of the Rejang case system and the role it has been assigned in the grammar (see 3.1.1 and 3.1.2 and also 4.3). It has been found that every rule that could have been formulated in terms of SU, O, and so on, could also be formulated in terms of the features ±Oblique. And, since these features are reflections of the formal rather than the functional structure, it follows that the functional rules are not necessary.

Within the EST, it is not at all certain that functional rules are necessary. In this thesis, it has been found that Wasow's departure from the EST in this one respect is unwarranted. Therefore, the change proposed in this thesis of Wasow's Criterion 3 to our Criterion 1 of Table 2 is in fact a change back to the standard assumptions of the Standard Theory. Wasow's other criteria, it should be emphasized, have been adopted without change throughout this chapter.

* * *

Chapter Five

PHONOLOGY AND MORPHOLOGY

5.0 Introduction

The purpose of this chapter is to present a description of Rejang Musi phonology and morphology.

The organization of this chapter is designed to support the syntactic thesis, which depends upon the lexicalist hypothesis, which claims that whole words are listed in the lexicon, fully affixed. The question then naturally arises as to how affixation is accomplished in a generative grammar of the kind presented in the preceding chapters of this dissertation.

It must be noted that the most important affixes as far as the syntactic thesis is concerned have been partially accounted for by morphological and phonological redundancy rules in Chapter IV. That is, the Oblique Subject affix *//en-//*, which may be realized as the prefix *n-* or the infix *-en-*, and the agentive affix *//em-//*, which may be realized as *m-* or *-em-*, are assumed to be inflectional affixes. All other affixes in Rejang are assumed to be derivational.

In this chapter the process of infixation and other morphophonemic processes are treated.

Because of special problems presented by forms like *mena?ey-na?ey* 'dance and dance' from the root *ta?ey* 'dance,' it has been found convenient to adopt the theory of Jill Carrier (1977 MS), and to assume that, in a generative grammar, some phonological rules must apply before some morphological rules.

As a consequence of these considerations relating to the syntactic thesis, and also because of problems arising out of the description of the morphology and phonology independently of the syntax, it has been found convenient to treat morphophonemics, morphology, and phonology in that order. Full justification of this organization is provided in 5.2.

5.1 Previous references to Rejang

Previous references to Rejang are only six, and all deal with aspects of the phonology of the Lebong dialect (whereas in this dissertation the Musi dialect is presented).

The earliest reference to Rejang is Marsden (1783), who presents a word list and comparison of the writing systems of Rejang, Toba Batak, and Lampung.

P. Voorhoeve did original field work on Rejang Lebong before World War II, but this research has since been lost. However, in Voorhoeve (1955: 20-21) several of his observations on the phonology of Rejang Lebong are reported. Notable among his observations is the claim that Rejang Lebong has phonemic nasalized vowels. The issue raised by this claim is relevant to the Musi dialect and hence also to this chapter on Musi phonology (see 5.14 and 5.15 of this chapter).

Jaspan (1964) presents a brief sketch of the phonology of Rejang Lebong in his study of the literature written in the Rejang syllabary, called the Ka-Ga-Nga Script. Jaspan includes a listing of Lebong syllables with comparisons between Lebong and Malay. In his description, Jaspan takes a different stand than Voorhoeve (1955) regarding the status of the oral/nasal vowel contrast that is found only after nasal consonants in Rejang Lebong. Jaspan assigns the distinctive feature to the preceding nasal consonant, hence recognizing two series of nasals, plain, and "implosive", rather than two series of vowels (see 5.15 for some discussion).

> A rather surprising feature of the language of the Ka-Ga-Nga texts as presented by Jaspan is that the Rejangs appear to have written their traditional literature in a form of Malay that is nowhere spoken, and perhaps has never been spoken by any sizable community. The language in the Ka-Ga-Nga script is presented as syntactically and lexically a form of Malay, but phonologically the syllables and sounds are Rejang. (Jaspan, 1964:19)

Finally, Voorhoeve (1955) mentions three minor references to Rejang in Dutch. These sources were not available to me for consultation.

This brief section concludes the survey of previous references to Rejang in the linguistic literature.

What follows is a theoretical introduction to the first full treatment of the phonology and morphology of the Musi dialect of Rejang.

5.2 Theoretical orientation

A sharp distinction is drawn between what shall be called abstract and concrete phonology. The distinction parallels the one drawn in Chapter I between core grammar and non-core phenomena. In the abstract phonology, the rules may be morphologically conditioned, and subject to special conditions such as extrinsic ordering. In the

concrete phonology, on the other hand, the rules are highly productive or automatic and are conditioned by phonetic constraints only.

In this chapter, Rejang affixation is assumed to fall under the abstract phonology, whereas productive rules such as nasalization of vowels, or allophonic rules, fall under the concrete phonology.

The basis of this distinction is taken from the model of generative phonology outlined by Crothers and Shibatani (1975). These authors attempt to describe the best current practice rather than present a new theory. At the basis of their proposals is a series of modifications of Chomsky and Halle's *The Sound Pattern of English* (1968). Crothers and Shibatani call for less reliance on the evaluation measure and for more substantive work on the model to constrain its excessive permissiveness and power.

The strategy for constraining the power of the model is to distinguish the abstract from the concrete phonological rules, and to impose conditions on the concrete phonology. Basic to this strategy is the distinction between what Kiparsky calls "transparent" and "opaque" alternation (Kiparsky, 1971, quoted in Crothers and Shibatani, p. 507).

Transparent alternation refers to differences in the phonetic form of morphemes that can be accounted for by rules that are motivated by the phonetic constraints of the language. For example, in English the three forms of the plural morpheme are *-s*, *-z*, and *-iz*, depending entirely on the phonetic composition of the preceding segment. It is therefore possible to set up a single plural morpheme *-z* and derive the alternations by productive rules. The basis for the rules is the fact that in English, certain combinations cannot occur, e.g., **zz*, **zs*, **ss*, and so on. On the other hand, opaque alternation refers to differences in the phonetic forms of a morpheme that seem to be rule-governed, but the necessary rules are not motivated by the phonetic constraints of the language. An example is the alternation between *wif-* ∿ *wiv-* in the English words *wife, wives*. This alternation between *f* and *v* is fairly common, but not automatic.

Crothers and Shibatani remark that the distinction between transparent and opaque alternation "corresponds roughly to the structuralist's distinction between *morphophonology* and *phonology*." (p. 507)

Crothers and Shibatani's model of generative phonology appears to be compatible with the theory of the lexicon that we have assumed in this thesis. Part of the reason for this is that they do not propose conditions on the abstract phonology, since their interest is mainly to explicate their notion of concrete phonology. The question remains open, then, as to exactly how affixation should take place. Even in Jackendoff's theory of the lexicon there is room for several possibilities. For example, assuming that whole words are listed in the lexicon, are "roots" and "affixes" separately listed, too? Are the rules indicating phonological redundancy in affixes lexical rules or phonological rules? That is to say, are the necessary rules part of the lexical component or the phonological component (cf. Table 1, Chapter I)? The indeterminacy of the model in answering these kinds of questions is an obvious defect that must be remedied.

Two solutions to the kinds of questions raised above were suggested at the December, 1977, meeting of the Linguistic Society of America by Chris Latta and Jill Carrier. In Latta's approach to the abstract phonology, words are fully listed in the lexicon and redundancies related to affixation are expressed by morphological and phonological redundancy rules included in the lexicon.

In Carrier's approach, an abstract phonological level is posited as part of the phonological component, distinct from the lexicon. The rules of the abstract phonology apply at this level. The rules are "lexically governed". Lexical governance of abstract phonological rules is accomplished by assuming that the phonological component is split into two subcomponents, which could perhaps be called abstract and concrete. According to Carrier, the rules of the abstract phonology apply first, and their outputs are listed separately in the lexicon. Following the rules of the abstract phonology are lexical rules (morphological and semantic, cf. Chapter IV, (43) i-viii). Following the lexical rules are the rules of the concrete phonology.

Carrier argues that the rules of the abstract phonology, which she terms the "lexically governed phonological rules", must precede morphological redundancy rules. According to Carrier's paper, "morphological rules can only apply at specific breaks in the phonology" (from the abstract of her LSA paper).

It has been found convenient to use Carrier's theory in this chapter to show the distribution of Rejang derivational affixes. This choice does not imply a judgment between Latta's and Carrier's approaches. The reason for selecting Carrier's approach is that it allows the use of derivations in the usual format of *The Sound Pattern of English*, and this type of derivation is convenient for illustrating the basic facts. The claims of Latta's and Carrier's approaches are somewhat different, but these do not bear on the central issue of this chapter, which is merely to show that affixation is opaque rather than transparent. In both approaches, the affixed words are fully specified in the lexicon, and the rules that relate stems and affixes are used to evaluate the cost of the phonological features associated with affixes. Thus both approaches appear to be compatible with Jackendoff's theory of the lexicon, as already mentioned.

In the phonological analysis presented in this chapter, three levels of representation are assumed: a morphemic (abstract) level, the lexical level, and the phonetic level. The morphemic level is the level on which the abstract or opaque rules apply. Morphemic or "abstract phonemic" representations will be presented between double-slashed lines, i.e., //...//. Lexical and "concrete phonemic" representations will be

presented between single slashed lines, i.e., /.../. Phonetic representations will be presented between square brackets, i.e., [ ].

Following Carrier, we shall assume that the rules of the abstract phonology apply first. Then there is a break in the phonology, during which the morphological and semantic rules apply. (These are lexical rules some of which have already been presented in Chapter IV, (43) i-viii.) Finally, the rules of the concrete phonology apply.

5.3 Abstract phonology

The purpose of this section is to describe the phonological shapes of those affixes that alternate, or that cause the root word to alternate.

Rejang is typical of many Western Austronesian languages in having affixes whose shapes alternate. For example, the abstract affix //*em*-// "agentive verb" is realized either as the prefix *m*- or the infix -*em*-. (See 5.3.3)

Rejang is also typical in having words with different grammatical functions that differ phonologically only in the initial consonant of the word. The following is a typical example of grammatically conditioned initial consonant alternation:

padea?	'speech'	(Noun)
madea?	'speak'	(Active Verb)
nadea?	'be spoken'	(Passive Verb)
kadea?	'Speak!'	(Imperative Verb, Active Voice)

These data are accounted for in 5.3.1.

Finally, Rejang has affixes that cause the loss of the initial consonant of the root to which they are prefixed. This process is called "nasal substitution" by Dempwolff (1934-1938), and its occurrence is common to many Western Austronesian languages. In 5.3.5 and 5.3.6 this process is treated as two separate but related rules: Regressive Nasal Assimilation and Initial Consonant Deletion. This treatment follows Latta (1977 LSA paper).

5.3.1 Deletion of schwa in affixes

In Rejang, all prefixes whose morphemic shape consists of a consonant preceded or followed by schwa, undergo deletion of the schwa if the root begins with a vowel. The following are some illustrations.

Affix	Meaning	Root	Affixed Word	Meaning
pe-	Verbal Noun	*adea?*	*padea?*	'speech'
be-	Intr. Verb	*isey*	*bisey*	'fill'
ke-	Imperative	*inay*	*kinay*	'Ask!'
em-	Agentive Verb	*inay*	*minay*	'ask'
en-	Passive/Causative	*adea?*	*nadea?*	'be said'
nge-	Inchoative Verb	*aloa*	*ngaloa*	'flow'
te-	Accidental Verb	*inget*	*tinget*	'remember'

The rule deleting schwa before a root-initial vowel is conditioned by the morpheme boundary. That is, there are words in Rejang where sequences of schwa plus vowel occur within morpheme boundaries, e.g., *keluea* 'outside', *umea?* 'house'. But there are no affixed words like **pe+adea?*, where the morpheme boundary is assumed to separate schwa and a morpheme-initial vowel.

5.3.2 Glottalization of CV affixes

In certain cases CV affixes may vary freely with glottal stop; in other cases there is no variation, but the glottal stop may be recognized as a variant of one of the CV prefixes. No attempt is made here to formulate the rule, but it is clear that the conditioning relates to the fact that the consonant of the prefix shares features with the first consonant of the root.

Consider the following variants:

tesakut ~ *?sakut*	'be hanging'	*//+te+ +sakut+//*
kesoa ~ *?soa*	'resentment'	*//+ke+ +soa+//*
beperang ~ *?bperang*	'wage war'	*//+be+ +perang+//*

In a few cases it has been found that the prefixes //*ke*-// and //*s*-// have been totally replaced by glottal stop since the expected full variant is not attested in Modern Rejang. The following examples illustrate this.

**kececa*	*?ca*	'Dip food!'	*//+ke+ +ceca+//*
**keleta?*	*?ta*	'Hit him!'	*//+ke-+ +leta?//*
**stujew*	*?tujew*	'agree'	*//+s-+ +tujew+//*
**spasoa?*	*?pasoa?*	'siblings (mutual)'	*//+s-+ +pasoa?+//*

Probably the simplest way to account for these glottal prefixes is to assume that they are derived by rules of the abstract phonology from the familiar prefixes //*ke*-4// "Imperative Verb" (cf. 5.4.9) and //*s*-$_1$// "Reciprocal" (cf. 5.4.13) This assumption simplifies the inventory of affixes and is supported by comparative data. For example, in Rejang Lebong the words for *?tujew* and *?pasoa?* are *stujew* and *spasoa?*, respectively.

5.3.3 Infixation and schwa deletion

The following is a sample derivation of the words *temokoa* 'buy' and *tenokoa* 'be bought'. The symbol "+" represents morpheme boundary.

Abstract Representations:	*//+em+ +tokoa//*
	//+en+ +tokoa//
Infixation:	*+t+em+okoa*
	+t+en+okoa
Outputs:	*temokoa, tenokoa*

The assumption of the above sample derivations is that the infixes originate as prefixes that are "infixed" by rule. The infixes are placed after the initial consonant of the root. In 5.3.3 some conditions on Infixation are discussed.

If the first vowel of the root is schwa, i.e., //CeCV...//, then that vowel must be deleted after Infixation. The following are sample derivations of the words *temko* 'import' and *tenko* 'be imported'. These words are assumed to be related to the verb *//teko//* 'come' by causative and passive rules (cf. Chapter IV, (43) Rules v and vi).

Abstract Representations:	*//+em+ +teko+//*
	//+en+ +teko+//
Infixation:	*+t+em+eko+*
	+t+en+eko+
Schwa Deletion	*+t+em+øko+*
	+t+en+øko
Outputs:	*temko, tenko*

Another rule of Schwa Deletion is assumed to delete the initial vowel of the prefixes *//em-//* and *//en-//* whenever these affixes are not infixed. For example, in *mliė* 'give' the active affix is not infixed; yet the form is not **emlie*. Hence it is assumed that the initial vowel of the affix is deleted if the affix is not infixed. This deletion is well motivated, for Rejang does not permit word-initial schwa.

The following is the derivation for *mliė* 'give'.

Abstract Representations:	*//+em+ +lie+//*
Schwa Deletion:	*+om+ +lie*
Output	*mliė*

5.3.4 Phonological and morphological conditions on infixation

The conditions on Infixation in Rejang are as follows:

(i) Infixation *never* occurs if the stem morpheme is monosyllabic.

(ii) Infixation *never* occurs if the stem begins with a vowel.

(iii) Infixation *never* occurs if the third segment of the stem is a vowel followed by word boundary.

(iv) Infixation *never* occurs if the initial consonant of the stem is *//p, b, d//* or a non-obstruent (nasal, liqued, or semivowel).

(v) Infixation is *unlikely* if the initial consonant of the stem is *//j//* or *//g//*.

(vi) Infixation is *likely* if the stem-initial consonant is *//c//*.

(vii) Infixation is *automatic* if conditions (i)-(iii) are satisfied and if the stem-initial consonant is *//t//* or *//k//* or *//s//*.

The set of conditions on Infixation just listed will be illustrated in the next few pages. The motivation is to show that many infixed forms must be separately listed in an adequate lexicon, and this in turn supports the syntactic arguments of Chapter IV in quite an independent way. That is, there are phonological as well as semantic and syntactic reasons for listing many fully affixed Verbs in the lexicon.

Condition (i)

mpė?	'carry on one's back'	*//+em+ +pė?+//*
mto	'go around'	*//+em+ +to+//*
mtis	'dig'	*//+em+ +tis+//*

Note also the passive forms: *npė?*, *ntis* and so on. CVCVC shapes are always roots, e.g., *temon* 'own' cannot be an infixed form, by condition (i). That is *temon* could not arise from *//+em+ +ton+//*

Condition (ii)

(a) *agey*	'color'	*//+agey//*
(b) *magey*	'color s.t.'	*//+em+ +agey//*
(a) *aket*	'the lift'	*//+aket+//*
(b) *maket*	'lift'	*//+em+ +aket+//*

Note: condition (ii) excludes forms like **amgey*, **amket* derived from stems with initial vowel.

Condition (iii)

msoa	'look for'	*//+em+ +soa+//*
mloa	'order'	*//+em+ +loa+//*
mliė	'give; let'	*//+em+ +liė+//*

Condition (iv)

(a) *baco*	'read'	
(b) *mbaco*	'read'	*//+em+ +baco+//*
(a) *dumey*	'house'	
(b) *mdumey*	'go home'	*//+em+ +dumey+//*
(a) *n̄ėt*	'sew'	
(b) *mn̄ėt*	'sew'	*//+em+ +n̄ėt+//*
(a) *nea*	'make'	
(b) *mnea*	'make'	*//+em+ +nea+//*
(a) *rėkės*	'protest'	
(b) *mrėkės*	'protest'	*//+em+ +rėkės+//*

Note: (iv) excludes forms like **pem...*, **bem...*, **dem...*, **mem...*, and **rem...*, and **wem...* as possible infixed words.

Condition (v)

mjijey	'increase'	*//+em+ +jijey+//*
mjepang	'go to Japan'	*//+em+ +jepang+//*
mgam̄ar	'describe'	*//+em+ +gam̄ar//*
mgerta?	'make s.o. afraid'	*//+em+ +gerta?//*

But also:

jemawap	'answer'	*//+em+ +jawap+//*
gemilo	'drive s.o. crazy'	*//+em+ +gilo+//*

cf. *jawab*, *gilo* 'the answer', 'crazy'

Condition (vi)

cemrito	'tell story	*//+em+ +cerito+//*
cemokoa	'cut, shave'	*//+em+ +cokoa+//*

But also:

mceli?	'rise' (of the sun); 'publish'	*//+em+ celi?//*

Condition (vii)

temokoa	'buy'	*//+em+ +tokoa+//*
temgèn	'give a name to'	*//+em+ +tegèn+//*
temko	'import	*//+em+ +teko+//*
temmot	'cause s.o. to sit down'	*//+em+ +temot+//*
temney	'ask (question)'	*//+em+ +teney+//*
temrae	'try'	*//+em+ +terae+//*
temakep	'catch'	*//+em+ +takep+//*
semāmut	'welcome'	*//+em+ +sāmut+//*
sendi	'sadden'	*//+en+ +sedi+//*
semsoa	'complain'	*//+em+ +sesoa+//*
semīmar	'pinch'	*//+em+ +sīmar+//*
semulew	'visit the sick'	*//+em+ +sulew+//*
sembe?ang	'cross over'	*//+em+ +sebe?ang+//*
semīmet	'respond'	*//+em+ +sīmet+//*
semāmung	'continue on in the same way'	*//+em+ +samung+//*
kemlèa?	'see'	*//+em+ +kelèa?+//*
kemusu?	'rub'	*//+em+ +kusu?+//*
kemnè?	'climb'	*//+em+ +kenè?+//*
kemrèsè?	'scratch'	*//+em+ +kerèsè?+//*
kemtea	'tremble'	*//+em+ +ketea+//*
kemlisè	'make a photographic negative'	*//+em+ +kelisè+//*
kemiro	'make a guess'	*//+em+ kiro+//*

5.3.5 Nasal substitution

The two Rejang affixes *//meng-//* "Durative Action" and *//peng-//* "Verbal Noun" share the property that they end with a velar nasal. Moreover, they enter into a series of rules that have familiar analogues in many Western Austronesian languages, sometimes referred to as "nasal substitution". (cf. Dempwolff, 1934-1938)

The two major processes associated with nasal substitution in Rejang are Regressive Nasal Assimilation (RNA) and Initial Consonant Deletion (ICD). These terms are taken from Latta (1977).

These two processes may be illustrated using Rejang data. The following is the derivation of the Verb *menulung* 'keep helping', assumed to be related to the Noun *tulung* 'help.'

Abstract Representation:	*//+meng+ +tulung+//*
RNA	*+men + +tulung+*
ICD	*+men + +Øulung+*
Output	*menulung*

If the root initial consonant is *//s...//*, it appears that a variable rule of S-Gliding is needed which prevents ICD. The following derivation of the word [*penyakit*] illustrates the source of the palatal semivowel [...*y*...] in the phonetic output for some speakers in slow speech.

Abstract Representation:	*//+peng+ +sakit+//*
RNA	*+pen + +sakit+*
S-Gliding	*+pen + +yakit+*
Output	[*penyakit*]

The basis of the S-Gliding rule is presumably the fact that both *s* and *y* are pronounced with the blade of the tongue. It will be noticed that the orthography is ambiguous in the representation of the sequence ...*ny*... Forms like *penyakit*, if derived by RNA and S-Gliding (and erasure of the morpheme boundary occurring with *//...n+y...//*) are phonetically [*ny*], whereas the digraph *ny* occurring within morpheme boundaries in words like *nyanyi* 'sing' is always phonetically [ɲ]. See 5.11 and 5.14 for phonetic descriptions of the palatal phonemes.

Below are a number of examples of Rejang words that are accounted for by the series of rules called Nasal Substitution.

Affixed word (in lexicon)		Base (in lexicon)	
menyaben	'intimidate	*saben*	'afraid'
menyu?et	'writing'	*su?et*	'letter'
menyupew	'sweeping'	*supew*	'broom'
menulung	'helping'	*tulung*	'help' (Noun)
mena?ey	'dancing'	*ta?ey*	'dance' (Noun)
menu?un	'going down'	*tu?un*	'down'
pengusu?	'masseur'	*kusu?*	'rub'
mengelèa?	'looking'	*kelèa?*	'sight'

5.3.6 Conditions on initial consonant deletion

As remarked by Latta (1977), ICD is unusual in the world's languages because it is conditioned by the prefix-final nasal followed by a stem-initial *voiceless* consonant. If the stem-initial consonant is voiced, it is usually the case that ICD does not apply.

What is unusual about this is the fact that the voiced consonants of the stems more closely resemble the assimilating nasals of the affixes. What is formally implied is that the voiced consonants would also disappear in the process of "total assimilation". Latta argues that the facts indicate that "total assimilation" is not the mechanism of nasal substitution, but rather simple deletion of the stem-initial voiceless consonant must be the correct solution.

All of the above remarks apply to Rejang, and the conclusion also applies. Thus the process of nasal substitution has been described as involving the rules of Regressive Nasal Assimilation and Initial Consonant Deletion (where the initial

consonant is voiceless).

5.4. Morphology

There are three morphological processes in Rejang: Compounding, Doubling, and Affixation.

5.4.1 Compounding

Compounding is a favorite process of word-formation in Rejang. Words like *ana? Musey* 'tributary of the Musi River' is literally 'child of the Musi'; *tun titi?* 'child, very young boy or girl' is literally 'small person'. Similarly, *tun tuey* 'elder' is literally 'old person'. The word for 'sun' is *matey biley*, literally 'eye of the day'. The word for 'bed' is *penan tidoa*, literally 'place to sleep'. The word for 'food' is *pegėn nemū?*, literally 'thing to be eaten'. The word for any kind of skilled or semiskilled worker is formed by pre-posing the word *tukang* to the word designating the function, e.g., *tukang kiuo* 'carpenter', literally 'worker of wood'; *tukang supew* 'janitor', literally 'worker of brooms', and so on.

The above illustrates the most productive forms that enter into compounds: *tun* 'person'; *ana?* 'child'; *matey* 'eye'; *penan* 'place'; *pegėn* 'thing' and *tukang* 'worker'.

5.4.2 Doubling

Doubling may occur in Nouns, Verbs, Adjectives, and Adverbs. It is assumed here that Doubling is an abstract suffix //DOUBL//. A late morphological rule applies such that the root (or everything to the left of DOUBL up to morpheme boundary) is repeated.

Doubling in Nouns indicates plurality. *bukew* 'book', *bukew-bukew* 'books'; *cem* 'type', *cem-cem* 'various kinds'. Doubling is restricted to NP's without Quantifier Phrases, i.e., *duey bukew* 'two books', but not *duey bukew (n*-bukew)*.

Plurality in Nouns is governed by semantic rules, not by automatic "agreement" rules. That is, grammatically doubling in Nouns is optional.

Doubling in Verbs indicates repeated action. *katip* 'pinch', *katip-katip* 'pinch and pinch'; *beguyang* 'sway', *beguyang-guyang* 'sway back and forth'.

In Verbs, only roots are doubled, never prefixes, as the above example illustrates. So also *tepeñgang* 'cry out' *tepeñgang-peñgang* 'cry out (repeatedly)'.

Doubling in Adjectives indicates plurality of the modified Noun. *tun tuey* 'old man, elder'; *tun tuey-tuey* 'old men; elders'; *slawie alep* 'beautiful woman', *slawie alep-alep* 'beautiful women'. *lay* 'big' may be partially reduplicated to become *leley* e.g., *bukew leley* or *bukew ley-ley*, both with the same meaning 'big books'. This pattern is rare (but cf. in Nouns *smulen-mulen* 'girls' beside *smulen* 'girl').

Doubling in Adverbs. In Adverbs doubling indicates intensity, e.g., *lut* 'early', *lu?lut* 'very early' (with sporadic change of /t/ to /?/; *?oa?* 'far', *?oa? ?oa?* 'very far'). Doubling combined with the particle /ne/ occurs with the meaning 'as____as possible', e.g., *?oa? ?oa? ne* 'as far as possible'; *ley ley ne* 'as big as possible'.

According to the assumptions made in 5.2, abstract phonological processes apply before morphological rules. The advantage of this assumption is seen in the derivation of the word *mena?ey-na?ey* 'dancing and dancing' based on the root *ta?ey* 'dance'. Two morphemes have been added to the root to form the derivative: *//meng-//* and //DOUBL(ING)//, assumed here to be an abstract suffix. The following is a sample derivation:

Abstract Representation:	*//meng- ta?ey* DOUBL//
RNA	*me - nta?ey* DOUBL
ICD	*me - nøa?ey* DOUBL
DOUBLING	*me - na?ey na?ey*
Output	*mena?ey-na?ey*

5.4.3 Affixation

Two kinds of affixation are distinguished in Rejang: Prefixation and Infixation. Infixes have already been described as abstract prefixes in 5.3.3. Moreover, those prefixes that condition changes either in the prefix itself or in the root have already been discussed in 5.2. Here we shall only discuss the remaining prefixes of Rejang and the basis for regarding each as a distinct morpheme.

Before discussing the overt affixes in Rejang, it is useful to recognize a kind of 'Zero Affixation'.

Many words in Rejang are repeated in more than one lexical category without a difference in affixes. For example, the transitive verb *meap* 'to discuss s.t.' occurs as a Noun *meap* 'Conversation'. Similarly the Verb *magea* 'fetch s.o.' occurs as a Preposition *magea* 'to, at'. The phrase *alew may ngewea* 'go (to) fishing' contains a Preposition *may* followed by a Noun derived from the Verb *ngewea* 'fishing' by Zero Derivation.

5.4.4 Rejang affixes

It is not regarded as unusual that some affixes have more than one meaning or function. In fact, Rejang appears to be much simpler than Sundanese, another Indonesian language, which has been reported by Robins (1965). According to Robins, Sundanese affixes average 2.20 separate functions.

In this section, if a clearly distinct

function is attributed to any affix, that affix is regarded as a separate morpheme. For example, if some affix, say /x-/, occurs on Verbs with one meaning, and on Adjectives with a different (possibly semantically related) meaning, two affixes will be recognized: //x-//$_1$ and //x-//$_2$.

Here will be illustrated only those remaining affixes that have not already been fully described and illustrated.

Table 4

List of affixes

Affix	Meaning/Function	References in this dissertation
em-	active Verb	4.9; 5.3.1; 5.3; Chapter III (Appendix 1, p. 36
en-	passive or causative Verb	4.9; 5.1; 5.3; Chapter III (Appendix 2)
meng-	durative action	5.3.4
peng-	Verbal Noun	5.3.4
nge-	inchoative	5.3.1; 5.4.5
pe-	Verbal Noun	5.3.1; 5.4.6
be-	have/make	5.3.1; 5.4.7
te-	accidental/sudden action or state	5.3.1; 5.4.8
ke-$_1$	imperative Verb	3.1.4; 5.4.9
ke-$_2$	adversative Verb	5.4.10
ke-$_3$	denominal Adjective	5.4.11
ke-$_4$	interrogative quantifier (+WH)	2.9, (25) iv; 5.3.1; 5.4.12
s-$_1$	reciprocity	5.4.13
s-$_2$	denominal time Adverb	5.4.14

5.4.5 //*nge*-// inchoative verb

Verbs with prefix *nge-* may be derived from Adjectives, e.g., *ley* 'big', *ngeley* 'become big; grow up'. Other examples include a kind of local motion, e.g., *luea* 'out' beside *ngeluea* 'emerge', and *geruta*ʔ 'move' beside *ngegeruta*ʔ 'try to move oneself; move oneself'. This latter word alternates lexically with *nggeruta*ʔ (cf. 5.11.2).

Other examples of //*nge*-// are *ngetim̄um* 'become inflated' beside *tim̄um* 'inflated', and *ngecipa*ʔ 'become confused' beside *cipa*ʔ 'confused'.

5.4.6 //*pe*-// verbal noun

This prefix contrasts with *peng-* (5.3.4).

Words prefixed with //*peng*-// are always "gerundive nominals", e.g. *penulung Jon ngen Dėsi* 'John's helping of Dėsi'. On the other hand, words assumed to be prefixed with *pe-* often contrast, and furthermore are sporadic and unpredictable in their meaning, e.g., *petulung Jon* 'John's assistance'.

Another advantage to recognizing two affixes *peng-* and //*pe*-// is in the morphophonemic statements. *petulung* would have to be listed as an exception if only one affix, //*peng*-// were recognized. But if *petulung* is derived directly from //*pe- tulung*//, then the rules of RNA and ICD (cf. 5.12) can be stated as having few or no exceptions.

Other words with //*pe*-// are *pelawen* 'struggle, fight' (cf. 4.4), *pelungu*ʔ 'a dusting instrument', and *pecokoa* 'a shaving instrument'.

5.4.7 //*be*-// 'have/make'

Many Verbs and Adjectives contain the prefix //*be*-//. *bediang* 'build/make a fire' is derived from *diang* 'a fire'. Compare also *besawea*ʔ 'be landed, have many rice fields' and *sawea*ʔ 'wet-rice field'; and *beteney* 'ask/make a question' beside *teney* 'a question'.

The rule suggested in 5.1 is needed to delete the vowel of the prefix if the root begins with a vowel, e.g., *bisey* 'fill' beside *isey* 'contents'.

5.4.8 //*te*-// accidental verb

This affix on Verbs has the meaning of "accidental" or "sudden" action: *tepeñgang* 'cry out in pain' is derived from *peñgang* 'shout in pain'. Compare also *tinget* 'remember' beside *inget* 'try to remember' (with deletion of the prefix vowel before a root-initial vowel). Compare also *labu*ʔ 'move rapidly' beside *telabu*ʔ 'jerk suddenly/unintentionally'.

//*te*-// also occurs on State Verbs to indicate a temporary state brought about by some action, e.g., *tesakut* 'happen to be hanging' beside *sakut* 'hang suspended'. Also compare *tisey* 'full' beside *isey* 'contains' and *bisey* 'fill'. Another example is *tegjir* 'be surprised, startled' beside *gejir* 'surprise'.

5.4.9 //*ke-*$_1$// imperative verb

This prefix has been described in Chapter II, 2.9, (25) iv and in 5.3.1. A further example of this prefix is found in the sentence *Kating bal ʔo* 'Throw the ball!'.
1 2 3 1 3 2
Compare the Verb *mating* 'to throw' and the

root //-*ating*// 'throw'.

5.4.10 //*ke-*$_2$// adversative verb

This affix differs from the Imperative affix //*ke-*$_1$//. The verb *kemaling* 'get stolen' has a special adversative meaning that differs from the normal passive verb *naling* 'be stolen'.

Compare the following two sentences, both of which are semantically passive:

(i) *kerita? Haji Said naling tun klem*
1 2 3 4 5 6

'Somebody stole Haji Said's bicycle last night.'
(Haji Said's bicycle was stolen by somebody last night.)
2 3 1 4 4
5 6 6

(ii) *kerita? Haji Said kemaling klem*
1 2 3 4 5

'Haji Said's bicycle got stolen last night.'
2 3 1 4 4
5 5

In (i) the agent phrase, represented by *tun* 'somebody', is optional. However, in (ii), no agent phrase may be added or the sentence becomes ungrammatical.

5.4.11 //*ke-*$_3$// denominal adjective

A few Adjectives are formed with //*ke-*$_3$// prefixed. *kebisey* 'poisonous' is derived from *bisey* 'poison'. Compare also *kadea* 'well-known, much talked-about' from //-*adea?*// 'speech', which is the basis for the Noun *padea?* and the Verb *madea?* 'speak'.

5.4.12 //*ke-*$_4$// adjectival quantifier

There are two related uses of this prefix, illustrated with sentences below.

(i) *kedew likup smulen na? di?*
1 2 3 4 5

'How many girls are there?'
1 1 3 4-5

(Classifier)
2

(ii) *kedew kelkat smulen ?o?*
1 2 3 4

'How big is that girl?'
1 2 4 3

Compare *dew* 'many' with *kedew* 'how many?'; and *melkat* 'tall' with *kedew kelkat* 'how tall?'

In Adjective comparison, the meaning 'as___as" is also formed with //*ke-*$_4$//, e.g., compare *ley* and *keley* below:

(i) *ėpėn ne ley*
1 2 3

'The tooth is big.'
2 1 3

(ii) *ėpėn ne keley ja?ey*
1 2 3 4

'The tooth is as big as a finger.'
2 1 3 3 3 4

5.4.13 //*s-*$_1$// reciprocity

This prefix occurs on Verbs with a reciprocal meaning. *stim̄a?* 'shoot at one another' is derived from *tim̄a?* 'shoot (a gun)'. Compare also *sdeñem* 'hate one another' and *deñem* 'hate, try to get revenge'. In some cases an abstract stem with initial //*k*...// must be posited solely on the basis of the reciprocal form, e.g., *skim̄et* 'hit one another' beside *im̄et* 'hit'. The reciprocal form is evidence for positing a root //*kim̄et*//.

5.4.14 //*s-*$_2$// denominal time adverb

Adverbs with this prefix are derived from Nouns. Compare *sbiley* 'the day after tomorrow' and *biley* 'day'; and *smalem* 'last night' beside *malem* 'night'; and *spa?a?* 'next door' beside *pa?a?* 'near'. This last example indicates that this prefix may have also a Spatial connotation.

5.5 Lexical variation and phonological redundancy

In this section are included a few illustrative examples of Rejang "doublets". These are defined as words with more than one phonemic form.

It is assumed that both members of a doublet pair are listed in the lexicon and learned separately. However, where the

variation is systematic (due to ongoing changes in the language), phonological redundancy rules may be added to the phonology to capture the relatedness between the pairs.

5.5.1 /s/~/h/

In the words *slawiė* 'woman' and *hlawiė* 'woman', /s/ alternates freely with /h/. This occurs also in *smaniė*~*hmaniė* 'man'; *smulen*~*hmulen* 'girl'. This alternation provides evidence that /h/ is a fricative, not a glide (cf. Chomsky and Halle, 1968). Other Rejang speakers regard the variant with initial /h.../ to be sub-standard.

5.5.2 /i/~/e/ and /u/~/e/

The word-final vowel clusters represented in this dissertation as /iė/ and /uo/ vary freely with /eė/ and /eo/, respectively, in the speech of my principal source of data on the language, and also in the speech of his family. For those speakers showing this variation, the variants /iė/ and /uo/ appeared to be the more frequent. It is interesting to note, however, that for certain older speakers of Rejang Musi, only the variation /uo/~/eo/ was attested, but not /iė/~/eė/. For those speakers, the variant /iė/ was not accepted. This indicates that the older forms are probably /eė/ and /eo/. This is corroborated by comparative evidence, where all four dialects of Rejang may have /e/ as the first vowel of the word-final cluster in cognate words. Only the Musi variants /iė/ and /uo/ show a vowel other than schwa as the first vowel of the cluster.

Some examples of the Musi variation are given below:

[eė]~[iė]		[eo]~[uo]	
meė~*miė*	'rice'	*piseo*~*pisuo*	'knife'
mateė~*matiė*	'die'	*daneo*~*danuo*	'lake'
sapeė~*sapiė*	'arrive'	*kieo*~*kiuo*	'wood'
ateė~*atiė*	'liver'	*imeo*~*imuo*	'tiger'
tam̄eė~*tam̄iė*	'by and by'	*mleo*~*mluo*	'black'

5.5.3 /e/~/ø/

In the words *telew* 'three' and *tlew* 'three' /e/ alternates freely with /ø/ (or, /e/ freely deletes). This alternation is very common, e.g., *benguo*~*bnguo* 'sand' *lemo*~*lmo* 'five'. This alternation between /e/ and /ø/ appears to be closely related to the next alternation to be discussed directly below.

5.5.4 /CeC.../~/ʔC.../

A great many doublets are exemplified by the following pairs:

tedung	~	*ʔdung*	'snake'
tejė	~	*ʔjė*	'stand'
**bebet*	~	*ʔbet*	'belt'

Historically, there appears to be an ongoing change resulting from the process of Schwa Deletion affecting the first vowel of many Rejang words. In certain cases, it appears that the process has gone so far that the original di-syllabic word has been lost. Notice in the third of the three pairs listed above, where it has been found that the expected di-syllabic variant of the word *ʔbet* 'belt' does not exist as a form in modern Rejang Musi. Hence the hypothetical form **bebet* has been listed with an asterisk.

In other pairings of words similar to the above, the two variants differ in grammatical function. The phenomenon of affix "glottalization" has been discussed in. 5.3.2.

5.5.5 Pre-stopped nasals

Words with final non-nasal vowels followed by a nasal consonant and word boundary alternate with words in which an obtrusive stop appears between the oral vowel and the word-final nasal consonant, e.g., *bulen*~*buledn* 'moon'. This phenomenon was found to be coordinated with any rapid change of pitch (rising or lowering) that occurred in the final syllable of the word. Such changes of pitch often indicated a kind of discourse emphasis. Specifically, there was no simple semantic element found that could be associated with the variant containing the obtrusive pre-stopped nasal, as suggested by Voorhoeve (1955) (attributed to unpublished observations by Kähler).

5.6 Concrete phonology

In the next few sections is presented the segmental phonology of Rejang Musi. Prior to discussion of the phonemes and their allophones, two important phonetic processes are discussed.

5.6.1 Semivowel insertion

A very general phonetic rule is needed to insert [y] between /i/ or /ė/ and a fol-

lowing vowel; and to insert [w] between /u/ or /o/ and a following vowel. Consider the following phonetic data:

[*biyowa*]	'water'	[*nĩỹẽn*]	'very'
[*cowa*]	'not'	[*kiyuwo*]	'wood'
[*juwowa*]	'sell'	[*piyo*]	'this'
[*keluwea*]	'out'	[*mĩỹẽ*]	'cooked rice'
[*jaowa?*]	'wild pig'	[*kɛ̀kɛ̀ya*]	'foot'
[*ŋĩnõw̃ẽ*]	'cry'	[*wekeya*]	'representative'
[*opowe*]	'fire'	[*kɛlɛ̀ya?*]	'see'

None of the semivowels in the above lists contrasts with zero. For example, [*biyowa*] may be pronounced rapidly as [*bioa*]. It is therefore possible to simplify the phonemic representations of all of the words in the above lists by assuming that the semivowels are epenthetic. This assumption requires that a rule be stated inserting [y] or [w] between two vowels. The rule (or rules) insert these phonetic segments under the following conditions:

(i) Given the phonemic (i.e., lexical) sequence /...iV.../ or /...eV.../, insert [y] between the two vowels.

(ii) Given the phonemic sequence /...uV.../ or /...oV.../, insert [w] between the two vowels.
:where V is any vowel.

The above rules account for the phonetic representations given above. The following lists are given in the assumed lexical representations.

bioa	'water'	*nien*	'very'
coa	'not'	*kiuo*	'wood'
juoa	'sell'	*pio*	'this'
keluea	'out'	*miɛ̀*	'cooked rice'
jaoa?	'wild pig'	*kɛ̀kɛ̀a*	'foot'
nginoɛ̀	'cry'	*wɛ̀kɛ̀a*	'representative'
opoɛ̀	'fire'	*kɛlɛ̀a?*	'see'

5.6.2 Nasalization

Nasalization of Vowels and Semivowels in Rejang is by progressive assimilation. The nasalization continues through any number of segments until it meets an obstruent, liquid, or barred nasal (see 5.14 and 5.15). An important fact about Rejang phonology is that vowels are not nasalized following barred nasals. Consider the following data:

Nasal vowels and semivowels following plain nasals		Oral vowels and semivowels following barred nasals	
[*mĩỹõw̃ã*]	'squeeze water'	[*m̄u?*]	'eat'
[*nĩỹõw̃ã*]	'coconut'	[*m̄on*]	'cloud'
[*mĩỹẽ*]	'cooked rice'	[*n̄ɛ̀t*]	'sew'
[*ŋĩnõw̃ẽ*]	'cry'	[*mĩn̄aɛ̀*]	'Come here!'
[*nãw̃ãw̃ĩ*]	'Nawawi (name)'	[*ĩm̄o*]	'forest'
[*mãdea?*]	'speak'		
[*mã?a?*]	'approach'		
[*amran*]	'Amran (name)'	[*blañ̄o*]	'Holland'

Notice that the form [*amran*] 'Amran (name)' is included in the first list. This word highlights the fact that nasalization in Rejang is progressive. In [*amran*] there are no nasalized vowels despite the fact that there are two nasal consonants in the word. In this form, however, there are no vowels following a non-barred nasal segment, so progressive nasalization does not apply.

In all the other forms in the first list, a series of vowels and semivowels is nasalized. The lexical representations of these words can be simplified by assuming that nasalization is a rule-governed, phonetic process. The rule must be formulated to apply successively to nasalize a vowel following a plain nasal, then the next vowel or semivowel, and so on until an obstruent, liquid, barred nasal or word boundary is met. Hyman's theory (1975:126) could be assumed as a general condition on all rules that they be ordered randomly and sequentially. This assumption may be adopted for the whole phonology, and then no special ordering condition will be necessary to accomplish successive nasalization in Rejang.

Adopting Hyman's approach, the word *nawawi* would undergo progressive vowel and semivowel nasalization one segment at a time. That is, first /a/ would be nasalized to [ã] because it follows a nasal segment /n/. Then /w/ would be nasalized to [w̃] because it follows a nasal segment [ã]; and so on through the word, until an obstruent, barred nasal, liquid or word boundary is met.

The data in the second column shows that vowels are not nasalized after some nasal consonants. Just those nasals are termed in this dissertation "barred nasals" and treated as phonetically ingressive.

The data of Rejang vowel nasalization could perhaps as easily be described by positing phonemic nasalization of vowels following nasal consonants, and so eliminate the barred-nasal analysis. The issue of these two possible solutions to the data is taken up in 5.15.

5.7 List of phonemes

The Rejang phonemes are assumed to be

as follows:

Table 5

List of phonemes

Stops and Affricates						
	Voiceless	*p*	*t*	*c*	*k*	*ʔ*
	Voiced	*b*	*d*	*j*	*g*	
Fricatives			*s*			*h*
Nasals:	Plain	*m*	*n*	*ny*	*ng*	
	Barred	*m̄*	*n̄*	*n̄ȳ*	*n̄ḡ*	
Liquids:	Lateral		*l*			
	Tapped		*r*			
Semivowels			*y*		*w*	
Vowels						
High			*i*		*u*	
Mid			*ė*	*e*	*o*	
Low				*a*		

There are four diphthongs in Rejang, analysed as sequences vowel + semivowel: *ey, ew, ay, aw.*

Secondary phonemes that must be recognized in the speech of some individuals occur only in borrowed words. /z/, /f/, and nasalized vowels in words like *doʔā* 'pray' and *saʔėr* 'poem' are recorded in my notes. /z/ occurs in the names *Zainubi* and *Rizal*, and /f/ in the name *Mustafa*. /z/ alternates with /j/, /f/ with /p/ and nasalized vowels with non-nasalized vowels in free variation in the speech of individuals who have these secondary phonemes. By no means do all Rejangs have these phonemes in their grammar. The above system, without the secondary phonemes, is the system of my chief informant in unmonitored speech situations.

In the discussion that follows, the term "allophone" is used to refer to the phonetic variants of a phoneme. The description of each phoneme in terms of the phonetics of its various allophones is presented in the next section. Also provided is the evidence that the set of allophones of each phoneme contrasts with the set of allophones of every other phoneme.

5.8 Vowels

Rejang has six vowels:

High	*i*		*u*
Mid	*ė*	*e*	*o*
Low		*a*	

Front Central Back

All Rejang vowels occur as oral or nasal vowels phonetically. The nasal allophones occur after non-barred nasals and after other nasalized vowels or semivowels.

All vowels except central /a/ and /e/ have tense and lax allophones. The lax allophones occur only in closed syllables in monosyllabic words, i.e., as the vowel in the canons CVC or CCVC.

/i/ is a high front unrounded vowel. Its allophones are tense [i] and lax [ɪ] and their nasalized counterparts [ĩ] and [ɪ̃]

/ė/ is a mid front unrounded vowel. Its allophones are tense [ė] and lax [ɛ] and their nasalized counterparts [ė̃] and [ɛ̃].

/u/ is a high back rcunded vowel. Its allophones are tense [u] and lax [ʊ] and their nasalized counterparts [ũ] and [ʊ̃].

/o/ is a mid back rounded vowel. Its allophones are tense [o] and lax [ɔ] and their nasalized counterparts.

/e/ is a mid central unrounded vowel. Its two principal allophones are [e] and nasalized [ẽ].

/a/ is a low central vowel. Its two principal allophones are [a] and its nasalized counterpart [ã].

All six vowels can end a word or occur between consonants. Only /e/ cannot occur word-initially.

Mid front and mid back /o/ and /ė/ function partially in harmony. Given a canon ...V_1 C V_2..., if V_1 is /o/ or /ė/ then V_2 is the same, e.g., *opoė* "fire," *tokoa* "store," *pėkėr* "think", *ėpėn* "tooth," *kėmė* "we (exclusive)". The second vowel in all these words is predictable to be identical to the first.

The six vowels all contrast with one another, as is seen by examining the following pairs.

/a/	/e/	[pat̚]	'four'	/pat/
		[pet̚]	'know'	/pet/
/a/	/o/	[taŋẽn]	'hand'	/tangen/
		[tokoa]	'store'	/tokoa/
/a/	/u/	[bajew]	'dress'	/bajew/
		[bujaŋ]	'bachelor'	/bujang/
/a/	/i/	[pat̚]	'four'	/pat/
		[spɪt̚]	'narrow'	/spit/
/a/	/ė/	[pat̚]	'four	/pat/
		[pėt̚]	'bitter'	/pėt/
/e/	/o/	[teko]	'come'	/teko/
		[tokoa]	'store'	/tekoa/
/e/	/u/	[kete]	'all'	/kete/
		[gutew]	'louse'	/gutew/
/e/	/i/	[tapi]	'but'	/tapi/
		[ipe]	'where?'	/ipe/
/e/	/ė/	[teŋė̃n]	'when?'	/tengėn/
		[taŋẽn]	'hand'	/tangen/
/o/	/u/	[upan]	'feed'	/upan/
		[opoė]	'fire'	/opoe/
/o/	/i/	[tokoa]	'store'	/tokoa/
		[titiʔ]	'small'	/titiʔ/
/o/	/ė/	[mõnõʔ]	'chichen'	/monoʔ/
		[mė̃nė̃m]	'drink'	/mėmėm/
/u/	/i/	[putuŋ]	'cut'	/putung/
		[pisaŋ]	'banana'	
/u/	/ė/	[tukuʔ]	'back of animal'	/tukuʔ/

		[ŋĩkė?]	'tell a lie'	/ngikė?/
/i/	/ė/	[spɪt̰]	'narrow'	/spit/
		[pɛt̰]	'bitter'	/pėt/

5.9 Semivowels

The semivowels of Rejang are /y/ and /w/. Semivowels have the least degree of constriction of any of the consonants.

/y/ and /w/ have two allophones each: [y] and nasalized [ỹ]; and [w] and nasalized [w̃]. All are voiced continuents.

/y/ is articulated by tensing the tongue body while holding the tongue tip very near the hard palate, just as in the articulation of the vowel /i/. /w/ is articulated by pursing the lips into roundness and near-closure, similar to the articulation of /u/ but with greater constriction.

The nasalized semivowels occur after a nasal consonant or nasalized vowel.

The following are examples of the semivowels.

/y/	[y]	[leyen]	'other'	/leyen/
		[uyo]	'now'	/uyo/
		[ley]	'big'	/ley/
	[ỹ]	[mãỹ]	'to'	/may/
		[mĩñãỹ]	'ask'	/minay/
/w/	[w]	[watas]	'border'	/watas/
		[kėwėa]	'hook'	/kėwėa/
	[w̃]	[nãw̃ãw̃ĩ]	'Nawawi (a name)'	/nawawi/
		[jamẽw̃]	'party'	/jamew/

5.10 Stops

5.10.1 Voiceless stops

There are nine stop phonemes in Rejang, classified as voiceless or voiced. The voiceless stops are /p/, /t/, /k/, and /?/. /p/ is a bilabial stop; /t/ is alveolar; /k/ is velar; and /?/ is a glottal stop.

All four phonemes have unreleased allophones in word-final position and released allophones elsewhere (see illustrations below).

None of the stops is aspirated.

/t/ has two allophones that differ in place of articulation. /t/ is alveolar in word-initial position and in post-consonantal position. In post-vocalic position, /t/ is pronounced with the tongue tip touching the back of the upper teeth.

The allophones of the voiceless stops are summarized below:

Released	[p]	[t]	[k]	[?]
Dental and Released		[t̰]		
Unreleased	[p⁻]		[k⁻]	[?⁻]
Dental and Unreleased		[t̰⁻]		

Some examples of the allophones of the voiceless stops in each position are given below:

/p/	[p]	[pasar]	'market'	/pasar/
	[p⁻]	[alep⁻]	'pretty'	/alep/
/t/	[t]	[tapi]	'but'	/tapi/
	[t̰]	[at̰ey]	'liver'	/atey/
	[t̰⁻]	[tokot̰⁻]	'stick'	/tokot/
/k/	[k]	[kan̰]	'fish'	/kan/
	[k⁻]	[benek⁻]	'heavy'	/benek/
/?/	[?]	[gu?ew]	'Teacher'	/gu?ew/
	[?⁻]	[ana?⁻]	'child'	/ana?/

All of the voiceless stops contrast with one another in initial, intervocalic and final positions of the word, e.g., /p/ contrasts with /t/ in the pair *pun* 'tree' and *tun* 'person'.

/k/ occurs in word-final position in only a few words, e.g., *benek* 'heavy' and *mapak* 'marry two people to each other'. /k/ contrasts with word-final glottal stop, cf. *ma?* 'take' and *bak* 'bath tub'.

/?/ is contrastive between vowels. Evidence of this is the following pair: *keluea* 'out' and *je?ang* 'a moment'. Both words contain the vowels /...e...a.../. Glottal stop may not be inserted between these two vowels in *keluea* i.e., [*kelue?a] is not a word. Glottal stop may not be deleted from *je?ang*, i.e., [*jeang] is not a word. The conclusion is that the glottal stop in *je?ang* is contrastive (contrasts with zero).

/?/ also contrasts with zero in word-initial position. This is illustrated by the following example:

(i)	/coa/	'not'	[cowa]
(ii)	/?oa?/	'far'	[?owa?]
(iii)	/coa ?oa?/	'not far'	[cowa ?owa?]
(iv)			[*cowa owa?]

In the word for 'far' the form *?oa?* is invariant, and cannot occur without initial glottal stop. This is indicated by (iv) above. The conclusion is that in words like *?oa?* glottal stop is contrastive in initial position in the word (contrasts with zero).

In the next example, phonetic [?] is seen to be in free variation in [iso] ~ [?iso] and [umea?] ~ [?umea?] in initial position. The variable initial glottal stop in *umea?* and *iso* is assumed to be free variation.

(i)	/iso/	'not'	[iso]
(ii)	/umea?/	'house'	[umea?]
(iii)	/iso umea?/	'not a house'	[iso umea?] ~
(iv)			[?iso ?umea?]

5.10.2 Voiced stops

The voiced stops are /b/, /d/, and

/g/. They are normally produced with egressive lung air passing out through the oral cavity, but egressive release is in free variation with implosive release in initial position, e.g., [dado] ~ [ɗado] 'breast'.

/b/ is a voiced bilabial stop with one principal allophone [b]. /d/ has two allophones corresponding to the two described for /t/. In initial position /d/ is alveolar [d]; in intervocalic position /d/ is produced with the tongue tip touching the back of the upper teeth, i.e., [d̪].

/g/ has one allophone, the voiced velar stop [g].

None of the voiced stops occur in word-final position in Rejang. The following words illustrate the distribution of the allophones of the voiced stops:

/b/	[b]	[bukew]	'book'	/bukew/
		[debew]	'dust'	/debew/
/d/	[d]	[dew]	'many'	/dew/
	[d̪]	[ad̪ė]	'is'	/adė/
/g/	[g]	[gacaŋ]	'fast'	/gacang/
		[mãgea]	'to'	/magea/

5.11 Affricates

Rejang has two affricates, /c/ and /j/, each with one allophone articulated with the blade of the tongue touching the hard palate and with the tip of the tongue pressed against the lower teeth (cf. also the articulation of the palatal nasal).

/c/ is voiceless and /j/ is voiced. Both occur initially and between vowels, but not word-finally.

The following list illustrates these two phonemes:

/c/	[caci]	'money'	/caci/
/j/	[jaoaʔ]	'wild pig'	/jaoaʔ/
	[tejė]	'stand'	/tejė/

5.12 Fricatives

Rejang has two fricatives /s/ and /h/. /s/ is an alveolar voiceless sibilant articulated along the blade of the tongue with the tongue tip placed just behind the upper front teeth. /h/ is a voiceless glottal fricative.

/s/ and /h/ clearly contrast in the pair *soa* 'seed' and *haė* 'affair, matter'. However, /s/ and /h/ vary freely in some words (see 5.5). /h/ is a very low frequency phoneme. Both phonemes occur in initial and final position of the word. /s/ also occurs between vowels, but I have no examples of /h/ occurring between vowels.

Illustrations are provided below:

/s/	[sakut̄]	'hang'	/sakut/
	[pasar]	'market'	/pasar/
	[blas]	'uncooked rice'	/blas/
/h/	[haė]	'affair'	/hae/
	[bersih]	'clean'	/bersih/
	[sepah]	'disarray'	/sepah/

5.13 Liquids

Rejang has two voiced liquid phonemes, /r/ and /l/. Both occur in initial, intervocalic and word-final positions. /r/ has one allophone, tapped [r] that is produced by rapidly touching the tongue tip against the hard palate.

/l/ is a lateral liquid formed by touching the tongue tip to the alveolar ridge and allowing the air to escape from two sides around the tongue. /l/ has three allophones. [l] occurs initially before a vowel; [l̪] occurs post-vocalically; and syllabic [l̩] occurs initially before a consonant.

The allophones of /r/ and /l/ are illustrated below.

/l/	[l]	[lemõ]	'five'	/lemo/
	[l̪]	[pel̪los]	'liar'	/pellos/
	[l̩]	[bl̩as]	'rice'	/blas/
	[l̪]	[apal̪]	'memorize'	/apal/
	[l̩]	[l̩mõ]	'five'	/lmo/

(Note: /lemo/ and /lmo/ are lexical variants, cf. 5.12.2)

/r/	[r]	[rekės]	'protest'	/rekės/
		[perang]	'war'	/perang/
		[pit̪ar]	'clever'	/pitar/

5.14 Nasals

Rejang has eight nasal phonemes in two series, plain and "barred". The barred nasals are analyzed tentatively as phonetically ingressive.

5.14.1 Plain Nasals

The plain nasals are /m, n, ny/ and /ng/. /m/ is bilabial; /n/ has two allophones similar to those described for /t/ and /d/: alveolar [n] occurs word-initially, and dental [n̪] occurs elsewhere. /ny/ occurs as one phonetic segment, [ɲ]. [ɲ] is articulated like /c/ and /j/, i.e., the tongue blade touches the hard palate and the tongue tip presses against the lower teeth. /ng/ is velar [ŋ].

The non-palatal nasals all occur with syllabic allophones in word-initial position before a consonant. The phonetic symbol for a syllabic consonant is [C̩], i.e., a short vertical mark under the consonant.

The principal allophones of the plain nasals are illustrated below:

/m/	[m]	[mãcey]	'read'	/macey/
		[lem]	'inside'	/lem/
	[m̥]	[m̥terey]	'(girl's name)'	/mterey/
		[m̥pé?]	'carry on back'	/mpé?/
/n/	[n]	[nãn̥õ]	'earlier'	/nano/
	[n̥]	[n̥lié]	'be given'	/nlié/
/ng/	[ŋ]	[ŋẽn]	'with'	/ngen/
		[gacaŋ]	'fast'	/gacang/
	[ŋ̥]	[ŋ̥geruta?]	'move'	/nggeruta?/
/ny/		[ɲãɲĩ]	'sing'	/nyanyi/

5.14.2 Barred nasals

The barred nasals are /m̄, n̄, n̄ȳ/, and /n̄g̃/. They have one allophone each. The allophones are all assumed to be ingressive: upon release of the nasal, air is drawn into the oral cavity by a sub-glottal pressure differential.

Barred nasals occur word-initially, intervocalically, and after a plain nasal.

Below is the evidence that the barred nasals contrast with plain nasals:

/m/	/m̄/	[mõn̄õã?]	'kill'	/monoa?/
		[m̄on̄]	'cloud'	/m̄on/
		[jamẽw̃]	'guava fruit'	/jamew/
		[jam̄ew]	'party'	/jam̄ew/
/n/	/n̄/	[nė̄kėr]	'be thought'	/nėkėr/
		[n̄ėt̄]	'sew'	/n̄ėt/
		[nãn̄õ]	'later'	/nano/
		[in̄o?]	'mother'	/iño?/
/ng/	/ng/	[taŋẽn]	'hand'	/tangen/
		[tuŋ̃ew]	'wait'	/tuñg̃ew/
/ny/	/n̄ȳ/	[ɲãɲĩ]	'sing'	/nyanyi
		[blañyo]	'shopping'	/blañy̰o/

There is an interesting phonetic difference between the articulation of the two palatal nasals, represented phonemically as /ny/ and /n̄ȳ/. /ny/ is phonetically [ɲ]. It is one segment which is articulated similar to /c/ and /j/ in the point of articulation. That is, the tongue blade touches the hard palate while the tongue tip is pressed against the lower teeth. However, /n̄ȳ/, while phonemically one segment, is phonetically two segments, [n̄] followed by [y].

The probable historical explanation for this is that /ny/ derives from a single segment *ny, whereas /n̄ȳ/ derives historically from the two segments *nj. This assumption would explain the correspondence between Rejang /ny/ and Bahasa Indonesia /ny/, on the one hand, and between Rejang /n̄ȳ/ and Bahasa Indonesia /nj/, on the other. For example, the Rejang and Indonesian words for 'sing' is *nyanyi*, but in the word for 'go shopping' the Rejang word is *blañy̰o* whereas the Indonesian word is *blanja*, with six phonemes to the Rejang word's five phonemes. If Indonesian represents the original situation, then the Rejang ingressive nasal /n̄ȳ/ is accounted for by sound change. Hence the fact that the articulation of Rejang /n̄ȳ/ differs from Rejang /ny/ is explained by the different historical sources of these two phonemes. (See also the appendix to this chapter.)

5.15 Phonetic status of the barred nasals

The advantage of the barred nasal analysis as presented in this chapter is that with it one need not recognize phonemic nasalized vowels in Rejang Musi. In 5.1 it was pointed out that two previous field workers who studied the Lebong dialect of Rejang, differed over the issue of whether to assign contrast to vowel orality/nasality, or to recognize contrasting features in nasal consonants. Thus Voorhoeve (1955) recognized phonemic nasal vowels in Rejang Lebong, whereas Jaspan (1964) posited two series of nasals, plain and "implosive".

It appears to me that on purely formal grounds, the phonemic nasal vowel analysis suffers from lack of support when the phonology of the language is considered as a whole. In particular, in the Musi dialect (which is regarded as equivalent to the Lebong dialect as far as the issue of the barred nasals is concerned), it is a fact that the oral/nasal contrast in vowels is found only after nasal consonants.

Under ordinary circumstances, one would not hesitate to attribute an oral/nasal distinction to assimilation of nasality from a nasal consonant to a following vowel. Hence, in the analysis of hypothetical words like [pa] and [mã], one would want to assign /p/ and /m/ and /a/ as phonemes, and assign the nasality feature of [ã] in [mã] to a rule of assimilation.

The situation in Rejang, however, is more complicated than the preceding case. In Rejang, to cite only hypothetical words, there is a three-way contrast between [pa], [mã] and [m̄a]. Notice that a four-way contrast is possible, but not found in Rejang. That is, if there were further contrast between [pa] and [pã], then there would be a clear case for recognizing phonemic nasalized vowels. For in the case of a four-way contrast, there would be no possible way to predict vowel nasality after either oral or nasal consonants.

However, the actual situation in Rejang is that there is only a three-way contrast. The issue is whether to assign phonemic status to the nasal vowels, or to recognize phonetically and phonemically two different kinds of nasal consonant, namely [m] and [m̄].

On purely formal grounds, the assumption that there are two kinds of nasal consonants in Rejang is attractive, because then nasalization of vowels can be described in terms of the usual process of progressive assimilation of the nasality feature of the plain (but not the barred) nasals.

The phonetic assumptions that must be made for the barred nasal analysis are considerable, but not totally implausible. In recent work on the theory of nasal implosion or ingression being conducted at the University of Hawaii by Professor

Iovanna D. Condax, three possible mechanisms have been suggested to me (personal communication):

1. Rapid drop of the larynx during articulation of the nasal, creating just enough sub-glottal pressure to create ingressive flow of air into the mouth at the release of the nasal.
2. Rapid expansion of the pharynx.
3. Rapid expansion of the oral cavity, with a drop of the jaw just at the end of the nasal consonant.

Professor Condax has not as yet had the opportunity to work with a Rejang speaker, but in her experiments she has drawn the tentative conclusion that the third of the above three possible mechanisms seems the most promising, at least for the non-velar nasals. She concluded that rapid expansion of the oral cavity provides "a very satisfactory inrush of air" (personal communication).

It is to be hoped that Professor Condax and other linguists will find opportunities to work with Rejang speakers and conduct the needed research to determine all of the phonetic qualities of the Rejang nasal consonants and nasalized vowels.

* * *

APPENDIX

The historical source of the barred nasals

In 5.1 it was pointed out that two previous field workers who have studied the Lebong dialect of Rejang have differed over the status of the series that we have referred to in this chapter as "barred nasals". In my field work on the Rejang dialects, I have found that three of the four dialects have the phenomenon in question. Only Rejang Kebanagung lacks the phenomenon. Kebanagung has only ordinary nasals, and progressive nasalization of vowels and semivowels occurs in all words in exactly the same way. That is, there are no pairs like the Musi pairs illustrated in the preceding section, e.g., in Musi [jamẽw̃] 'meeting' contrasts with [jam̃ew] 'guava fruit'. But in Kebanagung, these two words have fallen together as homophones, and both are pronounced [jamẽw̃].

Kebanagung is unlikely to represent the historical situation, since the simplest assumption is that Kebanagung has lost the barred nasals, merging them with plain nasals. Moreover, after comparison of Rejang with Bahasa Indonesia and other Western Austronesian languages, it is clear that the Rejang barred nasals have developed from intervocalic clusters of a nasal followed by a voiced stop. For example, the Indonesian word for 'meeting' is *jamu* with simple intervocalic nasal. But the Indonesian word for 'guava fruit' is *jambu*, with intervocalic cluster of nasal and stop. This example is supported by scores of others, and no exceptions have been found. In fact, in the Musi dialect, clusters of nasal followed by a stop only occur as the result of prefixation or infixation, never between morpheme boundaries. Hence even newly created words, such as *Blaño* 'Holland; a Dutchman' shows the expected correspondences with the Indonesian word *Belanda*.

It thus is very clear that the barred nasals have resulted from a sound change and that they derive historically from nasal clusters in earlier stages of the language.

The following are some illustrative comparisons between Rejang Musi and Bahasa Indonesia cognate pairs:

Rejang		Indonesian	
jam̄u	'guava'	*jambu*	'guava
im̄o	'jungle'	*rimba*	'jungle'
iño?	'mother'	*induk*	'female animal'
Blaño	'Holland	*Belanda*	'Holland'
pañōyang	'long'	*panjang*	'long'
blañōyo	'buy'	*belanja*	'buy'
tiñōga	'live'	*tinggal*	'live'
tuñōgew	'wait'	*tunggu*	'wait'
cf. also:			
sapie	'arrive'	*sampai*	'arrive'
pitar	'clever'	*pintar*	'clever'
takep	'apprehend'	*tangkap*	'apprehend'

* * *

CONCLUSION

This dissertation is the first major work on the Rejang language of Sumatra. A general outline of the whole language has been presented, including data from syntax, semantics, phonology and morphology. No attempt has been made to achieve a total description of the language, although a reasonably complete, informal presentation of the phonology and morphology appears in Chapter V.

The focus of the dissertation has not been a description for its own sake, but a description that supports the special theory of a language type. The theory claims that Rejang is an instance of a language with a transformational component, but one in which Noun Phrase movement is prohibited. To my knowledge there has not previously appeared a description of a language of this particular type. More importantly, it has been suggested in 1.9 of the dissertation that this type of language may be said to follow from the assumptions of the Revised Extended Standard Theory of Noam Chomsky and his associates. That is, such a language type already existed as a possibility in the general theory prior to the "discovery" of Rejang.

It has been found to be of benefit to the field worker attempting to describe a previously unwritten and unstudied language, to have a general theory that permits some latitude in the process of writing special grammars for particular languages.

This benefit would not be possible, I believe, if too many substantive constraints were placed on the general theory. In other words, the role of the field worker will largely disappear when enough substantive constraints on the theory of language are discovered, and when grammars of languages can be written using universal rules. Of course, when that day arrives, linguistics will become mere technology, perhaps like computer technology today, and then the benefits of our knowledge will truly flow directly to society.

However, that day is probably far off, and may, in fact, never come. Languages can and do differ from one another in many unpredictable ways — not in their semantic and functional structure as much as in their formal structure. Chomsky's theory of the "absolute autonomy" of syntax from semantics is a recognition that at least some of the diversity of the world's languages is to be found in the formal syntactic structure.

And yet the formal syntax of each language is a structure, a unique structure with its own internal cohesion. The task of the linguist working either on his own or on an "exotic" language like Rejang, is to discover the cohesive features of the grammar, and in so doing try to explain, in part, what the child discovers as he learns his language. According to Chomsky's theory, what the child discovers is guided by universal formal and substantive structure that is innate to the human species. However, this universal "alphabet" of categories and phonetic features, and the set of universal constraints on rules, are preconditions necessary to account for the possibility of the total learning task. What are actually learned are the rules of the particular grammar. The total grammar, in short, includes both universal and language-particular features.

The thesis on Rejang grammar presented in this dissertation has been negatively stated in terms of a prohibition on NP movement rules. Positively stated, the thesis might be called a "fixed-order hypothesis". The claim is that grammatical relations are determined by PS rules together with the features $\pm$Oblique associated with the NP in post-Verbal position, and that no NP Movement transformations may deface this basic structure.

This theory emphasizes the role of word order and correspondingly de-emphasizes the role of verbal affixes in both the base and the surface structure of sentences. Rejang appears *prima facie* suitable for this kind of theory, since it is simpler in morphology than many other Western Austronesian languages.

At first it might appear that Rejang is perhaps radically different in its morphology and syntax than the other Western Austronesian languages. But even a cursory look at the sentences of Rejang should be enough to convince Austronesianists that Rejang is quite typical. That is, it appears to be typical in most features of its syntax while not very rich in verbal morphology.

The theory of Rejang therefore raises the interesting possibility that word order might also play a dominant role in other Western Austronesian languages. I will cite just two illustrative examples of the kind of research that the Rejang thesis would tend to support.

In research on intonation in relation to syntax in Bahasa Indonesia, Halim (1974) convincingly demonstrated that the great variety of word orders in that language was intimately tied to changes in intonation. It was mentioned in the introductory chapter of this dissertation that a variety of acceptable word orders of Rejang are also tied to intonation patterns. In other words, the "fixed-order hypothesis" is relevant only at a certain depth, namely, the depth of "surface structure" as defined by the model. However, it seems obvious that this relatively "free" word order marked by intonation is made possible by the fixed word order at deeper levels of the grammar.

Moreover, it is interesting to consider

that verbal morphology may play little or no role in word order variation in Bahasa Indonesia. This is evidenced by Halim's scant mention of morphology in his dissertation. It is also interesting that most of the Rejang starred sentences correspond with starred analogues in Bahasa Indonesia. The following three Indonesian sentences will suffice to illustrate this point:

(1) i *Jon minum apa?*
1 2 3

'John drinks what?'
1 2 3

ii **Apa (yang) Jon minum t*
1 2 3 4

'What does John drink t?'
1 3 4

iii *Apa yang diminum oleh Jon?*
1 2 3 4 5

'What is drunk by John?'
1 3 4 5

The above three sentences illustrate that in Indonesian, as in Rejang, the NP *apa* 'what' is not permitted to move from the position marked t to the front of the sentence. The ungrammatical sentence (1) ii is a simple fact about Indonesian that must be explained by an adequate theory of that language. Perhaps a theory based on the role of word order in Indonesian grammar would be sufficient to explain the ungrammaticality of (1) ii.

The second kind of research on Indonesian has been conducted by Dardjowidjojo in several articles. This research has centered on the role of the verbal morphology in the grammar. Two matters of interest may be mentioned here. The first is that throughout his research, Dardjowidjojo has not attempted to explain the ungrammaticality of sentences like (1) ii. Rather, his attention has been concentrated on problems relating to the grammatical function of the Indonesian affixes *meN-*, *di-*, *-kan* and *-i*. Dardjowidjojo (1971) concludes one paper on Indonesian affixes with a plea for appreciating the importance of studying the grammar from the point of view of the morphology, but not after he has made the following pertinent observation:

> At the present stage of our research (on Indonesian) . . . a description of the morphology must be based on the lexicon as a container of lexical items each with its own idiosyncratic properties . . . Without this understanding one will generate forms which are logically generatable but actually unacceptable.

From the point of view of the thesis of this dissertation, it is entirely possible that the relationship between the morphology and the syntax in Indonesian is exactly like what has been described here in Rejang. That is, causative sentences, dative and double-object sentences, and even passives, must be derived by the base and the associated lexical items related by lexical rules. If such is indeed the case, then future research may be able to show that Indonesian participates in some form of the NPMPH.

In conclusion, I should like to suggest that not only Indonesian languages like Bahasa Indonesia and Rejang show evidence of constraints on NP movement. The data of (1) i-iii — and indeed many of the starred sentences of this dissertation — show close analogues with Philippine languages. For example, in Tagalog, the following three sentences are analogous to (1) i-iii:

(2) i *iinom si Juan ng ano?*
1 2 3 4 5

'John drinks what?'
3 1 5

ii **Ano ang iinom si Juan t ?*
1 2 3 4 5 6

'What does John drink t ?'
1 5 3 6

iii *Ano ang iinomin ni Juan?*
1 2 3 4 5

'What is drunk by John?'
1 3 4 5

The above examples indicate that in Tagalog, a distantly-related VSO language with a richer verb morphology than even Indonesian, still shows the same peculiarities of syntax that were found in Rejang and accounted for by the fixed-order hypothesis.

The implication is that word order might play a role entirely separate from the verbal morphology in a transformational grammar of Tagalog.

Two further implications of the thesis of this dissertation that should be mentioned are (1) the relation of the thesis to the well-known statistical "preference" for passive sentences in Rejang and other Western Austronesian languages, and (2) whether the thesis does not entail that there must be some loss of expressive power in a grammar that does not permit NP Movement rules in the formation of Questions and Relative Clauses. These issues are closely related.

Within the strict bounds of the thesis of this dissertation, the above questions presumably cannot be answered directly. However, it is suggested that given the thesis of this dissertation that there are no NP Movement rules in the core grammar of Rejang, then the way seems clear to

provide a coherent and, hopefully, fruitful answer to the above two questions. In order to do so, however, an additional assumption about the nature of language must be made.

Let us assume as a linguistic universal that all languages must have some mechanism or mechanisms that permit a Theme actant to appear in focus position in the sentence. For example, all SVO languages must have a way to say *Who did John see?* in addition to *John saw who?* In languages like English, there are obviously two mechanisms that allow a Theme actant to appear in focus position. The first is WH-Movement, giving *Who did John see?* The second is verb passivization, giving *Who was seen by John?*

Now let us assume as a possibility for a particular language the thesis of this dissertation. Given a language like Rejang, which permits no WH-Movement of an NP, it follows that only verb passivization is available as a mechanism to allow a Theme actant to appear in focus position.

The suggestion is then that the statistical "preference" of passive sentences in languages like Rejang may be caused by the interaction of the NPMPH with the linguistic universal mentioned above. That is, whenever discourse conditions require that a Theme actant appear in focus position, a passive sentence is predicted (if the verb is transitive, etc.). The same argument, of course, applies to other actants that may appear in non-Subject positions in the sentence, such as Dative, Experiencer, and so on (see Chapter III).

It follows that there is no loss of expressive power in a language that makes full use of its passivization process in order to meet the discourse requirements of its speakers.

A final test of the NPMPH is its ability to suggest solutions to problems in other languages. It has already been suggested that the fixed order of NP's studied in this dissertation may not be unique to Rejang, but may be found in other Western Austronesian languages, including Philippine languages. However, it is not known just how closely these languages resemble Rejang in other respects. Moreover, it is not known what the boundaries of the core grammars are for these languages. Hence, comparison of Rejang with other Western Austronesian languages at this point must be speculative and highly tentative at best.

Nevertheless, if the thesis of this dissertation is correct, or at least close to correct, then it is expected that important implications for other languages can be adduced. The first and most obvious implication is that some other languages might be organized around the NPMPH exactly like Rejang. This possibility obviously cannot be tested in this dissertation, but hopefully other students of Austronesian languages will take an interest in this problem.

Perhaps a crucial test of the NPMPH can be made using Philippine languages, for they seem to be the least like Rejang in having the "freest" word order (while still showing the same peculiar NP Movement constraints in Questions and Relative Clauses, and while still showing a "preference" for passive sentences).

The crucial question about Philippine languages in relation to the NPMPH is the role of the syntactic ligatures *na* and *ay*. It is possible that some form of the NPMPH in Philippine languages interacts with these ligatures. This suggests the following hypothesis: In Philippine languages no movement of an NP is permitted within the core grammar unless "mediated" by a ligature.

Tagalog is a Philippine language that is unlike Rejang in permitting possessive Pronouns to appear either before or after the head Noun. For example:

(3) i *(ang) libro nino...?*
1 2 3

'the book of whom...?'

ii *(ang) kanino-ng libro...?*
1 2 3 4

'whose book...?'

The ability of the possessive NP in Tagalog to appear before or after the head Noun is unlike Rejang and other Indonesian languages. Also unlike Rejang is the occurrence of the ligature *-ng (=na)* in sentences like (3) ii. Most Philippinists would analyze (3) ii as a transform of (3) i, since possessive NP's must occur after the head. Therefore we may assume that (3) ii is a transform sentence. What then is the function of the ligature? If the hypothesis mentioned earlier is correct, then it follows that the ligature marks the movement of an NP. Without the ligature, the phrase is ungrammatical, e.g.

iii **(ang) kanino libro*

It is hoped that the above remarks on Tagalog and Bahasa Indonesia will be suggestive to Austronesianists.

To test the implications of the Rejang NPMPH further would take us beyond the scope of this dissertation. If the thesis proves, after further study, to be a fruitful one, then the implication about the nature of language is clear, namely the viability of the notions of "transformational grammar", "core grammar", "autonomy of syntax" and "lexicalist hypothesis" must also be recognized as valuable tools to guide further research in Austronesian linguistics.

* * *

BIBLIOGRAPHY

Akmajian, Adrian and Heny, Frank
1975 *An introduction to the principles of transformational syntax.* Cambridge: The M.I.T. Press.

Anderson, Steven R.
1977 "Comments on the paper by Wasow", in Cullicover, Wasow and Akmajian, (eds.), *Formal syntax.* New York: Academic Press.

Bever, Thomas G.
1970 "The cognitive basis for linguistic structures", in J. R. Hayes, (ed.), *Cognition and the development of language.* New York: Wiley.

_____, Katz, J. J., and Langendoen, D. T.
1976 *An integrated theory of linguistic ability.* New York: Crowell.

Brame, Michael K.
1976 *Conjectures and refutations in syntax and semantics.* New York: American Elsevier.

Bresnan, Joan W.
1970 "On complements: towards a syntactic theory of complement types", *Foundations of language* 6:297-321.

Carrier, Jill
1977 *The interaction of reduplication with phonological rules in Tagalog.* Paper presented at the LSA Winter meeting.

Chomsky, Noam
1957 *Syntactic structures.* The Hague: Mouton.

_____.
1965 *Aspects of the theory of syntax.* Cambridge: The M.I.T. Press.

_____.
1967, 1970, 1972. "Remarks on nominalization", in *Studies in semantics in generative grammar.* The Hague: Mouton.

_____.
1971 *Problems of knowledge and freedom.* New York: Vintage Books.

_____.
1973 "Conditions on transformations", in Anderson, S. A. and Kiparsky, R. P., (eds.), *Festschrift for Morris Halle.* New York: Holt, Rinehart and Winston.

Chomsky, Noam
1975a *Reflections on language.* New York: Random House.

_____.
1975b "Questions of form and interpretation", in Austerlitz, Robert, (ed.), *The scope of American linguistics.* Lisse: Peter De Ridder Press.

_____.
1975c "Conditions on rules of grammar", in Cole, R., (ed.), *Current issues in linguistic theory.* Bloomington: Indiana University Press.

_____.
1977a "On WH-Movement", in Cullicover, Wasow and Akmajian, (eds.), *Formal syntax.* New York: Academic Press.

_____.
1977b "Conditions on rules of grammar", in Cole, Roger W. *Current issues in linguistic theory.* Bloomington: Indiana University Press.

_____.
1980a "On binding", *Linguistic Inquiry* 11:1, pp. 1-47

_____.
1980b *Rules and representations.* New York: Columbia University Press.

Chomsky, Noam, and Halle, Morris
1968 *The sound pattern of English.* New York: Harper and Row.

Chomsky, Noam, and Lasnik, Howard
1977 "Filters and control", *Linguistic Inquiry* 8.3:425-504.

Chung, Sandra
1976a "On the subject of two passives in Indonesian", in Li, Charles N., (ed.), *Subject and Topic.* New York: Academic Press.

_____.
1976b "An object-creating rule in Bahasa Indonesia", *Linguistic Inquiry* 7:41-87.

_____.
1976 MS "Stem sentences in Indonesian".

Coady, James, and McGinn, Richard
1982 "On the so-called implosive nasals of Rejang", in *Gava': studies in Austronesian lan-*

guages and cultures, dedicated to Hans Köhler. Berlin: Dietrich Reimer.

Court, Christopher
1970 "Nasal harmony and some Indonesian sound laws", in Wurm, S. A. and Laycock, D. C., (eds.), *Pacific linguistic studies in honour of Arthur Capell*. Camberra: The Australian National University.

Crothers, John and Shibatani, Masayoshi
1975 "On some fundamental concepts of phonology", in Goyvaerts, Didier L. and Pullum, Geoffrey K., (eds.), *Essays on the sound pattern of English*. Ghent: Scientific Publishers.

Dardjowidjojo, Soenjono
1971 "The meN-, meN- -kan, and meN- -i verbs in Indonesian", *Philippine Journal of Linguistics* 2.2:71-84.

De Guzman, Videa
1978 "Syntactic derivation of Tagalog verbs", *Oceanic Linguistics* special publication No. 16, Honolulu.

Dempwolff, Otto
1934-1938, 1969. *Vergleichende Lautlehre des Austronesischen Wortschatzes*. Liechtenstein: Kraus.

Dyen, Isidore
1965 "A lexicostatistical classification of the Austronesian languages", *IJAL Memoir* 19.

Emonds, Joseph E.
1976 *A transformational approach to English syntax*. New York: Academic Press.

Fiengo, Robert
1977 "On trace theory", *Linguistic Inquiry* 8.1:35-62

Fillmore, Charles
1968 "The case for case", in Bach, Emmon and Harms, Robert T., (eds.) *Universals in linguistic theory*. New York: Holt, Rinehart and Winston.

Foley, William A.
1976 *Comparative syntax in Austronesian*. University of California dissertation.

Greenberg, Joseph H.
1963 "Some universals of grammar with particular reference to the order of meaningful elements", in Greenberg, Joseph H., (ed.), *Universals of language*, Cambridge: The M.I.T. Press.

_____.
1975 "Research on language universals", *Annual review of anthropology* 4:75-94.

Gruber, Jeffrey S.
1976 *Lexical structures in syntax and semantics*. Amsterdam: North Holland Publishing Company.

Hale, et. al.
1977 "Three cases of overgeneration", in Cullicover, Wasow and Akmajian, (eds.), *Formal Syntax*. New York: Academic Press.

Halim, Amran
1974 *Intonation in relation to syntax in Bahasa Indonesia*. Jakarta: Lembaga Bahasa Nasional.

_____.
MS *A 200-word list for comparison of Indonesian languages*.

Hust, Joel R.
1978 "Lexical redundancy rules and the unpassive construction", *Linguistic Analysis* 4.1:61-89.

_____, and Brame, Michael K.
1976 "Jackendoff on interpretive semantics: a review of Semantic interpretation in generative grammar", *Linguistic Analysis* 2.3:243-278.

Hyman, Larry M.
1975 *Phonology: theory and analysis*. New York: Holt, Rinehart and Winston.

Ikranagara, Kay
1980 *Melayu Betawi grammar*. Jakarta: NUSA, vol. 9.

Jackendoff, Ray S.
1972 *Semantic interpretation in generative grammar*. Cambridge: The M.I.T. Press.

_____.
1975 "Morphological and semantic regularities in the lexicon", *Language* 51.3:639-671.

_____.
1976 "Toward an explanatory semantic representation", *Linguistic Inquiry* 7:89-150.

_____.
1977 *X Syntax: A study of phrase structure*, Cambridge: The M.I.T. Press.

Jaspan, M. A.
1964 *Rejang Ka-Ga-Nga Texts*. Canberra: The Australian National University.