



Pacific Linguistics

Electronic Publication E-3

SEALS XIII

**Papers from the 13th
annual meeting of the
Southeast Asian
Linguistics Society
2003**

edited by
**Iwasaki Shoichi
Andrew Simpson
Karen Adams
and Paul Sidwell**

Pacific Linguistics
Research School of Pacific and Asian Studies



The Australian National University

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Pacific Linguistics is a publisher specialising in grammars and linguistic descriptions, dictionaries and other materials on languages of the Pacific, Taiwan, the Philippines, Indonesia, East Timor, southeast and south Asia, and Australia.

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First published 2007

National Library of Australia Cataloguing-in-Publication entry:

Southeast Asian Linguistics Society Meeting (13th : 2003 :
Los Angeles, Calif.).

Seals XIII : papers from the 13th meeting of the Southeast
Asian Linguistics Society (2003).

Bibliography.
ISBN 9780858835764 (pdf).

1. Asia, Southeastern - Languages - Congresses. I. Shoichi,
Iwasaki. II. Australian National University. Research
School of Pacific and Asian Studies. Pacific Linguistics.
III. Title.

495

Published by Pacific Linguistics
Research School of Pacific and Asian Studies
The Australian National University
Canberra ACT 0200
AUSTRALIA

<http://pacling.com>

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Preface

The Southeast Asian Linguistics Society

History and Goals

The Southeast Asian Linguistics Society (SEALS) was conceived by Martha Ratliff and Eric Schiller in 1990 as a needed forum for the linguists who have the languages of mainland and Pacific Southeast Asia as their primary research focus. It is our hope that the activities of the Society will lead to:

1. greater communication within this group of scholars, especially across the gap which has heretofore divided researchers of mainland Southeast Asian languages and the Austronesian languages of the Pacific;
2. needed publication of descriptive, theoretical and historical accounts of these languages, in the first instance in the form of these proceedings volumes; and
3. greater awareness of these languages by non-specialist linguists, many of whom attempt to make universal and typological generalizations about the human language faculty without the important corrective which knowledge of Southeast Asian languages provides.

To these ends the Society hosts an annual international meeting as the primary means to support these goals. Specific projects, publications, and services beyond those of an annual meeting and the publication of the meeting proceedings will be at the discretion of the members of the Society.

Scope

The Southeast Asian Linguistics Society was founded with the idea of giving language researchers with a 'non-northern' Asian focus a place to share their findings and ideas. In terms of genetic affiliation, investigation into any aspect of Austroasiatic, Austronesian, Hmong-Mien, Tai-Kadai, or Tibeto-Burman languages may be relevant to our members. Although the common thread we recognize in the first instance is geographical, the boundaries of the Southeast Asian area are not clear, and we would not like to be responsible for trying to draw them rigidly. For example, students of languages which have a historical connection to the languages of the area but which are geographically outside and/or typologically unlike those in the Southeast Asian group would be welcome to participate in our meetings and publications as would students of the typologically similar Chinese languages of southern China.

The Thirteenth Annual Meeting

The Thirteenth Annual Meeting of the Southeast Asian Linguistics Society was held at the University of California, Los Angeles (UCLA), May 2-4, 2003. A total of thirty-three papers were presented, among which were three papers by plenary speakers, Pranee Kullavanijaya (Chulalongkorn University), Masayoshi Shibata (Rice University), and Carol Gennetti (University of California, Santa Barbara). Some of the scheduled presenters from Asia were unfortunately unable to attend the meeting due to restrictions on travel caused by the spread of SARS epidemic in Asia around that time. Professor Kullavanijaya presented her paper on video.

Acknowledgments

The SEALS Conference was co-sponsored by the Department of Asian Languages & Cultures, the Department of Linguistics, the Department of Applied Linguistics, and the Center for Southeast Asian Studies at UCLA. The conference received helpful support from the teaching staff of the Program in South and Southeast Asian Languages and Cultures at UCLA and also from its students. Juliana Wijaya acted as an official conference assistant.

Shoichi Iwasaki
Andrew Simpson

Note

Starting with SEALS VIII, XII & XIII, *Pacific Linguistics* (with generous support of the *Centre for Research in Computational Linguistics*) will become the publisher and the distributor of future volumes of the conference proceedings. This welcome development redresses something of a hiatus in the publication of proceedings volumes, which reflected the general squeezing of resources for Southeast Asian Studies which has affected many programs in recent years.

It was a pleasure for the former Program for Southeast Asian Studies at Arizona State University to have initiated the publication series and to have provided an outlet for the important work of so many linguistic scholars. We would like to thank all past participants in this exciting venture, especially those volunteer efforts that are so essential for conference organization and publishing.

We believe *Pacific Linguistics* will do an exemplary job in the future, and we look forward to the continuation of the series. We are especially pleased to note that under the new publication arrangements SEALS will be distributed free of charge electronically, as well as being available for purchase in print. This initiative is in line with the Society's stated aim of promoting greater communication and awareness of Southeast Asian linguistics. It should be especially helpful to independent scholars, and to researchers located at institutions that do not subscribe to the series.

Karen Adams
Paul Sidwell

PACOH PRONOUNS AND GRAMMATICALIZATION CLINES

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1 Introduction

The Pacoh pronoun system is exceptional among the Mon-Khmer languages in Southeast Asia for having morphologically distinct case-marked sets, including subjects/direct objects, indirect objects, and possessive pronouns (Watson 1964, Alves 2000). Moreover, these pronoun sets have gone further along the path of a grammatical cline, serving a number of semantico-syntactic functions beyond their capacity as pronouns. It is the purpose of this study to show these paths of grammaticalization and how they represent a number of linguistic processes in the syntactic evolution of lexical material. In particular, while semantic changes are present, the changes more often follow step by step along parameters of both semantic fields and syntactic features.

The sections of this study include (1) general discussion of grammaticalization with additional information on relevant aspects of Southeast Asian lexical subcategories, (2) a summary of the basic Pacoh pronoun system with overt case-marking affixes, (3) a section on Pacoh pronouns grammaticalized as general possessive or dative relator nouns, (4) discussion of the Pacoh pronoun grammaticalized as a marker of plurality, (5) discussion of Pacoh pronouns grammaticalized as conjunctions, and (6) a brief look at related derivational patterns in other Mon-Khmer languages. In each section, both the semantic and syntactic aspects of each derivational relationship are discussed where those aspects are seen as distinct. A constant issue among all the grammatical vocabulary derived from Pacoh pronouns is whether or not there are semantic restrictions on co-occurring nouns, namely whether or not those nouns must be human. In addition, some of the aspects of the cognitive characteristics of the changes are shown in relation to the types of universal changes seen in other languages.

2 Grammaticalization and Syntactic Issues

The term ‘grammaticalization’ refers ultimately to a subcategory of (a more general process of) semantic shift in which words or word parts become increasingly abstract and serve grammatical functions (Hopper and Traugott 1993, Heine and Kuteva 2002). In fact, the term ‘grammatical’ itself does not have a clear breaking point in the literature on the topic, and this definition thus becomes circular (i.e., Grammaticalization is the process of becoming grammatical. Grammatical words undergo grammaticalization). Still, intuitively, identifying function words/grammatical vocabulary appears to be a less controversial matter.

In the end, perhaps the best way to deal with this issue is to acknowledge that the definition is somewhat imperfect and deal with the rough edges later. However, to attempt to clarify this issue somewhat, distinctive features (both semantic and syntactic) can be used to bring the issue of ‘grammatical’ and hence ‘grammaticalization’ into a sharper fo-

cus. The purpose of the following subsections is to clarify the kinds of features used in this paper, the kinds of clines seen among Pacoh pronouns, and the key concepts of relator nouns, a class of words into which the pronouns have grammaticalized.

2.1 *Degree of Grammaticality and the Use of Syntactic Features*

While the differences between the extremes of function and content words seem clear, there does appear to be a degree of grammaticality in which there must be areas of uncertainty. While the word ‘dog’ (referring to the animal) intuitively serves non-grammatical content word, and words or word parts expressing ‘past tense’ are intuitively grammatical in nature, some words and concepts appear to be somewhere in between. Examples are time words (such as ‘today,’ which is a true time noun with specialized distribution, as opposed to ‘day,’ which is a common countable noun that requires prepositions to mark their function in time clauses, such as ‘on that day’ or ‘during those days’) and causative words (such as ‘make’ which differs from ‘force’ as the latter requires a ‘to’ infinitive while the former requires only a bare non-finite verb). No specific line has been drawn between grammatical and non-grammatical elements, and this is perhaps due to the semantic definitions typically given for grammaticalization. Typically, in the literature on grammaticalization, semantico-syntactic categories are used, with somewhat more emphasis on the cognitive and semantic side. However, using semantic fields is not the only way to identify grammaticality and hence grammaticalization. A concrete partial solution lies in the use of syntactically-grounded lexico-syntactic features, features that manifest themselves in freedom or restriction in syntactic distribution.

Parts of speech represent distinct grammatical categories and can be rated according to degree of grammaticalization to identify chains of grammaticalization and account for the direction of the shifts (though not necessarily the cause(s) of the shifts). Consider the differences between common nouns, pronouns, and classifier nouns. Common nouns in Pacoh (and other Southeast Asian languages) have the fewest grammatical restrictions, occurring as subjects, objects of verbs, objects of prepositions, possessive attributes, or semantic heads of quantified noun phrases. Pacoh pronouns have roughly the same functions, though they have anaphoric reference and special morphological attributes which limit restrict their distributions and semantico-syntactic functions. Classifiers in Pacoh, which have even more specialized distributional properties, are a subcategory of nouns that are often derived from nouns and can take demonstrative complements, a characteristic common to nouns.

Table 1: *Properties of Noun Subtypes*

Common Nouns	Pronouns	Classifier Nouns
nouns	nouns	nouns
fewest restrictions	some restrictions	most restrictions
open set	closed set	closed set

Still, within these primary lexical categories, there are additional degrees of grammaticality. Increasing restrictions and specialization can be rated with polar features, as in Table 1. We can see on the one end common nouns as the least marked and least ‘gram-

matical’ and the classifier nouns¹ as the most marked and thus most ‘grammatical’. The features themselves correspond well to concepts of markedness.

Parts of speech themselves can be roughly graded, verbs, nouns, and adjectives being less grammatical than prepositions, conjunctions, articles, and sentence particles. Indeed, in many cases, words from the former group are the derivational source for those in the latter. Thus, we can get a general sense of what constitutes grammatical vocabulary. Markedness in terms of semantic features, syntactic constraints, as well as the number of items belonging to a lexical class or subclass all give us some idea of what words are more grammatical than others.

While acknowledging some circularity in the logic, the fact that grammatical functions (indicating specific kinds of relationships between words, phrases, or even larger units of speech) can be clearly identified and explicitly referred to demonstrate that these linguistic changes can also be differentiated from non-grammatical semantic changes, say for example, the relationship between ‘dog’ as a noun and as a verb, an example of general semantic extension.²

2.2 Summary of Clines in Pacoh

Four kinds of grammaticalization of Pacoh pronouns are considered in this study, as summarized in Table 2, which contains categories and formalism used in Heine and Kuteva’s (2002) catalogue of grammaticalization chains. With the exception of Table 2, this article does not employ the same categories and directions of grammaticalization used by the work of Heine and Kuteva, in which all capital letters and arrow symbols indicate the direction of change. Instead, syntactic properties are indicated loosely with commonly used grammatical terms, such as ‘noun’ and ‘preposition’, ‘possessive’ and ‘dative’, and ‘human’ and ‘plural’.

Table 2: List of Grammaticalization Clines of Pacoh Pronouns

1	<i>?a.dɔ:₂</i>	PRONOUN, 3 rd DATIVE > DATIVE
2	<i>?n.dɔ:₂</i>	PRONOUN, 3 rd POSSESSIVE > POSSESSIVE
3	<i>?a.pɛ:₂</i>	PRONOUN, 3 rd PLURAL > PLURAL
4	various	PRONOUN > CONJUNCTION

While Heine and Kuteva provide an extensive list of types of grammaticalization among languages of the world, Pacoh (and other Southeast Asian languages, as discussed in § 4) show a few clines not mentioned by those authors, though the Pacoh clines discussed here use basic categories seen as common sources for grammaticalized forms, mostly 3rd person personal pronouns. Of the four categories discussed in this paper, only category 3 (PLURAL) is listed in Heine and Kuteva, although category 4 is similar to their category DEMONSTRATIVE > CONJUNCTION since 3rd person pronouns are semantic correlates of

¹ This author considers what are commonly called classifiers, measure words, and the like to be a subclass of nouns. Justification for this is in Sak-Humphrey 1996 and Alves 2000.

² Though a type of grammatical change nonetheless that is paralleled in other parts of English in which nouns are derived as verbs, a kind of N → V rule.

distal demonstratives. Category 1 has some justification as an areal or possibly genetically unmarked type of change within the Mon-Khmer language group as it is seen in another language in another branch of Mon-Khmer, namely, Palaung/Bulang, which is spoken in areas of northern Burma and bordering areas of Yunnan province in China and thus could not have had language contact (see § 4).

What Heine and Kuteva's formalism, which uses very general semantico-syntactic categories, does not show is that the first three categories preserve the primary part of speech (i.e., noun) and that the last category, while changing part of speech, does preserve features related to the human pronouns, namely that human nouns co-occur with those derived conjunctions, in some cases even requiring a kind of agreement in plurality (see § 3.3). In each case, some properties change, while others are kept. When a more distinct change has occurred, typically, there are intervening steps, changes of single syntactic features which lead to subsequent changes further from source meanings. While these changes can be seen in terms of semantic extension due to implied semantic relationships and reanalysis, the changes in each case follow pre-established syntactic categories and features.

2.3 *Relator Nouns in Mon-Khmer Languages and Homophony*

Relator nouns,³ like adpositions, indicate spatial, directional, or possessive relationships between nouns, or they may indicate directions or locations of verbs. Thus, they tend to have semantic properties similar to prepositions in English, but with somewhat different distributional properties. Relator nouns are inalienably possessed (Indrambarya 1984, Sak-Humphrey 1996) and so cannot be connected to morphemes that already carry possessive semantic features (such as Pacoh *ʔən* mentioned in §3.1.1), though they are, as nouns, able to take following demonstratives. Furthermore, they are entirely uncountable and cannot be the semantic heads in quantified noun phrases. Hence, such words serve very specific grammatical purposes and thus have specialized syntactic features and relatively abstract semantic properties.

Pacoh, like most Mon-Khmer languages and other Southeast Asian languages, has a set of locational relator nouns⁴ to indicate various substantive locations, such as 'front' (as opposed to 'before'), 'back' (as opposed to 'behind'), and the like. Such words themselves have often down the path of grammaticalization from the semantically concrete to the more abstract (e.g., 'face' to 'front' to 'before (time)'), from a specific, concrete part of something to a general area.

The question then is how the source and target meanings in a grammaticalization chain are related. I take the view that the mental lexicon distinguishes between homophonous forms through syntactic and/or semantic distinctions, rather than an approach involving polysemy. Viewing words variously as polysemous or homophonous (e.g., 'to' as a movement direction is a different word than 'to' in an infinitive but polysemous with 'to' as a dative goal) results in ad hoc explanations that cannot be decisively proven or refuted.

³ The term 'relator noun' has been used largely in literature using the Lexicase dependency theory. Justification for these words as nouns is their ability to take following demonstrative noun dependents and for their functions as locative objects of verbs and prepositions.

⁴ Pacoh does have a limited set of prepositions. See Alves 2000 for examples.

In the perspective of this paper, grammaticalization is, in the case of words, the creation of new words in the mental lexicon rather than simply multiple uses of a word.⁵

3 The Pacoh Pronouns

Pacoh pronouns were first described in Watson 1964, though Table 3 (and the transcriptions) below comes from Alves 2000. The basic set of Pacoh pronouns is divided into nine categories by three dimensions of person (1st, 2nd, and 3rd) and three dimensions of plurality (singular, dual (two persons), and plural (three or more persons)). The forms in the basic set (under the column ‘General’) are used as subjects, direct objects, and possessives in the postnominal position. The dative pronouns are used as direct objects of ditransitive verbs and as complements of a special class of Pacoh verbs.⁶ Finally, the possessive pronouns are used after nouns, generally just marking possession but sometimes acting as possessive predicates.

Table 3: *Pacoh pronominal nouns*⁷

NUMBER	PERS.	GENERAL	DATIVE	POSSESSIVE
Singular	1st	ki:	?a.ki:	?ŋ.ki:
	2nd	maj	?a.maj	?m.maj
	3rd	dɔ:	?a.dɔ:	?n.dɔ:
Dual-Plur.	1st	paŋ	?a.paŋ	?n.paŋ
	2nd	?i.ŋa:	?a.dɔ:-?i.ŋa:	?n.dɔ:-?i.ŋa:
	3rd	?a.ŋa:	?a.dɔ:-?a.ŋa:	?n.dɔ:-?a.ŋa:
Plural	1st	hɛ:	?a.hɛ:	?ŋ.hɛ:
	2nd	?i.pɛ:	?a.dɔ:-?i.pɛ:	?n.dɔ:-?i.pɛ:
	3rd	?a.pɛ: / ŋa:j	?a.dɔ:-?a.pɛ: / ŋa:j	?n.dɔ:-?a.pɛ: / ŋa:j

The affixes appear only on monosyllabic base forms. The means of marking those bisyllabic forms is by adding the dative or possessive 3rd pronoun before them. This solution to the pronoun case-marking paradigm may have led to the further grammaticalization of those particles; this rule may have been generalized to include ordinary non-pronominal nouns, though they could as well be the result of the grammaticalization. It is important to realize that grammaticalization involves semantic shift that leads to the native speaker’s lack of awareness of the original forms. That is, there is no conscious effort on the native speaker’s part to add these pronouns as pronouns, but as grammatically-significant and phonologically-bound material, essentially bound morphemes.

⁵ Taking the definition of ‘word’ as a unit distinguished by sound, meaning, and distribution precludes the idea of a word having more than one meaning.

⁶ See Alves 2000 for additional discussion and examples.

⁷ The morphology is generally transparent. The affix /?a-/ marks the dative pronouns, while the /?n-/ prefix marks possession. Watson 1964 claims that /?a-/ was originally a preposition, but no form exists in Pacoh currently to support this claim. The /?n-/ prefix is clearly related to the relational particle /?ən/, which is used to at the heads of relative clauses. Additional prefixes are used to distinguish 2nd and 3rd person (/?i-/ and /?a-/ respectively) in the dual and plural categories.

3.1 *Pacoh Pronouns and Relator Nouns*

From both the dative and possessive 3rd singular pronouns in Pacoh, relator nouns have developed. This section describes (1) locational and possessive relator nouns and (2) directional prepositions in Pacoh and shows how the Pacoh pronouns have overlapped in semantico-syntactic fields with other grammatical vocabulary and syntactic patterns.

3.1.1 The Possessive Relator Noun

The possessive 3rd person singular pronoun, *ʔn.dɔ:₁*, is the historical source of the possessive relator noun, *ʔn.dɔ:₂*. While this relator noun can take both human and non-human complements, it most often takes human noun complements, as in S1.

S 1: Possessive pronoun and relator noun

(a) ‘His/her house’	(b) ‘The house of that fellow’
duŋ ʔn.dɔ:₁	duŋ ʔn.dɔ:₂ ʔa.ca:j
house of-3s	house of brother/that fellow

For non-human nouns, possession is indicated by immediate juxtaposition of the nouns, though the form *ʔən*, which heads modifying clauses, may be used between the two nouns, as in S2.

S 2: Universal possessive marker

‘The teacher’s house’ ⁸		
duŋ ʔən tʰəj		
house of teacher		

The result of language contact with Vietnamese may have resulted in a calque that fits the function of the Vietnamese possessive relator noun *của* ‘possession of’ (see Thompson 1985:340), which has no semantic restrictions on noun types. S3 is a translation of Vietnamese by a Pacoh speaker (on the topic of administrative divisions in Vietnam), which may be precisely the starting point for the Vietnamese usage.

S 3: Possessive relator noun with non-human complement

‘Three provinces of Vietnam’			
pɛ: tij	ʔn.dɔ:₂	viət.na:m	
three province	of	Vietnam	

In brief, both forms are possessive nouns, the semantico-syntactic common denominator. The change is from pronoun to relator noun, a change in lexical subcategory, as shown in Table 4. The human feature of the relator noun appears to be in the process of expanding its usage to non-human nouns as well. However, the possessive marker *ʔən* is at this point the universal marker of possession in Pacoh (and it modifies relative clauses in general) and thus has the upper hand in competition for dominant usage.

⁸ Sentence samples, when not given specific sources, are from my personal field notes taken in Vietnam in 1997 and 1998.

Table 4: Feature changes from possessive to relator noun

ʔn.dɔː_1	ʔn.dɔː_2 (current)	ʔn.dɔː_2 (in development)
noun possessive pronoun human	noun possessive relator human	noun possessive relator any

3.1.2 The Dative Relator Noun

The 3rd person dative pronoun ʔa.dɔː_1 , as shown in S4, has a corresponding dative relator noun ʔa.dɔː_2 , as in S5. This relator noun has similar semantic and syntactic functions to that of the English dative prepositions ‘to’ and ‘for’.

S 4: Dative pronoun

‘What did you give to him?’
 ʔa.məh maj ʔɔːn ʔa.dɔː_1
 what you give to 3s

S 5: Dative relator noun

‘They give gifts to the girls.’
 ŋaːj ʔɔːn pi.neːʔ ʔa.dɔː_2 ku.mɔːr
 3s give gift to girl

The relator noun has lost its semantic association with humans; it can take either human noun complements as in S5 or non-human nouns as in S6. In S6, no linking verb is needed since, in Pacoh, a noun alone can be the head of a predicational phrase.

S 6: Dative relator noun with non-human

‘The *kup* trap is for mice.’
 kip ʔa.dɔː_2 ʔa.bil
kup trap for mouse

In sum, the grammaticalization path in this instance is from a 3rd person singular dative pronoun to a general dative relator noun that can co-occur with any kind of noun, human or non-human. Whether or not there was an intermediate step in which only human nouns could be the complements of these cannot be answered without more data. Table 5 summarizes both the feature constants and changes.

Table 5: *Feature changes from dative pronoun to relator noun*

ʔa.do:_2		ʔa.do:_2
noun		noun
dative		dative
pronoun	→	relator
human	→	any object

3.2 The 3rd Person Plural Pronoun and the Quantifier

The 3rd person plural pronoun ʔa.pɛ:_1 ‘a few (persons)’ is the source of an indefinite numeral, ʔa.pɛ:_2 , that can only mark plurality on human nouns, as in S7. This change from 3rd person pronoun to a plural marker is a notable entry in Heine and Kuteva (Ibid: 237-238), reoccurring in numerous languages.

S 7: Person and non-person numerals

‘A few guys’

ʔa.pɛ:_2 ʔa.ca:j
 a few brothers/guys

The grammaticalization could be a reanalysis of the use of a noun phrase consisting of the pronoun plus a modifying complement (the relativizer ʔən plus a noun), as in S8. There, the form is still a pronoun that takes a noun predicate adjective clause meaning roughly ‘those few there who are women.’

S 8: ʔa.pɛ: as a pronoun with a modifier

‘Those few women’

ʔa.pɛ: ʔən kan
 3rd plur. rel. woman

The complete change in semantic status is demonstrated by the fact that the noun complement may have other than 3rd person reference. In S9, the noun has 2nd person reference.

S 9: ʔa.pɛ:_2 as an indefinite numeral

‘Do **you** three young ones understand?’

ʔa.pɛ: ʔa.ʔɛ:m cɔ:m $\text{ləj}^?$
 a few youngster know yes-no?

Thus, the change has gone from 3rd person plural pronoun to a plural numeral noun. While retaining the status of noun, the subcategorizing properties have shifted from pronominal to numeral and from 3rd person to any reference (more semantic features), while the features ‘plural’ and ‘human’ remain. Table 6 shows the constant and changed features.

Table 6: Feature changes from pronoun to quantifier

ʔa.pɛ:₁	ʔa.pɛ:₂
Bnoun	noun
pronoun →	numeral
3 rd person →	any
human	human
plural	plural

3.3 Pacoh Pronouns as Conjunctions

While in Pacoh the general coordinative conjunction *ʔa.lɪŋ* ‘and’⁹ has no semantic restrictions on co-occurring nouns, there is a set of ‘human’ conjunctions that are related to plural personal pronouns. These conjunctions require their complements to be human, second or third person, and consist of either two or more than two nouns. Table 7 lists the forms and the type of complements they take, as discussed in S. Watson 1964. The table shows the conjunction forms, the required number of co-occurring nouns, and the noun reference that is expected for each.

Table 7: Noun complements of ‘human’ conjunctions

FORM	NO.	PERSON
ʔi.ɲa:₂	2	2 nd dual
ʔa.ɲa:₂	2	3 rd dual
ʔi.pɛ:₂	3+	2 nd plural
ʔa.pɛ:₂	3+	3 rd plural

Watson (*ibid.*) also notes that the forms *ʔa.ɲa:₂* and *ʔa.pɛ:₂* can take a combination of a singular noun and a semantically plural noun. There is semantic agreement between the factors of number and person. In each case, the required features of the complements of the conjunctions match the features of the homophonous pronoun forms. In S10a, the conjunction takes two 3rd person nouns, while in S10b, the conjunction takes a 2nd person noun.

S 10: Person conjunctions

- | | |
|-----------------------------|---------------------------|
| (a) ‘mother and father’ | (b) ‘you and Cubuat’ |
| ʔa.ʔi: ʔa.ɲa:₂ ʔa.ʔam | maj ʔi.ɲa:₂ ku.buət |
| mother and father | 2s and (name) |

In data I collected in 1997 from Pacoh speakers who were 16 to 20 years old, *ʔa.ɲa:* ‘and’ is used without regard either to the quality of the noun (human or non-human) or the number of complements involved, as in S11. Apparently, the reduced semantic restrictions have increased the syntactic utility. Unless this turns out to be a regional vari-

⁹ This form also represents the preposition ‘with’. The distributional differences of these two concepts warrant the differentiation of them as two distinct words in the mental lexicon. This is in line with my view of homophony over polysemy.

ant,¹⁰ the conjunction paradigm described by Watson may be in the process of being lost, and a third word, the conjunction *ʔa.ɲa:₃*, is becoming dominant.

S 11: *ʔa.ɲa:* with non-human noun dependents

‘Two knives and a hoe.’

ba:r lam ʔa.ci:w ʔa.ɲa:₃ mɔ:j lam kuək
two (unit) knife and one (unit) hoe

The grammatical cline, thus, goes from personal pronouns, to conjunctions that take only persons with matching numbers, to a general single pronoun becoming the default pronoun. In terms of semantico-syntactic categories, the change is from pronoun to conjunction (syntactic category), agreement of number to any number (semantico-syntactic), and from human to general (semantic field). While the change of part of speech seems drastic, the other two syntactic features, number and type agreement, remained constant to the second form, reducing the apparent severity of the change.

Table 8: *Feature changes from pronoun to conjunction*

<i>ʔa.ɲa:₁</i>	<i>ʔa.ɲa:₂</i>	<i>ʔa.ɲa:₃</i>
Noun →	conjunction	conjunction
Agreement	agreement →	any
Human	human →	any

4 Comparison with Other Mon-Khmer Languages

Were these cases of grammaticalization restricted only to Pacoh, they might be considered as mere linguistic quirks, not approaching the level of universality. However, these changes do indeed appear in other Mon-Khmer languages. The connection between the 3rd person plural pronoun and a general marker of plurality is seen in a language closely related to Pacoh, Katu, having the 3rd person plural pronoun *ʔa.pe:* which is related to the plural marker (Nguyen V. L. and Nguyen H. H. 1998:192, 211). Furthermore, in Katu, Bru, and Taoih (and presumably other Katuic languages), there are additional remnants of the dative forms that have some similar functions. Similarly, in the Vietic language Rục (spoken somewhat north of the Katuic languages), the 3rd person singular pronoun *ʔa.pa:¹* is related to a plural marker, very similar to that in Pacoh (Nguyen V. L.: 97, 106).

In a language spoken farther away, Palaung (in Myanmar and bordering areas in Yunnan, China) shares a few surprising similarities of grammaticalization clines. Specifically, the 3rd person singular pronoun *ga:r* is the apparent source of the conjunction ‘and’ (Milne: 18, footnote). Two other 3rd person singular pronouns *de:* and *ʔə:n* (which is very similar to Pacoh *ʔən*, as well as the same word in other Katuic languages) is related to a

¹⁰ Most of the speakers I sampled were from A-Luới district, Thừa-Thiên/Huế Province, Central Vietnam. However, as that is a major district and maintains somewhat higher social status than in other areas of Pacoh speakers, this could indeed represent a general change in progress.

possessive relator noun (Milne: 18 and 19). Finally, the same Palaung form ʔə:n is a general relative pronoun (Milne: 32), used in the same way as the nearly homophonous form in Katuic languages. Finally, in an admittedly less interesting example, Khasi has a set of clause-linking words that all contain a suffix [-ta] which is derived from the demonstrative ta ‘that’ (Nagaraja 1985:100).

There is both the possibility of close linguistic affiliation and language contact, though in the case of Palaung, the distance makes the contact factor unlikely if not impossible. Then the matter becomes one of a reconstructable innovation or typological similarity based on shared linguo-cultural cognitive organization.

5 Summary

Grammaticalization is a place to explore the way human cognition organizes reality within linguistic categories. While it appears to shift primarily along semantic lines, lexical categories as syntactically defined also play a part. Syntactic constraints as part of a contemporary state of the grammar of a language are the guidelines along which semantic forces move. While features are ultimately an analytical tool, they may actually be closer to the means by which the linguistic faculty changes, at least in a somewhat abstract manner.

The actual impetus for these changes may be multifold. The three most notable factors appear to be connecting of phonological material, reanalysis of juxtaposed elements, and language contact. The dative and possessive pronouns themselves are the result of the fusion of syllables with words resulting in prefixes. Reanalysis, ultimately a kind of unpredictable change, is seen in the cases of change from noun to noun (following noun dependents/complements) and from noun to conjunction (existing conjunction). Moreover, as Pacoh is a language that utilizes reduplication, topicalization, but few overt grammatical-marking elements, these instances are clearly places where reanalysis leading to grammaticalization may occur. Add to that language contact with Vietnamese (the possessive marking *của*, and the pluralizing Sino-Vietnamese word *các*), and it would be a surprise if reanalysis and grammaticalization didn’t occur.

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NEGATION IN LAI

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In this discussion, we want to determine the syntactic position of the Lai¹ negative particles *lo* and *hlah*. In English, the negative particle *not* follows the finite verb.

- (1) *We do not know.* (21:27)
- (2) *I do not know you.* (25:12)²

In sentences like these, the finite verb is *do*, an auxiliary with no obvious meaning; if *not* is removed, this auxiliary disappears, and the verb following *not* becomes the finite verb.³

- (3) *we know*
- (4) *I know you*

In the corresponding yes/no questions, the finite verb appears preceding the subject; in this case *do* remains even if *not* is removed.

- (5) *do we not know?*
- (6) *do we know?*
- (7) *do I not know you?*
- (8) *do I know you?*

If the finite verb is *be* or *have*, or if it is a modal auxiliary such as *will*, then the removal of *not* has no further effect on the sentence.

- (9) *He is not here;* (28: 6)
- (10) *you will not see me again,* (23:39)
- (11) *he is here*
- (12) *you will see me again*

¹ Lai is a Tibeto-Burman language of the Kuki-Chin(-Naga) group, spoken primarily in Central Chin State, Myanmar.

² The examples accompanied by chapter and verse citations are taken from the text of the Gospel according to Matthew, in the Revised Standard Version for English and *Lai Baibal Thiang* (1978) for Lai.

³ English has a more colloquial style in which negation appears as a suffix *-n't* on the finite verb:

- (1') *we don't know*
- (2') *I don't know you*
- (9') *he isn't here*
- (10') *you won't see me again*

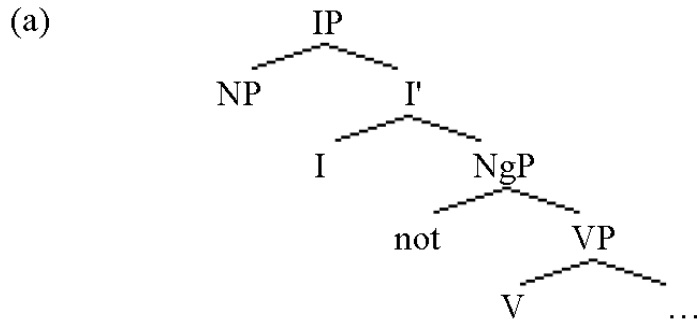
This style is generally avoided in the RSV. The arguments in this paper are preserved in both styles of English negation.

Shoichi Iwasaki, Andrew Simpson, Karen Adams & Paul Sidwell, eds. *SEALSXIII: papers from the 13th meeting of the Southeast Asian Linguistics Society* (2003). Canberra, Pacific Linguistic, 2007, pp.13-23.

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- (13) *is he not here?*
 (14) *is he here?*
 (15) *will you not see me again?*
 (16) *will you see me again?*

These facts concerning the English negative particle *not* lead to the conclusion that the syntactic structure of an English negative sentence is as in (a).



The position of the finite verb is labelled I, an abbreviation of 'inflection'. In sentences like (1) and (2), the verb *know* appears in the V position. The English suffixes *-s*, marking agreement in the present tense with a third person singular subject, and *-d*, marking the past tense, originate in I; if they are adjacent to the V position, as in (3) or (4), then they appear as inflections of the verb: *knows* or *knew*; but if the sentence is negative or a yes/no question this is blocked and *do* appears to support the suffix. Examples like (1) and (2) show that there is a similar inflection in the other forms of the present tense, which has no phonological shape. *Be* and *have* may appear either in I or in V, but they take priority over *do* in the I position. Modals like *will* appear only in I, and they do not co-occur with the inflectional suffixes. *Not* appears in the Ng position, as head of NgP (negative phrase).

Sentences (17) and (18) are Lai versions of English (1) and (2). Lai is a head-final language as opposed to head-initial English, and the word order of Lai is generally the mirror image of that in English. One exception is the subject, which precedes the finite verb in both languages.

- (17) *Kan hngal lo*, (21:27)
 (18) *Kan hngal hrimhrim hna lo*, (25:12)

The Lai negative particle *lo* is typically located at the end of a clause, following the finite verb. No verb in the same clause can follow it. Various particles can come between the finite verb and *lo*. In (17) the finite verb is *kan hngal* 'we know', directly followed by *lo*. In (18), the verb is followed by the adverbial *hrimhrim* 'certainly' and *hna*, the object plural marker, which both precede *lo*. If *lo* is removed, these examples appear as (19) and (20).

- (19) *kan hngalh*
 (20) *kan hngalh hrimhrim hna*

The form of the verb *hngal* 'know' changes to *hngalh*; this change however has nothing to

do with the finiteness of the verb.⁴ In (17) as well as (19), *kan* is the first person plural subject agreement marker attached either to *hngal* or to *hngalh*. In (18) as well as (20), *kan* is a combination of the first person singular subject agreement marker *ka* with the second person object agreement marker *in*; *hna* after the verb indicates that the second person object is plural, and really is part of the finite verb.⁵ In neither example is the subject or object overtly present.

The Lai sentences (21) and (22) are likewise versions of English (9) and (10).

(21) *Amah cu hika ah hin a um ti lo*, (28: 6)

(22) *na ka hmu hrimhrim ti lai lo*, (23:39)

Lai does not treat the verb *um* 'be (location or existence)' in (21) differently from any other verb, and its future particle *lai* 'will' in (22) follows the finite verb but precedes the negative particle *lo*. Another adverbial particle illustrated in both sentences is *ti* 'any longer'. *Amah cu* 'he/she' in (21) is an overt subject preceding the finite verb, which might be omitted. It is paired with *a*, the third person singular subject agreement particle, part of the finite verb *a um* 'he is'. In (22) *na* marks agreement with a second person singular subject and *ka* with a first person singular object. If *lo* is removed from (21) or (22), the result will be as in (23) or (24).

(23) *hika ah hin a um*

(24) *na ka hmu hrimhrim lai*

The verb *um* in (21) and (23) does not show variation depending on the presence of *lo*, but in (22) and (24), there is variation between *hmu* and *hmuh* 'see' parallel to that seen in (15) and (16) versus (17) and (18). There is no difference in the Lai verb in yes/no questions either, as shown in (25) to (28) corresponding to English (5), (6), (13) and (14). The Lai yes/no question particle *maw* follows the negative *lo*.

(25) *kan hngal lo maw?*

(26) *kan hngal maw?*

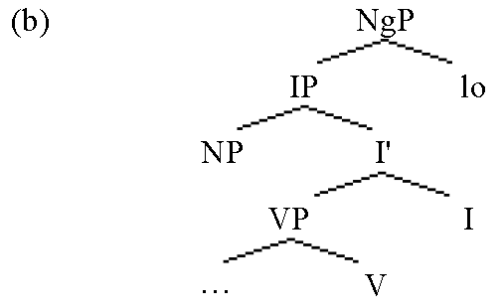
(27) *hika ah a um lo maw?*

(28) *hika ah a um maw?*

These facts lead to the conclusion that the syntactic position of *lo* in a Lai sentence is different from that of *not* in an English sentence, as can be seen by comparing (b) with (a) above.

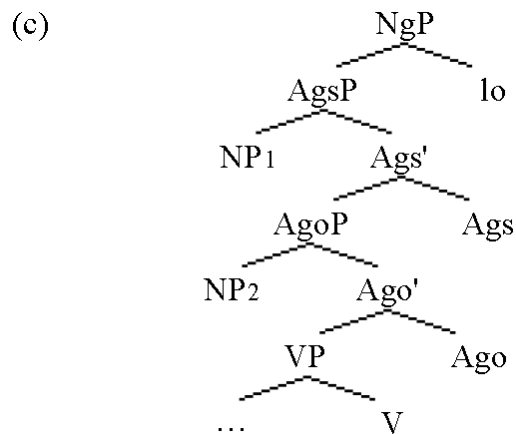
⁴ In the literature about this stem variation, *hngal* is called the 'stem I form' and *hngalh* the 'stem II form'. In Lai, stem II appears if the sentence is transitive and affirmative, stem I if it is transitive and negative. For a general discussion, see Kathol and Vanbik (1999).

⁵ See Bedell (1995) for a discussion of the agreement system of Lai.



In English, *not* is located beneath IP and above VP, thus accounting for its typical position within the sentence, following the finite verb. In Lai, *lo* is located above IP, thus accounting for its typical position at the end of the sentence, following the finite verb. The location of *not* in English, together with the inversion of the subject and finite verb in yes/no questions, provides crucial evidence that the I and V positions are distinct. In Lai, where negation (*lo*) does not intervene between I and V, and in which a yes/no question is marked by a particle (*maw*) rather than by inversion, negative sentences and yes/no questions do not offer evidence in favor of a distinction between I and V.

Nevertheless, the subject agreement particles of Lai (*ka*, *na*, *a*, and *kan* illustrated in (16), (22), (21) and (15)) constitute a kind of inflection, and we will assume that they behave syntactically like the English inflectional suffixes; that is, they belong to a category like I located above VP and below NgP. In Lai tense is distinct from subject agreement, so that this category might be labeled Ags rather than I. Since Lai has object agreement in addition to subject agreement we assume further that object agreement (*ka* in (22) and *-n ... hna* in (21)) belong to a distinct category Ago, located above VP but below subject agreement. That is, a more complete Lai structure will be as in (c).



Here NP1 is the subject position and NP2 the object position. In English the finite verb is composed of V with an I suffix; in Lai the finite verb is composed of V with particles both preceding and following.

In addition to its basic sentence negative particle *not*, English has a number of other types of words which incorporate negation. For example, it has negative pronouns like *no one* or *nothing*, which occur in the same syntactic positions as other pronouns.

(29) *when Pilate saw that he was gaining nothing*, (27:24)

(30) *there has arisen no one greater than John the Baptist*; (11:11)

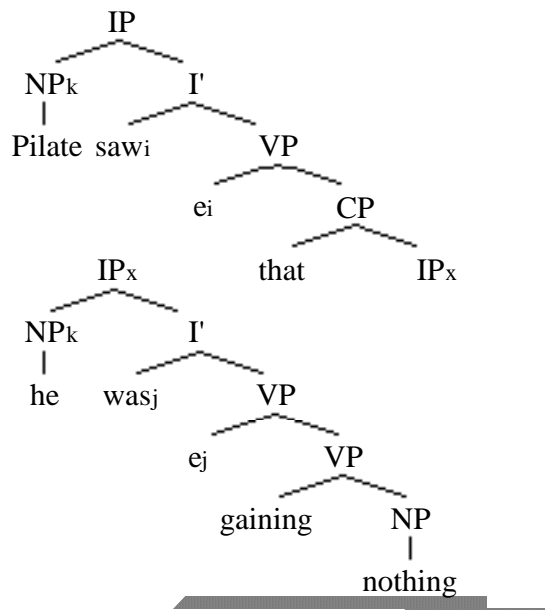
No one or *nothing* is often equivalent to *not* accompanied by an indefinite pronoun *anyone* or *anything*.

(31) *when Pilate saw that he was not gaining anything*

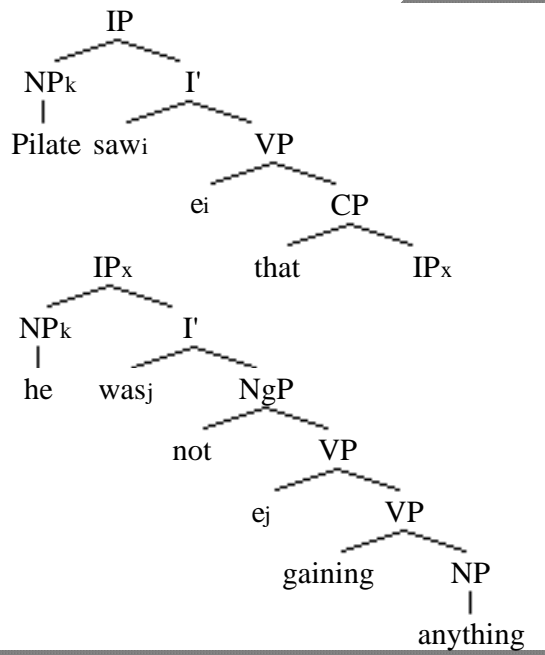
(32) *there has not arisen anyone greater than John the Baptist*

Thus the meaning of (31) and (32) are the same as (29) and (30) respectively. The syntactic structure of (29) is shown in (xxix) and that of (31) in (xxxi).

(xxix)



(xxxi)



There is, however, a restriction on this equivalence: if *no one* or *nothing* is the subject of a sentence, then an equivalent with *not* in the usual sentence negation position and *anyone* or *anything* in subject position is not available.

(33) *Because no one has hired us.* (20: 7)

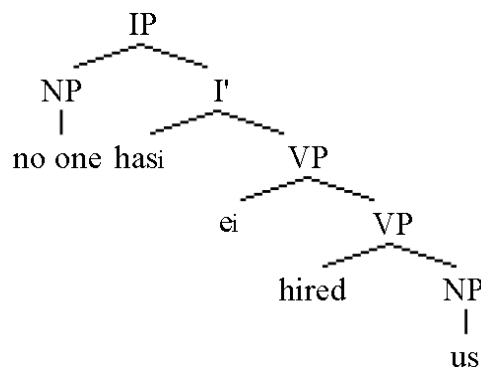
(34) *so fierce that no one could pass that way.* (8:28)

(35) **because anyone has not hired us.*

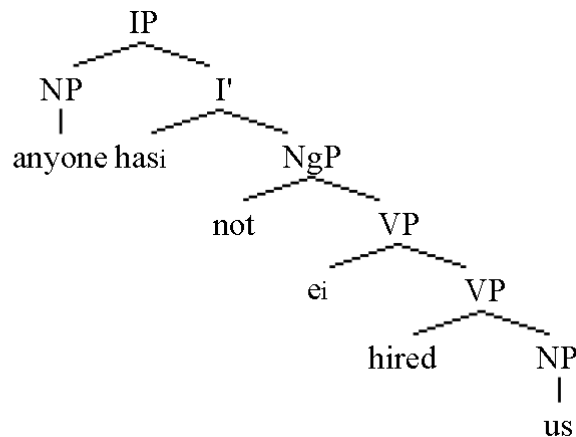
(36) **so fierce that anyone could not pass that way.*

(35) and (36) are completely ungrammatical. The syntactic structures of (33) and (35) are given as (xxxiii) and (xxxv).

(xxxiii)



(xxxv)



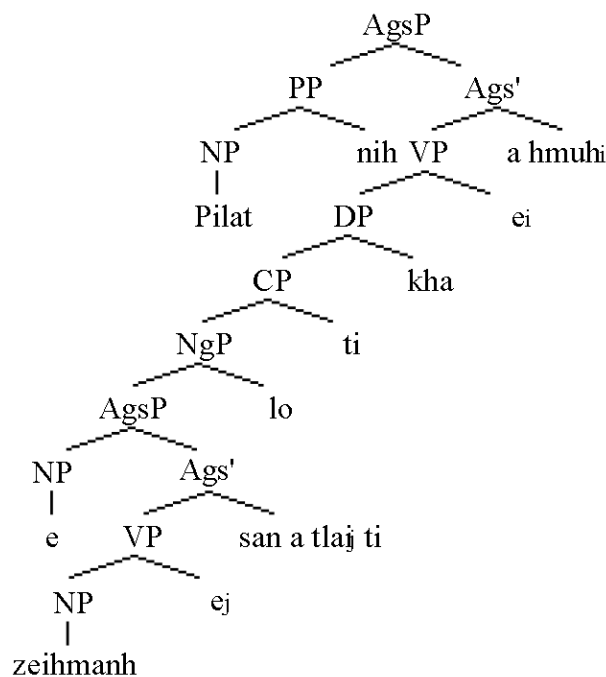
The difference between sentences like (31) and (32) on the one hand and (35) and (36) on the other clearly has to do with the relative syntactic positions of *not* and the indefinite pronoun *anyone* or *anything*. We assume that *not* has a syntactic scope defined as everything within the negative phrase (NgP) of which it is the head, and that the indefinite pronoun must be within that scope in order to have the meaning of a negative pronoun. If so, we can see that the possibility of the *not ... anyone* or *not ... anything* variants depends directly on the position of *not* in English as shown above in (a). The subject is the only NP position which is not within the scope of *not*.

Lai has no negative pronouns corresponding to English *no one* or *nothing*. But it does have indefinite pronouns *ahohmanh* 'anyone' and *zeihmanh* 'anything', which are composed of *aho* 'who' and *zei* 'what' followed by a particle *hmanh* 'even'. These indefinite pronouns must be used in the scope of negation to express the same meaning as the English negative pronouns. Lai versions of English (29), (30), (33) and (34) are as follows, where the Lai structure in fact resembles (31), (32), (35) and (36).

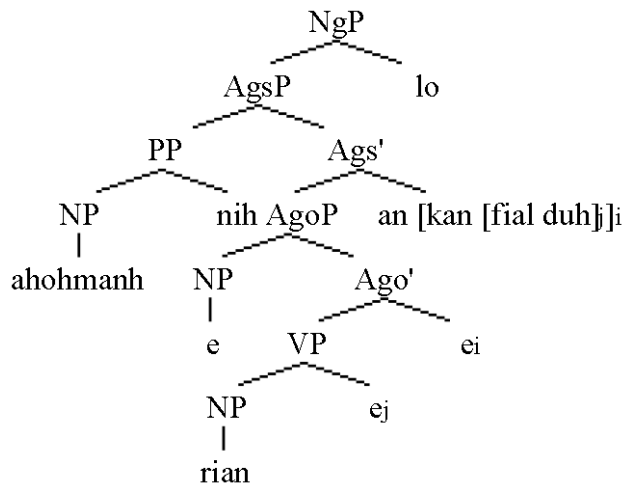
- (37) *Pilat nih ... zeihmanh san a tlai ti lo ... ti kha a hmuh tikah* (27:24)
- (38) *Johan tluk in a nganmi ahohmanh an um lo*; (11:11)
- (39) *Ahohmanh nih rian an kan fial duh lo caah a si*, (20: 7)
- (40) *cu lam ah cun ahohmanh an kal ngam lo*. (8:28)

For comparison, the syntactic structures of (37) and (39) are as in (xxxvii) and (xxxix).

(xxxvii)



(xxxix)



Lai has a second negative particle *hlah* which is used in imperative clauses, both main and subordinate.

- (41) *Lai va nawng hlah*; (19:18)
'do not murder'

Like *lo*, *hlah* always follows the verb in a sentence, but unlike *lo*, it may be followed by person and number agreement markers.

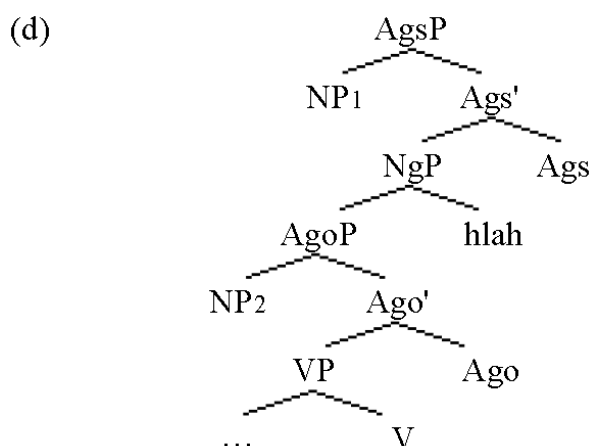
- (42) *Lai va nawng hlah u*, (5:21)
(43) *nan hawikom thrabik hmanh nih thei hlah seh*, (6: 3)
'don't let even your best friend know'

In (42) the particle *u* indicates that the negative command is addressed to more than one person, and in (43), the particle *seh* indicates that the subject of the command is third rather than second person. Both particles are distinct from those which serve the same function in declarative or interrogative clauses, but appear in affirmative imperative clauses as well.

- (44) *Tho u, nan thinphang hlah u!* (17: 7)
'get up, and don't be afraid'
(45) *Ngakchia cu ka sinah ra ko hna seh, dawn hna hlah u*; (19:14)
'let the children come to me, and do not hinder them'

Thus the first clause in (44) has a plural subject and that in (45) a third person subject. Note that the plural marker for third person imperative subjects (*hna*), differs from the second person marker (*u*) but is identical to the second and third person object plural marker, an example of which is seen in the second clause in (45).

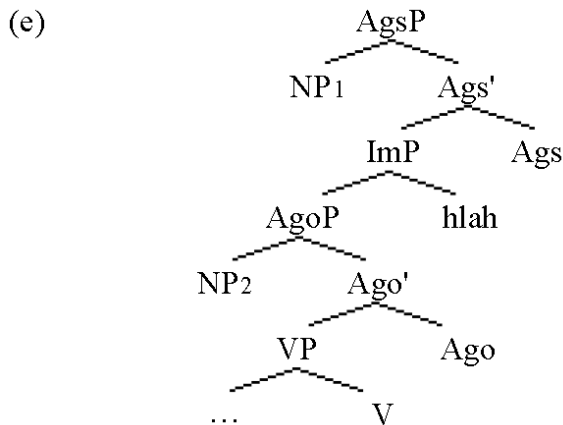
By the same reasoning used to establish the syntactic position of *lo* in (c) above, the projection headed by *hlah* ought to be below that headed by subject agreement; that is its position should be as in (d), like English *not* but unlike *lo*.



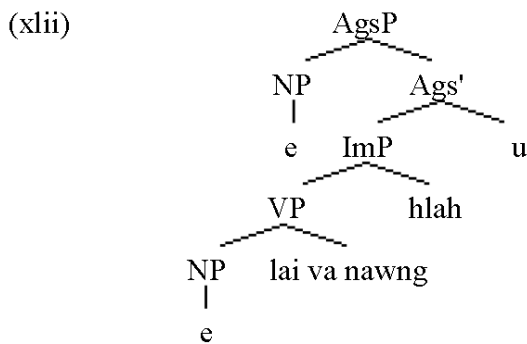
This might seem problematic, since NgP occupies different syntactic positions in different

clause types. But there is no very good reason to insist that *lo* and *hlah* must belong to the same functional category. They are both negatives, but in a language like English, negation appears as a semantic component of words belonging to a variety of categories: pronouns like *no one* or *nothing*, adverbs like *nowhere* or *never*, determiners like *no*, conjunctions like *nor*, and so on. The morphological and syntactic differences observed in sentences like (42) to (45) in comparison with (17), (18), (21) and (22) could be interpreted as *prima facie* evidence that *hlah* belongs to a different category than *lo*.

In that case, the basic structure of negative imperative clauses is something like (e) rather than (d).



In (e), ImP is headed by *hlah* which belongs to the category Im, an abbreviation of 'imperative'; *hlah* itself is then a negative mood marker rather than a kind of sentence negation. The structure of (42) will then be as in (xlii).



Finally, we might think that if the syntactic position of *hlah* is the same as English *not*, Lai negative commands ought to disallow appearance of the indefinite pronoun in subject position, as in English (35) or (36). This is incorrect, however. In (46) the indefinite *ahohmanh* is the object, inside the scope of *hlah* according to (d) or (e). In (47) by contrast it is the subject, and therefore outside the scope of *hlah* according to (d) or (e).

- (46) *Ka bia ngai, ahohmanh chim hna hlah*, (8: 4)
(Listen to my words, do not tell anyone)
- (47) *I ralring u law ahohmanh i hlenter hna hlah u*. (24: 4)
(be careful and do not let anyone deceive you)

But in fact (47) is fully grammatical as well as the only way to express its content in Lai. (46) corresponds to both English (48) with a negative pronoun and (49) with an indefinite pronoun.

- (48) *tell no one*
(49) *do not tell anyone*

(47) similarly corresponds to (50) and (51). These English sentences are not true imperatives, but complex structures with two verbs. Here *anyone* and *no one* are the subjects of the subordinate verb *deceive* but not of the entire clause.

- (50) *let no one deceive you*
(51) *do not let anyone deceive you*

In English as well as Lai, the subjects of true imperatives are typically not expressed, but indefinite pronouns may serve as subjects of negative commands, as in (52) and (54), and in English negative pronouns may serve as imperative subjects as in (53).

- (52) *ahohmanh chim hlah*
(53) *no one speak*
(54) *do not anyone speak*

Sentences like English (54) are as mysterious as those like Lai (47) and (52).

Regardless of what needs to be done to account for negative imperatives, it appears that in other sentence types, NgP is positioned differently with respect to A_gsP or IP in Lai than it is in English. This is of some general interest in the light of attempts to find constraints governing the configurations of functional categories and their projections.⁶ In particular, this discussion offers evidence that the hierarchical relations of functional categories, though roughly similar across languages, cannot be strictly universal but subject to at least some parametric variation.⁷ Though Lai is not a well known language, considerations similar to those mentioned here suggest that negation is higher than IP also in more familiar Classical Greek. Greek is Indo-European and generally head-initial like English. On the other hand in Japanese, generally head-final like Lai, negation appears to be below IP.

⁶ For details see Cinque (2002) and the references cited there.

⁷ For a similar but more unusual case, see Bedell (2001) in which it is argued that in Lai PP is positioned below DP, unlike most languages in which the reverse relation is found.

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FEET AND FUSION: THE CASE OF MALAY

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0 Introduction: Background and Data

The complex data relating to fusion (or ‘nasal substitution’) in Malay have long escaped unified analysis. Most past analyses assume that the crucial conditioning environment for the process is purely morphological. Thus, it is claimed that root-initial voiceless obstruents trigger fusion when preceded by nasal-final prefixes (Teoh (1994), Onn (1980), Zaharani (1998), and, on related data in Indonesian, Pater (1996)).

All analyses, however, suffer from incomplete coverage of the relevant data, numerous instances set aside as ‘exceptions’, if mentioned at all. In (1), which derives from Delilkan 1999, 2000, ‘•’ denotes data previously considered exceptional. Data not hitherto discussed in connection with fusion are superscripted ‘+’. Fusion occurs in all (1a) cases but is blocked throughout (1b). (Henceforth, x is root material, *x* the output of fusion, and ‘.’ a syllable break.)

(1a) Fusion

i. mən + <u>pukol</u>	mə.mu.kol, *məm.pu.kol	‘hit’, v.t.
ii. mən + <u>pəreksa</u> ⁺	mə.mə.rek.sa, *məm.pə....	‘examine’, v.t.
iii. pən + pər + <u>alat</u> + an•	pə.mə.ra.lat.ta.n, *pəm.pə...	‘utilization’, n.
iv. mən + kə + <u>muka</u> + kan•	mə.ʔə.mu.ka.kan, *mən.kə...	‘reveal’, v.t.

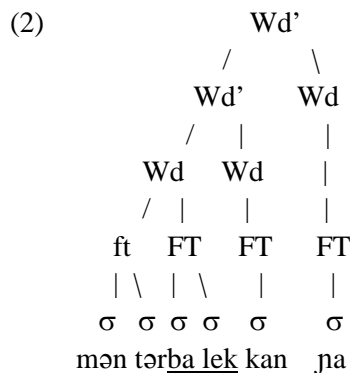
(1b) No Fusion

i. mən + pər + <u>tadzam</u> + kan ⁺	məm.pər.ta.dzam.kan *mə.mər.ta.dzam.kan	‘sharpen’, v.t.
ii. mən + <u>pəlbagaj</u> + kan•	məm.pəl.ba.gaj.kan *m.məl.ba.gaj.kan	‘diversify’, v.t.
iii. mən + <u>proses</u>	məm.pro.ses, *məm.pro.ses	‘process’, v.t.
iv. mən + <u>pam</u> •	mə.ʔə.pam, *mə.mam	‘pump’, v.t.
v. <u>tanam</u> + kan	tanam.kan, *ta.na.ʔan	‘plant’, v.t.
vi. kan + kah• (suffixes)	kan.kah, *...ka.ʔah	trans/interr.
vii. <u>tilam</u> <u>kətʃil</u>	tilam kətʃil, *tila.ʔətʃil	‘small mattress’ (noun phr.)
viii. <u>kampon</u>	kampon, *ka.mon	‘village’, n.
ix. <u>təmpojan</u> [±]	təmpojjan, *tə.moj.jan	‘urn’, n.
x. pən + <u>dapat</u>	pən.dapat, *pə.na.pat	‘opinion’, n.
xi. mən + <u>tʃipta</u> •	mən. tʃip.ta, *mə.ʔip.ta	‘create’, v.t.
xii. mən + <u>rawat</u>	mə.ra.wat, *mə.na.wat	‘nurse/treat’, v.t.

A complete analysis must clearly discriminate between these two sets of cases. My paper shows that, and how, prosodic structure crucially conditions fusion. This fact provides crucial support for seeing a unity between fusion and a range of other segmental processes (Delilkan 2002).

1 Prosodic word structure

As per Delilkan 1998, I first assume that the Malay prosodic word comprises prefix(es) and root, suffixes each projecting their own prosodic word domain, as depicted in (2), below. This differs from claims about prosodic words in Indonesian, a closely related language, to the effect that roots and suffixes together project a prosodic word (Cohn 1994). I assume further that Malay prosodic words are right-headed and that feet are trochaic, i.e., left-headed (Delilkan 1999 and forward).



‘overturn it’

The novel prosodic structure that I propose is independently motivated via reference to stress facts, asymmetries in affix vowel inventories, and the correlation between root size and prefixation potential (Delilkan 2002: Ch3). It is corroborated further by the distribution of other segmental processes besides fusion (such as nasal assimilation, sonorant deletion, and gemination) (Delilkan 1999, and 2002: Ch 5).

2 Prosodic Location of Fusion

2.1 Fusion and the Unmarked Dependent Foot

2.1.1 Heterogeneous Facts between Prefixes

In traditional accounts, the failure of fusion between prefixes in forms such as those in (3) is cited as an exception to claims that fusion occurs at the prefix right edge (Onn 1980), since the juncture between prefixes is readily construed as the right edge of the first prefix.

- (3) $\text{m}\bar{\text{a}}\text{N} + \text{p}\bar{\text{e}}\text{r} + \text{t}\bar{\text{a}}\text{d}\bar{\text{z}}\bar{\text{a}}\text{m} + \text{k}\bar{\text{a}}\text{n}$ [[$(\text{m}\bar{\text{e}}\text{m}.\text{p}\bar{\text{e}}\text{r})$ ($\text{t}\bar{\text{a}}.\text{d}\bar{\text{z}}\bar{\text{a}}\text{m}$)] ($\text{k}\bar{\text{a}}\text{n}$)] ‘sharpen’, v.t.
 *[[$(\text{m}\bar{\text{e}}.\text{m}\bar{\text{e}}\text{r})$ ($\text{t}\bar{\text{a}}.\text{d}\bar{\text{z}}\bar{\text{a}}\text{m}$)] ($\text{k}\bar{\text{a}}\text{n}$)]

Assuming the prosodic structure the current analysis imposes on such forms, as depicted in (3), Delilkan 1999 suggests instead that fusion occurs only between feet within a prosodic word, and is blocked between two prefixes because no foot boundary intervenes between them.

In the closing remarks of his ground-breaking Optimality theoretic account of the morphophonology of Malay, Zaharani (1998:271) observes that, contrary to such discussions about the juncture between prefixes, double prefixes *do* in fact exhibit fusion between them, but only when the second prefix is light, as in (4).

- (4a) mən + kə + muka + kan [[(mə.ʔə) (mu.ka)](kan)] 'reveal', v.t.
 *[[(məŋ.kə) (mu.ka)](kan)]
- (4b) pən + sə + ragam + an [[(pə.ŋə)(ra.gam)](man)] 'homogenization', n.
 *[[(pən.sə)(ra.gam)](man)]

Zaharani then leaves this work 'for future OT analyses'. I hasten to add to this point that fusion will also occur between prefixes when the second prefix is closed if the root that follows begins with a vowel, as seen in (5).

- (5) pən + pər + alat + an [[(pə.mə) (ra.lat)](tan)] 'employing as a tool', n.
 *[[(pəm.pə) (ra.lat)](tan)]

Furthermore, the prefix-trisyllabic root juncture will at times permit fusion as well, as seen in (6a), blocking it at others, as shown in (6b). Heterogeneous fusion behavior is evidently even more widespread than Zaharani's observation suggests.

- (6a) mən + pəreksa [(mə.mə) (rek.sa)] 'examine', v.t.
 *[[məm.pə) (rek.sa)]
- (6b) mən + pəlbagaj + kan [[(mə.məl) (ba.gaj)] (kan)] 'diversify', v.t.
 *[[mə.məl) (ba.gaj)] (kan)]

Neither a foot juncture hypothesis nor reference to the prefix right edge as the conditioning environment of fusion will accommodate these facts. Clearly, a new account is required.

The relevant heterogeneous fusion facts are summarized in (7), for ease of reference. (As before, italics denote a fusion segment, and underlining indicates roots. Boldface marks the dependent foot. Output shapes refer to the prefix-root complex only, on the assumption that, together, they project a prosodic word that excludes suffixes.)

(7a) Fusion occurs between two prefixes when the second prefix is closed and the root vowel-initial.

- pən + pər + oleh (+ an) pə.mə.ro.leh.han 'acquisition', n.
 Output: **Cə.Cə.CV(C).CV(C)**

(7b) Fusion occurs between two prefixes when the second prefix is light and the root consonant-initial.

- mən + kə + bumi + an mə.ʔə.bu.mi.kan 'bury', v.t.
 Output: **Cə.Cə.CV(C).CV(C)**

(7c) Fusion occurs between an N-final prefix and a trisyllabic root with an open first syllable.

məN + pərentah mə.mə.ren.tah¹ ‘rule’, v.t.
Output: **Cə.Cə.CV(C).CV(C)**

(7d) Fusion is blocked between an N-final prefix and a trisyllabic root with a closed first syllable.

pən + tərdzəmah pən.tər.dzə.mah ‘interpreter’, n.²
Output: **CəC.CəC.CV(C).CV(C)**
*pə.nər.dzə.mah
***Cə.CəC .CV(C).CV(C)**

(7e) Fusion is blocked between two prefixes if the second is closed and the root is consonant-initial.

məN + tər + balek (+ kan) ‘overturn’, v.t.
məN.tər.ba.lek... Output: **CəC.CəC .CV(C).CV(C)**
*mə.nər.ba.lek.. ***Cə.CəC .CV(C).CV(C)**

For ease of reference, I repeat the output shapes of the prefix-root complex in (7d-e) and (7a-c) as (8a) and (8b), respectively.

(8a) [(**CəC.CəC**)(CV(C). CV(C))] (No fusion)
*[(**Cə.CəC**)(CV(C).CV(C))] (Ungrammatical fusion)

(8b) [(**Cə.Cə**) (CV(C).CV(C))] (Fusion result)

The shapes in (8) merit discussion and are the focus of the following section.

2.1.2 Fusion and the Prosodically Weak Domain of a Word

Based on the shapes in (8), past accounts of the locus of fusion can no longer be upheld. To begin elucidation of a new description of the location of fusion, I make the claims in (9).

(9a) CLAIM 1: The target dependent foot in Malay is composed of two open ‘schwallables’ (i.e., schwa-headed syllables, van der Hulst, p.c. 1999), i.e., light syllables.

¹ Other examples are as follows: /məməreksa/ (*memeriksa*, ‘examine, v.t.’), /məpəlirukan/ (*mengelirukan*, ‘discombobulate, v.t.’) /məməroses/ (*memeroses*, ‘process’, v.t.), /məmərandzat/ (*memeranjat*, ‘shock, v.t.’), /məpəlimotoḱan/ (*menyelimutkan* ‘cover (as with a blanket’, v.t.), /məpəlideḱ/ (*menyelideḱ*, ‘investigate, v.t.’).

² Further examples are /pəntərdzəmah/ (*penterjemah*, ‘interpreter, n.’), /məmpəlbagai(kan)/ (*mempelbagaikan*, ‘create variety’, v.t.), and /məmpərdana(kan)/ (*memperdanakan*, ‘give primacy, v.t.’).

[[**(Cə.Cə)**.CV(C).CV(C)]³

(9b) CLAIM 2: The dependent foot in Malay may not, however, be light-heavy, shapewise.

*[[**(Cə.CəC)**(CV(C).CV(C))]

According to Mascaro's (1976) Derived Environment Effect and Kiparsky's (1973) Revised Alternation Condition, processes fail to apply within a morpheme but apply at morphological junctures only if they produce more unmarked forms. I suggest that the salient dimension of markedness for fusion in Malay is prosodic. Thus fusion occurs within the prosodically weak domain of the word, i.e., the dependent foot, triggered by the need to achieve the target output prosodic shape in (9a). In short, I claim that fusion *should* occur in the prosodically weak domain because it leaves dependent foot syllables open. However, although (9a) shows the target shape for a dependent foot, fusion may not apply if, in the process of creating a light syllable in a dependent foot, the entire foot has the shape shown in (9b). The question that needs to be answered is why the dependent foot in (9b) is undesirable. It has one coda fewer than nonfusion produces, yet it is not the correct output. The restriction here relates to a further generalization about foot typology in the language. In the next section, I take a closer look at the relevant facts.

2.1.3 Foot Typology

I argue in Delilkan 2002: §3.1 that the default foot in Malay is a trochee. I claim also that a sequence of prefixes together projects a dependent foot that ultimately rests on two schwallables. Since the syllables in this foot are both schwa-headed, there is no qualitative difference in their nuclei that would signify 'trochaicness'. Consequently, acknowledgement of the trochaic foot form in the language is achieved between the two prefixes in question in the avoidance of a sequence that is light-heavy, a sequence that would be in direct contradiction with the requirement that a trochaic foot should be strong-weak. I refer here to Winstedt's (1927, cited in Hayes 1995b) claim that only an open schwallable in Malay counts as a light syllable.⁴ Since I assume that two prefixes together project a foot, fusion between two closed schwa-headed prefixes followed by a C-initial root would produce a light-heavy foot (cf., (9b)), in direct conflict with the idea that, in a trochee, the first element is stronger than the second. (10) illustrates the undesirable foot shape in question. ('L' means 'light', 'H' 'heavy'.)

(10) *(Cə.CəC), or *(L-H)

By the restriction embodied in (10), fusion is blocked in (11). (Boldface marks the unacceptable foot.)

³ See Delilkan 2002: Appendix 3 for a list of trisyllabic roots (including fossilized reduplicants) that begin with schwallables.

⁴ This explains why initial stress is possible in a disyllabic root that begins with a closed schwa-headed syllable, but is impossible if the first syllable were an open schwallable. (Winstedt 1927, cited in Hayes 1995b:263).

- (11) mən + pər + (disyllabic C-initial root) [(məm. pər) (C...)]
 [*(mə. mər) (C...)]

In drawing the preceding conclusion, I rely on the claim that foot typologies across languages differ in terms of their definition of what counts as an acceptable foot for the language (Hayes (1995a)). Thus, some languages might require that well-formed trochaic feet be only precisely heavy-light, so that light-heavy, light-light and heavy-heavy are equally ill-formed feet. Less restrictive typologies may require only that trochaic feet *begin* with a heavy syllable, so that both heavy-heavy and heavy-light sequences are acceptable. Still others allow all sequences except one that is light-heavy, in direct contradiction of the classic heavy-light imbalance that makes a trochee. Such languages are termed “mismatch” languages (van der Hulst (1984)).

Malay shows evidence of being a mismatch language. The lack of fusion in (13) betrays the avoidance of a mismatch between the intrinsic relationship of the prefix syllables at the level of the syllable, on the one hand, and their extrinsic relationship as it relates to their shared existence in a foot, on the other. Consider (12), which shows all possible shapes of disyllabic dependent feet in Malay. (‘L’ denotes a light syllable, i.e., an open schwallable. ‘H’ denotes all other syllables.)

- | | | | |
|-------|------------------|---|-----------------------------------|
| (12a) | √(L - L) | [(sə.kə)(hən.dak)] | ‘possessing the same needs’, adj. |
| | | [(mə.mə)(ro.leh)] (+fusion) | ‘acquire’, v.t. |
| (12b) | √(H - L) | [(bər.kə)(hən.dak)] ⁵ | ‘with intent’, adj. |
| (12c) | √(H - H) | [(məm.pər)(tiŋ.gi)](kan)] (no fusion) | ‘raise’, v.t. |
| (12d) | * (L - H) | *[(mə.mər)(tiŋ.gi)](kan)] (fusion blocked) | |

Only a pair of dependent foot syllables displaying an L-H pattern is undesirable (cf. the impossible (12d)).

2.1.4 Trisyllabic Roots : Fusing and Non-Fusing

The heterogeneous fusion behavior of prefixed trisyllabic roots can now be accounted for in like fashion. Assuming that doubly prefixed disyllabic roots and singly prefixed trisyllabic roots have the same prosodic structure, I now claim that the prefix /məN/ – and the first syllable of a trisyllabic root like *terjemah* (‘translate’, v.t.) would be a closed-closed sequence (cf. 13), making fusion as undesirable an option as it was in the double prefix case.

⁵ It ought to be noted that there are exceptions to the basic pattern of fusion occurring between prefixes if the second is open. For example, ‘mengkebumikan’, pronounced without fusion between the first two (schwa-headed prefix) syllables, is a variant of ‘mengebumikan’ (/məŋəbumikan/). Note, Mismatch restrictions would not block these forms, since Heavy-Light sequences do not violate the trochaic form of the language. What would be the dependent foot in the non-fusion pronunciation is not as light as it could be, though. Given the current proposal, this means that the form is marked because a coda that would normally be targeted for removal has been preserved instead. Forms like these are mentioned in grammar textbooks as highly marked exceptions, though, and a child is expected to learn them as such. I take the acknowledged exceptionality of such forms as indirect evidence of the ‘rule’ I have proposed about the undesirability of codas in dependent feet.

- (13a) pəN + tərdʒəmah [(pən.tər)(dʒə.mah)] ‘translator, n.
*[(pə.nər)(dʒə.mah)]
- (13b) məN + pəlbagai(kan) [[(məm.pəl)(ba.gai)](kan)] ‘diversify’, v.t.
[[(mə.məl)(ba.gai)](kan)]
- (13c) məN + pərdana +kan [[(məm.pər)(da.na)](kan)] ‘give primacy’, v.t.
[[(mə.mər)(da.na)](kan)]

By contrast, in (14), fusion is permitted between a prefix and a trisyllabic root that begins with an open schwallable—a light syllable.

- (14) pəN + pəreksa + an [[(pə.mə)(reksa)(ʔan)] ‘examination’, n.
[[(pəm.pə)(reksa)](ʔan)]

The result in (14) thus patterns with the prefix pairs that are ‘closed-open’ (or ‘heavy-light’), i.e., those that do routinely permit fusion. The resulting foot in either case is ‘light-light’, a shape that presents no mismatch. Certainly, the resulting first foot is also desirable as a dependent foot, which I claim is unmarked if composed of light, /Cə/, syllables.⁶

It is worth noting, therefore, that the shape of the root involved is a critical factor in determining whether or not fusion will occur between two prefixes. A vowel-initial disyllabic root undoes the closed-closed shape in the dependent foot that blocks fusion. The final consonant of the second prefix is syllabified to provide an onset to the first syllable of the root, and the combination of fusion and this syllabification produces light syllables in the dependent foot. The relevant syllabification is shown in (15).

- (15a) məN + pər + oleh [(mə.mə)(roleh)] ‘procure’, v.t.
*[(məm.pə)(ro.leh)]
- (15b) pəN + pər + alat + an [[(pəmə)(ra.lat)](tan)] ‘using (as a tool)’, n.
[[(pəm.pə)(ra.lat)](tan)]

This pattern is echoed in trisyllabic roots, including loanwords. The English word *program* is pronounced ‘[pərogram]’ in Malay, where schwa epenthesis eliminates a potential cluster in the first syllable.⁷ When prefixed with /məN-/, the result is (16a), a form in which fusion has been permitted. (16b) shows the same result in the case of a native trisyllabic root.

⁶ I refer to Gafos (1996), who states that syllable weight is scalar, and that Cə is the lightest possible syllable in South East Asian languages.

⁷ The fact that the second cluster in the word remains relates to the four-syllable maximum on the total number of syllables a prefix and root may together comprise. See Delilkan 2002: §3.1 for discussion of other evidence for this limit, which I take as evidence of prosodic word maximal binarity. Resolution of the *first* cluster in ‘program’ is, in turn, driven by the target shape I claim for dependent feet.

- (16a) məN + pərogram + kan [[(mə.mə)(ro.gram)](kan)] ‘program’, v.t.
*[[(məm.pə)(rogram)](kan)]
- (16b) məN + səlimot [[(mə.ʃə)(li.mot)](ti)] ‘cover, as with blanket’, v.t.
*[[(məp.sə)(li.mot)](ti)]

Mismatch restrictions will not block fusion between the first two syllables in (16a) and (16b), as no ‘L-H’ sequence would be produced by permitting it. Fusion is therefore free to occur in both cases.

The current analysis thus provides a single account for the two environments that display heterogeneous fusion behavior—the juncture between prefixes and that between a prefix and a tri-syllabic root. The restriction on foot shape is not at odds with the broader prosodic analysis of fusion offered thus far. Fusion occurs if it produces a dependent foot with unmarked (light) syllables, but only if ‘Mismatch’ restrictions at the level of the foot are not violated in the process. I turn to the next piece of evidence that supports the current prosodic account of the motivation for fusion.

2.2 Fusion is Blocked by Clusters

Cluster-initial loanword roots resist fusion with N-final prefixes. Consider (17). (I include the prosodic structure the current account assumes, to aid discussion of the ungrammatical forms.)

- (17a) məN + proses [(məm)(proses)], *[(məm)(ro.ses)]⁸ ‘process’, v.t.
- (17b) məN + program [(məm)(program)], *[(məm)(rogram)] ‘program’, v.t.
- (17c) pəN + klorin+an [(pəŋ)(klorin)](nan), *[(pəŋ)(lo.rin)](nan) ‘chlorination’, n.
- (17d) pəN + frasa+an [(pəm)(fra.sa)](?an), [(*pəm)(ra.sa)](?an) ‘phrasing’, n.

The lack of fusion in such cases could perhaps be given a functionalist explanation, as the way in which the language marks loanwords. The fact of nonfusion is, however, readily explained by referring to the restrictions seen to be active elsewhere in the language. The ungrammatical outputs in (17) would have unlicensed codas in their dependent feet, codas that violate Syllable Contact Law (Venneman 1988, Kaye 1990), by which an onset must be less sonorous than its preceding coda in order to license it. Thus, for instance, in the ungrammatical forms of (17a), (17b) and (17d), /m/ in the dependent foot coda is less sonorous than /r/ in the adjacent onset. Further, fusion in the ungrammatical cases does not even produce the open syllable in the dependent foot that I have argued the process always otherwise does. In every one of the ungrammatical cases in (17), the dependent foot has closed syllables, fusion notwithstanding. Recall that in my discussion of Mismatch effects, I claimed that fusion will occur in the dependent foot only if it will not produce a marked form. This would never be the case if fusion were the strategy adopted

⁸ The lack of fusion here contrasts with the pronunciation variant of the loanword root that begins with a simple onset, *peroses* (/pəroses/). This form permits fusion when prefixed with /məN-/, resulting in /məməroses/.

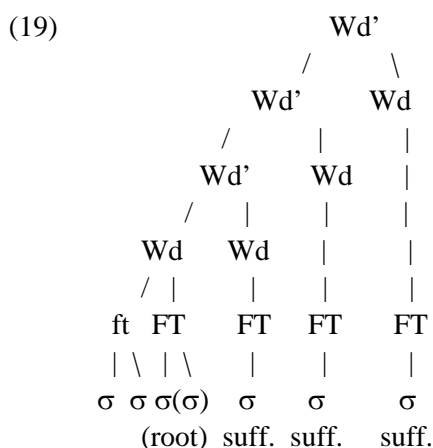
in any of the forms in (17). Thus a section of the data relevant to fusion that has consistently been cited as exceptional in the literature finds explanation in the current account, by which markedness restrictions apply to dependent feet in Malay. Such feet are shown to be subject to coda licensing restrictions, too, the effects of which are seen in consideration of sonorant deletion facts in the language (cf. Delilkan 2002: Ch5).

3 No Fusion in the Strong Domain: Head Feet and Closed Syllables

I have assumed thus far that fusion serves to produce open syllables in the dependent foot. This claim replaces the foot juncture hypothesis proposed in Delilkan 1999, but is not a sufficient description of the facts. Accordingly, I claim further that fusion is blocked between roots and suffixes, and between suffixes because in each of these cases, it would produce an open syllable in a head foot (Delilkan 2002: Ch2). Thus I assert that, unlike the case in the dependent foot, syllables in the head foot in Malay are unmarked when *closed*. (18) states this claim.

(18) CLAIM 3: Closed syllables are unmarked in head foot positions.

The claim in (18) relies on the assumptions about the prosodic structure of the language outlined in §2.0. By this structure, first posited and defended in Delilkan 1999, disyllabic roots and suffixes project head foot syllables. I repeat the relevant structure in (19). ('FT' denotes a head foot, 'ft' a dependent.)



Since head foot syllables correspond to the prosodically strong domain of a word, it can be assumed that they are prominent, where prominence is defined in terms of asymmetry (Lieberman and Prince 1977). Thus, head foot syllables are prominent relative to dependent feet. If dependent feet are unmarked when light (where lightness in Malay corresponds to the combination of openness and schwa-headedness), it is reasonable to suppose that relative prominence is achieved in the head foot via syllables that are as *heavy* as possible.

Certainly, a manifestation of this prominence is the ability of head foot syllables to bear primary stress. If a head foot syllable must be able to bear primary stress, it is then also reasonable to assume that a closed syllable is a better vehicle for such stress than an open one. There is no lack of claims in literature to the effect that languages display a correlation between syllable weight and stress bearing ability (cf. Peak Prominence (Prince

and Smolensky 1993), Stress-to-Weight Principle ((Riad 1992), Myers (1987))). Thus I claim that head feet in Malay are ideally composed of the heaviest syllables possible in the language, closed syllables. Fusion is triggered in the dependent foot in Malay because it creates light dependent foot syllables. It is, however, blocked in head foot positions, because it produces open syllables in the strong domain, syllables that are marked for that domain. (20) shows the result of ungrammatical fusion in the relevant positions, boldface denoting the open syllable produced by fusion. For completeness, I include (in (20c) and (20d), respectively) a compound and noun phrase, each a sequence of two prosodic words.⁹

(20a)	di + <u>rakam</u> + kan	[[di](ra.kam)](kan) *[[di](ra. ka)](ʔan)	‘recorded’, pass.
(20b)	di + <u>rakam</u> + kan + kah	..](kan)](kah) *..](ka)](ʔah)	‘recorded’, pass./interr.
(20c)	<u>tulan</u> <u>puteh</u>	[(tu.laŋ)][(pu.teh) *[(tu. la)][(mu.teh)]	‘white bone’ i.e., ‘dead’
(20d)	<u>tilam</u> <u>kətʃel</u>	[(tilam)][(kətʃel) *[(til a)](ʔə.tʃel)]	‘small mattress’, n.

The prosodic analysis of fusion I have presented thus far accounts for all the environments discussed thus far. I have claimed that fusion occurs when it will produce unmarked prosodic structures---open syllables in a dependent foot. It is blocked when it produces prosodically marked structures---an open head foot syllable, or a dependent foot that violates Mismatch.

4 Monosyllabic Roots and Schwa Epenthesis—another failure of fusion?

4.1. *Consequence for Dependent Foot*

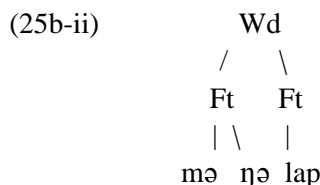
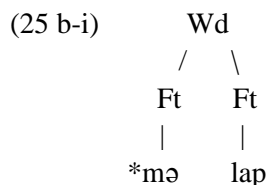
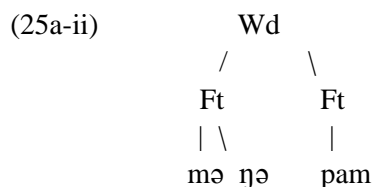
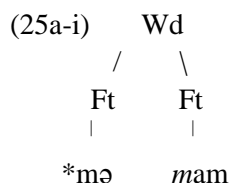
As shown in (21), monosyllabic roots do not permit fusion at their left edge when prefixed with an N-final prefix, not even when the root begins with a T (a voiceless obstruent).

(21)	məN + <u>pa</u> m	məŋəpam, *məmam	‘pump’, v.t.
------	-------------------	-----------------	--------------

According to Pater (1996) vowel epenthesis is unattested as an NT avoidance strategy in any natural language that he has investigated. At first glance, the Malay data in (21) might be taken as evidence that epenthesis is an active strategy that eliminates an NT sequence. However, it should be noted that ND sequences are subject to the very same schwa epenthesis, as are N-sonorant and N-fricative sequences as shown in (22).

(22a)	məN + <u>bo</u> m	məŋəbom, *məmbom	‘bomb’, v.t.
(22b)	məN + <u>lap</u>	məŋəlap, *məlap	‘wipe’, v.t.

⁹ These last two forms were mentioned in Delilkan 2002: Ch 3, where I took the fact that two primary stresses attended each as evidence that each comprised a pair of prosodic words.



One option would be to say that the first foot in each of the ungrammatical forms in (25) is degenerate and therefore undesirable. If this argument is used, though, there would be no way to guarantee that, for example, it is not schwa epenthesis but fusion that occurs in /məN + pukol/, resulting in the grammatical /məmukol/ ('hit', v.t., from /məN/ + /pukol/) and which, by the current analysis would begin with a degenerate foot, as in (26), below.

(26) məN + pukol [(mə)(mukol)], *[(mə.ɲə)(pukol)] 'hit', v.t.

As mentioned earlier, it is clear that the length of the root must play a part in the explanation for the schwa epenthesis in (25). Accordingly, I propose that there are two motivations for schwa epenthesis, and that the confluence of these impulses in the precise environment relating to prefixed monosyllabic roots is what sanctions the epenthesis. Both reasons have a prosodic basis.

I propose that there is a tendency in the language to disprefer sequences of word-internal monosyllabic feet. This could be interpreted as a form of "anti-clash" or "lapse" avoidance (Kager (1999:175), Eisner (1997)). If this restriction holds, the schwa insertion at the point of clash, i.e., between the feet, becomes predictable. The fact that it is a schwa that is inserted is readily explained by referring to a further unity between this epenthetic vowel and the default glottal stop insertion that occurs to resolve a hiatus in derived environments in the language (Delilkan 2002: §5.2). Both are placeless, so that there is the minimal addition of featural material associated with their insertion. This epenthesis has the added advantage of creating not only an open syllable in the dependent foot of the word, but also the most unmarked foot possible in such a position. It is binary, it is very light/weak, and it avoids Mismatch, as (27) displays. ("L" denotes a light syllable.)

- (27) mənəpam Wd
 / \
 Ft Ft
 | \
 σ σ σ
 | \
Target Dep ft: (Cə.Cə)(CVC)
 mə nə pam
 L L

This account of epenthesis unites the non-fusion case with a non-deletion of a sonorant and avoids compelling schwa epenthesis between a single prefix and a disyllabic root. Epenthesis is permitted only because of a confluence of two impulses in the language -- a preference for open syllables in the dependent foot *and* an avoidance of lapse avoidance at the level of the word.¹⁰ The potential of violating only one of these requirements is not sufficient to compel the epenthesis. Thus, epenthesis does not occur between a prefix and a disyllabic root since there is no lapse violation avoided by it. Between an open prefix and a monosyllabic root, schwa epenthesis could not be motivated by a need to produce an open syllable in a dependent foot since the prefix is not consonant-final (cf. (28).)

- (28) di + pam [(di)(pam)], *[di.ə)(pam)] ‘pumped’, v. pass.

In the ungrammatical form in (28), an undesirable hiatus would be produced in by such epenthesis. Hiatus avoidance is a priority in the language, as shall be seen in the facts of glide formation and glottal stop insertion (cf. Delilkan 2002:§5.2).¹¹

4.2 Head Feet or Elsewhere?

The precise location of schwa epenthesis follows from the prosodic structure assumed for the relevant forms. If, as argued in Delilkan 2002: Ch 3, a schwa-headed prefix projects a degenerate foot, it is boosted by such epenthesis to form a more stable disyllabic foot. There would be little sense in the epenthesis occurring elsewhere in the word to achieve lapse avoidance. Any other position in the word would produce hiatuses (cf. (29a-b)), onsetless syllables (cf. (29a-c), or--perhaps worse still--open syllables in the head foot (cf. (29d)).

¹⁰ Van der Hulst (p.c. 2002) points out that the current analysis cannot, however, be extended to explain the fact that schwa epenthesis does not occur between an r-final prefix and a monosyllabic root. He suggests that the lack of epenthesis in such cases could be the fact that a liquid like /r/ is a less desirable onset than a nasal might be, since less sonorous segments make better onsets, where the current type of epenthesis casts the prefix-final segment as an onset. I propose the further possibility that prefix final /r/ is syllabic in such cases, so that a form like *berhad* (‘limited’, adj.), from bər + had, is realized as [(br)(had)]. In such a case, the dependent foot does not contain a closed syllable that epenthesis would ‘open’. Recall also, that r-deletion is also common in rapid speech, so that [(bə)(had)] may be the output of prefixation, again with an open dependent foot syllable, and again irrelevant for epenthesis.

¹¹ In the case of glottal stop insertion, Delilkan 2002 (§5) shows that epenthesis is in fact quite clearly a costly move, reserved as a last resort to avoid hiatus.

- (29) mənN + pam [(mənə)(pam)]
 a. *[(mə.əŋ)(pam)] b. *[(mənŋ)(pə.am)]
 c. *[[əməŋ)(pam)] d. *[(mənŋ)(pamə)]

Apart from the schwa epenthesis facts of this section, the tendency in the language to favor schwallables at the left edge of a word is reflected in the fact that a large number of trisyllabic roots begin with schwallables, many of them open (cf., Delilkan 2002:App. 3). This pattern coheres with my general claims about prosody in the language. If trisyllabic roots permit single prefixation and if most prefixes are schwallables, this means that the first foot formed in such cases will be double schwa-headed---a relatively weak foot in the prosodically weak domain of the word.

A final fact relating to monosyllabic roots is that no epenthesis accompanies their suffixation. Thus, prefixed monosyllabic roots undergo schwa epenthesis whether or not a suffix is present, as in (30) (over). The facts in (30) could be taken as evidence that lapse restrictions are assessed only on the prefix-root combination, i.e. only within a prosodic word.

- (30a-i) mənN + wan mənəwan ‘provide financial support’, v.t.
 (30a-ii) mənN + wan+ kan mənəwankan ‘convert to cash’, v.t.
 (30b-i) mənN + tʃam mənə tʃam ‘recognize’, v.t./invol.
 (30b-ii) mənN + tʃam+kan mənətʃamkan ‘seek to identify’, v.t.

The suffix does not, for instance, combine with the monosyllabic root and thereby remove the lapse violation that an unepenthesized prefix-root sequence poses. However, a singly suffixed but unprefixated monosyllabic root undergoes no epenthesis either, as (31) shows. (I insert prosodic structure to aid discussion.) The lack of epenthesis in (31) directly supports my claim that head foot syllables are unmarked when closed, for in every case, ungrammatical epenthesis results in an open syllable in a head foot.

- (31a) bom+kan [(bom)](kan), *[(bo.mə)](kan), *[(bom)](ka.nə) ‘to bomb’
 (31b) lap + na [(lap)](na), *[(la. pə)](na), *[(lap)](ka.nə) ‘wipe it’

My prosodic explanation for epenthesis over non-fusion and sonorant deletion in singly-prefixed monosyllabic roots thus coheres with the larger prosodic structure proposed in the current analysis.

5 Roots and Fusion

The fact that fusion is blocked within roots is the only evidence that morphology plays a role in the distribution of fusion in Malay. Fusion can thus be termed a ‘derived environment’ effect, per Mascaro (1976). Traditional analyses of fusion and more recent ones alike have claimed that the root-internal environment resists fusion (Teoh 1994, Farid 1980, and, on Indonesian, Pater 1996). What is of relevance to the current analysis, how-

ever, is the interaction between so-called ‘Root Integrity’, on the one hand, and the posited preference for dependent feet resting on open syllables, on the other.

For the interaction between these two forces, consider the facts in (32). Once again, I insert the relevant prosodic information.

(32) sə + umpama a) [(sə.ʔum) (pa.ma)] b) *[(sə.ʔu) (ma.ma)] ‘likened to’

The fact that fusion is ungrammatical in (32b), even though a dependent foot resting on open syllables results from its application, shows that Root Integrity outweighs the prosodic drive to produce unmarked dependent feet.

6 Summary

In (33), I now recast the dataset with prosodic information superimposed.

(33a) Fusion and prosodic location

- | | | |
|------|-----------------------------------|--|
| i. | məN + <u>pukol</u> | [(mə)(mu.kol)], *[(məm) (pu.kol)] |
| ii. | məN + <u>pəreksa</u> ⁺ | [(mə.mə) (rek.sa)], *[(məm.pə) (reksa)] |
| iii. | pəN + pər + <u>alat</u> + an● | [[pə.mə) (ra.lat)](tan)]
*[[pəm.pə) (ra.lat)](tan)] |
| iv. | məN + kə + <u>muka</u> + kan● | [[mə.ʔə) (mu.ka)](kan)]
*[[məŋ.kə) (mu.ka)](kan)] |

(33b) No Fusion, and concomitant prosodic information

- | | | |
|-------|--|--|
| i. | məN + pər + <u>tadzam</u> + kan ⁺ | [[məm.pər) (ta.dzam)] (kan)]
*[[mə.mər) (ta.dzam)] (kan)] |
| ii. | məN + <u>pəlbagaj</u> + kan● | [[məm.pəl) (ba.gaj)] (kan)]
*[[mə.məl) (ba.gaj)] (kan)] |
| iii. | məN + <u>proses</u> ⁺ | [(məm) (pro.ses)] *[(məm)(ro.ses)] |
| iv. | məN + <u>pam</u> ● | [(mə.ŋə) (pam)], *[(mə) (mam)] |
| v. | <u>tanam</u> + kan | [[ta.nam)](kan)], *[[ta.na) (ŋan)] |
| vi. | kan + kah● (suffixes) | ..] (kan)] (kah)] *...] (ka)] (ŋah)] |
| vii. | <u>tilam kətʃel</u> | [(ti.lam)] [(kə.tʃel)], [(ti.la)] [ŋə.tʃel] |
| viii. | <u>kampon</u> | [(kam.pon)], *[(ka.mon)] |
| ix. | <u>təmpojan</u> | [(təm)(poj.jan)], *[(tə)(moj.jan)] |
| x. | pəN + <u>dapat</u> | [(pən) (da.pat)], *[(pə) (na.pat)] |
| xi. | mən + <u>tʃipta</u> ● | [(mən) (tʃip.ta)], *[(mə) (ŋip.ta)] |
| xii. | məN + rawat ⁺ | [(mə) (ra.wat)], *[(mə)(na.wat)] |

From the body of data in (33a), it can be said that fusion produces open syllables in a dependent foot, whether it occurs between a prefix and a root or between prefixes. The fact that fusion is blocked between prefixes, in (33bi), and between a prefix and a trisyllabic root, in (33bii), even though in each case an open syllable is produced in the dependent foot as a result, in turn shows a further restriction on dependent feet. They may not begin with an open syllable and end in a closed one. I suggest such feet are undesirable be-

cause they represent a ‘Mismatch’ (van der Hulst 1986) with the trochaic foot form of the language.

Further evidence that fusion aims at producing dependent feet resting on open syllables is seen indirectly in the fact that cluster-initial roots block fusion, as seen in (33biii). Fusion here would have failed to produce an open syllable in the dependent foot and is therefore not sanctioned. The ungrammatical output here also violates Syllable Contact Law, since the coda nasal resulting from fusion is followed by a more sonorous onset, the liquid /r/. I have also maintained that fusion is blocked between roots and suffixes (as in (33bv)), between suffixes (as in (33bvi) and between roots (as in (33bvii)) because, in each case, the result of fusion would be a head foot open syllable.

As the last piece of evidence of the relationship between prosodic structure and fusion, the process is blocked in (33bvi), between a prefix and a monosyllabic root. I suggest that the language disfavors sequences of word-internal monosyllabic feet, the schwa epenthesis that does in fact obtain representing a strategy to avoid such a sequence. Unlike the epenthesis, fusion would have failed to produce a prosodically desirable dependent foot, and is therefore blocked. The fact that the epenthesis that does obtain occurs precisely where it does and not, for instance, at the right edge of the monosyllabic root, in turn provides support for my corollary claim that head foot syllables are ideally closed.

In (33bviii) and (33bix) is seen evidence that roots resist fusion, and that this resistance overrides the requirement that dependent feet have open syllables. The fact that (33bx) through (33bxii) do not permit fusion, on the other hand, relates to a broader claim I make in Delilkan 2002, that the featural information of input segments associated with head foot segments may not be obscured. It is beyond the scope of this paper to discuss these last three forms in detail, however. All other sections of the dataset in (33) do follow from the main tenets of this paper, that fusion is prosodically constrained, that dependent feet are ideally composed of open schwallables, and that head feet, by contrast, ideally rest on closed syllables.

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CONTRIBUTIONS ON SOME REMAINING PHONOLOGICAL ISSUES IN AUSTRONESIAN

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0 Introduction¹

In this concluding study I'll review some concepts I've developed over the years, related to phonology, in the AN languages. The languages that I studied most intensively (Nanumanga, Tuvalu, Finney, 1983) was of more interest for its syntax than phonology.

In the first major section of this paper, we'll examine some of the processes of decision-making by the missionaries in selecting which letters of our alphabet to use in their planned translation of the Bible into the Hawaiian language, and we'll analyze why the decisions were made as they were made.

In the second major section of this paper, we'll reexamine some of the reconstructions that have been made of the phonemes of the hypothetical ancestral language, Proto-Austronesian; and suggest some improvements.

In the third section we'll review certain phonological changes noted in a previous SEALS paper, and comment on the complex diachronics of the phonology, the morphology, and the syntax.

1 Issues within Polynesian

1.1 *Ambiguous Phonemes in Hawaiian*

It has long been known, from the accounts by Fornander (cited in Bernice P. Bishop Museum Memoirs, 1917, 1918, which in turn is cited in Puku'i and Elbert, 1971), that the missionaries in the second decade of the Nineteenth Century, on the Big Island of Hawaii, had difficulties in choosing the alphabetical letters for three of the phonemes in the Hawaiian language.

The three questions were: W or V? L or R? T or K?

According to Fornander's study reported in *Hawaiian Antiquities* (available only at the University of Hawai'i library) the matters were decided by a committee of seven missionaries, and in all three instances the vote was four to three. Not having Fornander available now, I don't know whether it was the same four each time or not.

Each of the choices involved its own problems, its own issues. Not two involved the same questions.

¹ Abbreviations used in this paper: Pan = Proto-Austronesian, MP = Malayo-Polynesian, EMP = Eastern MP, CP = Central Pacific, PN = Polynesian, EPN = East PN; all prefixable with P for Proto-.

Shoichi Iwasaki, Andrew Simpson, Karen Adams & Paul Sidwell, eds. *SEALSXIII: papers from the 13th meeting of the Southeast Asian Linguistics Society* (2003). Canberra, Pacific Linguistics, 2007, pp.43-51.

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1.2 *By Good Luck, A Helpful Source*

In the spring of 1961, I was employed as Director of Research for the State Mental Health System of Hawai‘i, a job that I began in January, 1960. With permission of the State Health Department, I took two courses in the Hawaiian language at the University of Hawai‘i (and as I had been appointed an Adjunct Assistant Professor of Psychology there, I was not charged a tuition fee). The teacher, Professor Samuel H. Elbert, had done research on the tiny isolated island of Ni‘ihau, the only place where the public school was still taught in the Hawaiian language, not in English. Sam had mentioned the name of a woman who taught school there, Tini Teale (Jean Kelly). One day as I browsed in the Hawaiian language section of the University Library, reading Fornander, I encountered a Hawaiian-looking woman who turned out to be Tini, and we talked a while. I paid careful heed to the phonemes as she uttered them in conversation, and I had her repeat some words and phrases so that I could carefully record exactly how she said them. This is as close as we’ll ever get to hearing how the language was said by Hawaiians known to the missionaries on the Big Island in the 1810-1820 era.

Later, in 1963, I traveled to other Polynesian Islands, including Tahiti, the Tuamotus, the Samoas, New Zealand, and other Austronesian Islands, before moving to the University of Kentucky. In 1970-1971, on sabbatical leave, I did research in linguistics and cultural anthropology, including places such as Tonga, and spent more than half that year on Nanumanga, an isolated Polynesian island in what is now Tuvalu, where I was the only outsider living; and revisited Hawai‘i and Samoa. So my observation of the phonology of Tini and other Hawaiians in the 1960s was supplemented by observations of speakers of other Polynesian and other Austronesian languages, as well as by studying the scientific literature.

1.3 *The W or V Issue*

Both W and V are common phonemes, though not all languages have both. In English, W is a semivowel, which means that it can be considered to be a glide in the position of the vowel U (as in “food” [fud or fuwd] or as in “rule” [rul or ruwl]). The latter renderings of the long close (tense) vowels are in the system in which the Bloomfieldians had converged. In it, the English word “put” is rendered “put,” and the English words “rude” and “spoon” are rendered “ruwd” and “spuwn.” In that system the word “fit” is so spelt, but “feet” is spelt “fiyt.” Not all languages have such a distinction. Spanish speakers often say “feet” for English “fit.” Classical Latin (or certainly pre-Classical) had long vowels that were prolongations of the short ones. Later in Latin, the short vowel became more open (lax), less close (tense), in a complex process toward the development of the Romance languages. A diachronic principle of universal grammar is that “w” often changes to “v” through an intervening bilabial voiced spirant, while “v” never changes to “w.”

In languages like English, the W is a bilabial glide (or semi-vowel), with visible protrusion of the lips. In sharp contrast, the V is a labiodental spirant (fricative), made with the lips of the upper central incisor teeth against the lower lip.

In our language, V is a voiced spirant (fricative) contrasting with F, the “same” sound but voiceless. In English, the voiceless fricatives (and voiceless stops, too) are not only voiceless but also aspirated. Likewise, the English labial stops, as we hear them, distinguish between voiceless P and voiced B. English speakers are seldom aware that the P is aspirated and the B is not. Likewise for F/V, thin/then, T/D and K/G.

That's in contrast with Mandarin Chinese, where both bilabial stops are voiceless, differing only in aspiration. Till recently the pair was distinguished only by a diacritical mark, resembling an apostrophe, for the aspirated phoneme. So, English speakers said them the same, creating a host of false homonyms. In the recent official change of spelling, to force English speakers to make a difference, the aspirated form is written "P" and the non-aspirated form "B". Thus the name of the capital city, formally Peking, is now Beijing. That makes the English speakers sound odd (voiced stop), but no longer ambiguous.

Now, back to the Austronesian. The Hawaiian W or V sound was ancestrally a W, and very likely so in Proto-Polynesian. Early on, it probably became the ambiguous W/V. By that I mean a bilabial spirant, a fricative, made with both lips. The bilabial spirant is still heard in some Polynesian languages today.

What Tini spoke in 1961 was the old bilabial spirant, the intermediate sound, spoken in other Polynesian islands, neither a standard W nor a standard V.

In some work on East Polynesian languages, including that published by Steven Fischer, a change is asserted from F to W. If that assertion were intended to mean a change from F as in English to W as in English, it would be an impossible change. F could become voiced, to V. But the further change from V (as in English) to W (as in English) is not possible. If any change occurs it must be from V to W.

So what is the likely explanation of the changes of the voiced and the voiceless sounds in question: both in the sound that began as W and in the sound that had become something like F?

At an early stage in the development of Polynesian, a [p] had become a bilabial spirant on its way to [f]. The f-like sound (voiceless bilabial spirant) is spelt "wh" in Maori. That is no doubt the "f" that Fischer reported to change to "w" (no doubt bilabial voiced spirant) in Fischer's SouthEast Polynesian. A change from a true "f" to a true "w" is not possible, but a voicing of a voiceless bilabial spirant is undoubtedly what happened. It's interesting that what Tini spoke in 1961 was the same bilabial spirant (between a W and V) that must have been spoken in the days when the missionaries disagreed on whether to spell "w" or "v".

As we see, problems that are synchronically puzzling are often easy to understand in diachronic context.

Puku'i and Elbert (1971 printing), p. xxxvii, "pronunciation of Hawaiian," gives the sound of "w" as:

w after "i" and "e," usually like V; after "u" and "o" usually like W; initially and after "a" like V or W.

1.4 *The L or R Issue*

As said by Tini, the informant from Ni'ihau in 1961, the sound was neither a simple L nor a simple R. It could be replicated only by an L followed by an R. In other words, the tip of the tongue had to move posteriorly along the hard palate (roof of the mouth cavity) while detaching itself from contact with the hard palate.

The best guess is that this 1961 Ni'ihau pronunciation was also what was used by the inhabitants of the Big Island of Hawai'i in the early Nineteenth Century. Be that as it may, the missionaries, by the narrow vote of 4 to 3, chose the L spelling. By the 1957-1971 period, Mary Puku'i's pronunciation of that phoneme seems to have shifted in the L direction, as shown by Puku'i and Elbert's instruction:

h, l, m, n about as in English

1.5 *The T or K Issue*

Between these two sounds, there is no intermediate position. The sound must be either one or the other.

As we know now, the T was the Proto-Polynesian sound, and the K was the innovation. The change in Hawai‘i began on the Big Island, the most Southeastern of the archipelago, and spread progressively Northwest to Ni‘ihau and Kaua‘i, at the opposite end of Hawai‘i.

Again, it was only by a 4 to 3 vote of the missionary committee that the choice was made.

A reasonable surmise is that the four in the majority recognized that K was the wave of the future, and for that reason chose to go along with it, fearing to be stuck with a representation soon to go out of use.

The language at the time had a vacancy for a K, because the PPN *K had become a glottal stop.

The loss of K to glottal (often later zero) happened independently in many Polynesian languages. And later, independently, many other such languages changed the T sound to a new K, just as Hawaiian did.

In Samoa, on the other hand, when the missionaries created a written language, the change from T to K had not yet taken place. So, the T spelling was used in the Bible and is still used there and in dictionaries and in the written languages.

When the change to [K] took place in the spoken language, the T spelling continued. Even today, the phoneme is written T in Samoan, though pronounced K by the native speakers.

When Margaret Mead worked in Samoa in 1925, the Samoans required her to use the “correct” pronunciation (T), though they themselves, of course, used the K sound. The reason for regarding the [t] sound as correct was that the “t” spelling had been used in the Bible translation.

Likewise, though the Samoans had merged the N sound into that of the velar nasal, they required Mead to distinguish between the two. A Samoan woman called herself “Anga” though spelling it “Ana” (Ann in English). She explained that she was too “lazy” to say [ana].

When I visited Mead’s island, Ta’ū, in 1970, the K sound was used in Ta’u village, but in Fitiuta (another village on the same tiny island), the T sound was still in use by the native speakers. In the rest of Samoa the native speakers always used the K sound, though they said that the T sound was correct. Likewise in their shift of N to a velar nasal, they agreed that the true [n] sound was theoretically correct. The spelling, and its use in the Bible, maintain the view that the older form is still correct, and should be spoken by foreigners, though the native people use the newer sound.

The missionaries’ choosing the innovation K over the ancestral T is not necessarily the better choice from every point of view. If we were interested in allowing the native speakers, of a broader range of Austronesian languages, to read one another’s writings, with some comprehension, a writing closer to the ancestral would be more helpful.

2 Phonemes in Proto-Austronesian

Reconstruction of phonemes for Proto-Austronesian (henceforth PAN) has had a long history.

One early position was that of John Wolff, who proposed a theory, like that of Verner's Law for Proto-Germanic, in which certain very early sound changes were attributed to the ancient (PIE) position of stress.

The currently accepted reconstruction of PAN phonemes is that of Robert Blust (1999), and with good reason, as Blust supports it with good evidence. I suggest some revision, though it is minor. Blust's reconstruction of the PAN consonant system is Table 2 on page 43. The Malayo-Polynesian primary division, to which more than 99 per cent of the Austronesian languages belong, is not shown on that page, though his MP data are on pages 82-87.

For Blust's capital "S," my "s," fifteen groups show "s," one (Puyuma) shows both "s" and zero, one shows both "s" and "h," two show "sh," and one (Siraya) shows "g." So I'll assert "s" as the better spelling.

For his "s," my "ts," only six groups show "s," while another six show "t," two show "ts," one shows "c" [presumably the "church" affricative], one shows both "s" and "h," and one shows zero. As change from "ts" to "s" is common and the reverse not common, it's clear that "ts" is the better choice.

So I suggest that my assignment of symbols better represents the ancestral phonology than Blust's (even though Blust is the ablest phonologist dealing with the AN languages.)

Those figures are for the nine primary groups of Formosa (Tai Wan).

It's too bad that Blust failed to include the MP primary division in that table.

In Appendix 2, pp.82-86, Blust lists a reconstructed basic vocabulary for PAN and for PMP.

He shows only seven PMP reconstructions with "s" with homologs in PAN. All six show "s" in PAN. They are (in his PMP) "suru" (breast), "tangis" (cry), "asu" (dog), "manipis" (thin), "si-ia" (he, she); and "isa" (one).

Nearly all the examples he gives of PAN capital "S" are given in his table as PMP "h." That's not too surprising, as "s" to "h" is an extremely common phonological change. So perhaps that selection of his also supports my proposal that what he reconstructs as PAN "S" was phonologically ["s"]. His table 2 shows twelve (non-MP) primary divisions of MP showing "s," none "h" alone, and one with both "s" and "h."

3 Some Remaining Problems for PAN

A minor comment is that the use of capital C for one PAN phoneme is unfortunate, in that it can be confused with the use of capitals C and V for generalized consonant and generalized vowel. The unfortunate use came about because the small c had been already used for another proposed PAN consonant, a reconstruction no longer accepted by most. So I propose using the small c for the PAN phoneme that has generally been designated as capital C.

Blust (1997) also implicitly rejects the older use of the small c by ignoring it. His list (pp.82-87) of 200 basic words of PAN (for which he also gives PMP forms) has not one example with a small c. He continues the capital C spelling for the true c phoneme. I suggest the replacement of the old capital C spelling with a small c, which won't be confused with the use of C for a generalized consonant.

It is somewhat troubling that some writers use the term “palatal” supposedly for a position farther back than dental or postdental (alveolar) but forward from a normal hard palate sound (K) and of course far forward from a soft palate sound (which in some languages is written Q). The problem is that for some the term “palatal” is used (unfortunately, I think) to indicate not so much a position of contact as a type of contact; i.e. to mean an affricative as opposed to a stop. I can’t recommend that use. A change of T to a “church” phoneme should be called “affrication” (or perhaps “affricativization”), certainly not “palatalization”. The term “palate” properly refers to the hard palate, where a K is articulated and occasionally also to the uvula, which is called the soft palate. Many people today use the term “velar” to mean a hard palate stop, K, because the term “palatal” has come to be misused to mean affricative, and use “palatalization” to mean change to an affricative. The term “velar” was formerly used sometimes for a location either on the hard palate or on the soft palate.

An interesting point is that because PAn phoneme “d” so often becomes “r” in daughter languages, and because PAn may or may not have had a “g” phoneme (voiced form of “k”), it has been proposed that PAn “d” had a point of articulation somewhere back of that of PAn “t.” Blust lists “t,” “d,” and “n” in the same column but notes “the high probability that *t was dental but that *d and *n were alveolar”. I agree. The change it suffered in MP languages give evidence of an “r” and not a “d” ancestry.

Blust’s table on page 43 is especially interesting. The PAn sound generally represented by “s” comes out as “ts” in two Formosan languages in his table (p.9) and as “t” in some others (in that table and also some MP languages). Also, the PAn sound designated as “S” comes out mostly as “s” with some “sh” or zero. Neither of these facts is newly discovered. Surely those facts suggest that the PAn “s” should be re-designated “ts” and that the “S” should be re-designated as “s.” I so propose.

4 Findings

One finding here is that a certain phonological change very early in Austronesian is closely connected with morphological and syntactic change.

The other finding here is that evidence both in Formosan languages and in Malayo-Polynesian languages supports re-designating Blust’s PAN *s as *ts.

Cu + a > Ca and Cu + Ci > Ci

This is a revision of an unpublished paper that I gave at the International Conference on Austronesian Languages, in Taiwan, in December, 1997.

As we have noted before, one or two of the casemarkers in archaic AN tongue are former topic markers, but most of them are former prepositions. I use PCM to mean “prepositions and/or casemarkers” or prepositional casemarkers.

In various divisions of AN, especially fairly archaic ones, we have noted a pattern of the PCM having forms Cu, Ca, Ci, Cua, Cui. In some languages, Cui and Ci were variant forms of the same word. In other languages, Cua and Ca were variant forms of the same word.

The consonant determines the syntactic/semantic role.

In the archaic languages, and notably in Mayrinax Atayal, the vowel varies with the type of the substantive. At one pole, with personal pronouns and proper names of persons, the vowel is “**i**.” That’s the group that Dixon (1994) puts at the far left. At the other pole, with nonspecific common nouns, the vowel is “**a**.” That’s the other extreme.

Let’s advance the following proposals. (1) The basic, unmarked form is vowel “**u**”; (2) The element **a** was a determiner that may have been used at first only for nonspecific common nouns. Call that category A. (3) The element **i** was a determiner that may have been used at first only for individual human beings, designated by name or by personal pronouns. Later, it came to be used also with proper names and places. Call that category I. (4) The unspecialized form **u** could occur with no specialized form following. (5) When both unspecialized forms occurred, the unspecialized **u** was at the left, and the specialized form **a** or **i** was at the right, as a separate word, hence “**u a**” or “**u i**.” (6) In some languages, “**u a**” became a single word “**ua**,” and/or “**u i**” became a single word, “**ui**.” (7) Neighboring fields could be invaded. Category A could expand to include all common nouns not denoting persons; or all nonspecific common nouns, or even all common nouns. Or, Category I could expand to include kinship terms; or to include all nouns denoting persons. Or, any two adjacent categories (**Ca** and **Cu**; or **Ci** and **Cu**) could merge, selecting one of the two applicable vowels.

Three languages show evidence supporting the hypothesis that **Cu + i > Cui > Ci** and that **Cu + a > Cua > Ca**. The languages are Chamorro, Kanakanavu, and Paiwan. Chamorro is a Malayo-Polynesian language, while Paiwan and Kanakanavu are Formosan languages. Because the languages in Formosa (Taiwan) are so close geographically that borrowing may occur, it is common to require examples both in Malayo-Polynesian and in Formosan (even though Malayo-Polynesian is only one of the ten or so primary divisions of the Austronesian language family).

Chamorro:

In Chamorro, Topping (1973, 135) defines **nu** as an article, noting that another scholar had defined it as a preposition. He states, “**Ni** is probably a contracted form of **nu i**, as is shown in the following examples:

Lini’e’ si Pete **ni** patgon.
 Lini’e’ si Pete **nu i** patgon.
 “Pete was seen by the child.”

(Note that nV’s earliest reconstructed in PAn is as a preposition “from,” which in universal grammar gives rise to oblique agent phrases, and then on move into ergativity becomes the ergative casemarker, and then on move around the cycle to a new Nom Acc syntax becomes the new nominative marker.)

Kanakanavu:

For Kanakanavu, Li (1997, 353) says:

Kanakanavu has the following two (or three) sets of case markers, as based on Tsuchida (1976:36-37) and Mei (1982):

Nominative: **sua, sa, si**
 Oblique: **sua, sa**
 Locative: **na**

Paiwan:

Paiwan is a language in which “**t**” is the descendant of the hypothetical ancestral PAn phoneme that is commonly written “**s**” (and for which I suggest the designation “**ts**”), and indeed Paiwan is one of the languages in which the reflex supports that designation.

In Ferrel’s account of Paiwan (1983, 182) we see:

nu belonging to, of
nu-a belonging to, of

and on page 13:

nua vavvaian a alak
 CMgen female CM= child
 “the woman’s child”
 “the child who belongs to the woman.”

These three languages belong to three different primary divisions of Austronesian. So we are clearly dealing with something that was present in Proto-Austronesian.

Perhaps these findings show that **nV** and **sV** had clear syntactic and semantic uses in earliest PAn. It is possible that some of the other **CV** particles were only later assimilated to the **a/u/i** paradigm by reanalysis.

The conclusion (which, surprisingly, nobody has previously drawn) is that there must have been an ancient form *Cu, a somewhat neutral marker, left of other markers. It must have come to be used with a Determiner at its right (introducing a Det phrase). The Determiner seems to have been “**i**” for a category of NP that included at least personal pronouns and proper names of persons. The Determiner seems to have been “**a**” for a category of NP that included at least nonspecific common nouns. In time, the combination Cu + a came to be contracted into Ca, and the combination Cu + i contracted into Ci. Change in morphology and syntax followed directly from phonological contraction. Syntactic change accompanied phonological change. This hypothesis is strongly confirmed by the fact that, as noted, in some languages Cui and Ci are used interchangeably, and in some languages, Cua and Ca are used interchangeably.

This point illustrates a basic principle of universal diachronic grammar. Phonological lenition, by reducing benevolent redundancy to a minimum, motivates not only morphological reanalysis but also syntactic change.

The basic role of phonological change in morphological and syntactic change is confirmed here.

Blust’s PAn *s was in fact *ts

Both in Formosan languages and in Malayo-Polynesian languages, evidence shows

“t” or “ts” in some languages today. Universal diachronic phonology allows “ts” to change to “t” but does not easily allow “s” to change to “ts” and even less often allows change from “s” to “t.”

5 Summary

We have explored the three ambiguous letter pairs that so befuddled the first alphabetical writers, Bible-translating missionaries in Hawaii in the early 19th Century, that all three issues were decided by votes of 4 to 3 among the committee members.

Each of the binary choices differed sharply in issues from the other two. Each choice was made on a basis that had no bearing on the other two choices.

For one pair the issue was raised: under what circumstances should the older form be chosen over the innovation, or vice versa. I have suggested that for endangered languages, to preserve continuity with the older cultures, it may be good to use spellings reflecting older stages, hence relevant to a more inclusive group of survivors.

In reviewing the most accepted system of representing the Proto-Austronesian phonemes, reasons are given for writing “s” for what has been written “S,” and “ts” for what has been written “s.”

Reconstruction of *Cu a > Cua > Ca, and Cu i > > Cui > Ci show the interaction of syntactic change with lenition and morphological change.

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SYNTAX AND PROSODY: INTERACTING CODING SYSTEMS IN DOLAKHA NEWAR

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1 Introduction

The most common methodology in linguistics is to transcribe words, phrases, sentences, or texts onto paper, and then to analyze the linguistic features that are represented in the transcription. This is an excellent and valuable methodology, and I have used it myself extensively. However, it is important to realize that this methodology reifies the linguistic transcription as a static object, whereas language itself is dynamic, produced in real time to meet the communicative and interactional aims of the interlocutors. In producing language, speakers are constantly making decisions about what information to convey, how to organize that information, and how to present the information in a fashion that allows the hearer to process it. We can enrich our understanding of language structures and how they are used by expanding our methodology in a way that allows us to understand the unfolding of the discourse in real time. One way to do this is to work not just with the static transcripts, but with the tapes and videos as well, as these media automatically incorporate the temporal dimension of the speech event.

Once we analyze the sound together with the transcribed text, we realize at once that there is an entire modality in the speech event which most transcription systems ignore.¹ This other modality is, of course, prosody, the organization of phonological segments into a series of hierarchical units, and their production in terms of loudness, pitch, rate of speech, etc. Prosody and the segmental stream of speech are produced cotemporally, and both are equally important to the organization and presentation of discourse.

Discourse is largely structured through the production of morphosyntax, which indicates the relationships between units and also, in many instances, their boundaries. In producing discourse, speakers are actively making decisions about how to parse the intended information into syntactic units, how to use morphology and syntax to show the relationships between those units, and how to control the flow and highlighting of information. As these decisions are being made about the organization of the morphosyntactic level of speech, simultaneous and very similar decisions are being made about the prosodic level of speech. Speakers must decide how to parse the information into prosodic units and how to use prosody to show the relationships between those units. Speakers also use prosody to direct the hearer's attention to participants and events of different levels of importance, and to indicate his or her attitude towards the information being conveyed.

Prosody and syntax are simultaneous, but still independent, domains of speech, and there are interesting parallels between prosodic and syntactic structure. Prosodic and

1. A third modality is gesture, broadly construed to include eye-gaze, body position, facial expression, etc. Since I do not have video data, I won't be discussing this modality.

Shoichi Iwasaki, Andrew Simpson, Karen Adams & Paul Sidwell, eds. *SEALSXIII: papers from the 13th meeting of the Southeast Asian Linguistics Society* (2003). Canberra, Pacific Linguistics, 2007, pp.53-66.

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syntactic units often align, although they are not required to do so, and speakers may produce syntax/prosody “mismatches” for particular communicative purposes. In addition, prosody and syntax show structural parallels at the macro-level of organization: both have units which are hierarchically organized, and both produce complex structures via embedding. Finally, prosody and syntax are mutually informative, each providing cues to the structure of the other.

The goal of this paper is to explore the parallels between the independent but interacting coding systems of syntax and prosody in Dolakha Newar, a Tibeto-Burman language spoken in Nepal. After presenting the basic typological features of the language, I will describe five intonation contours that are commonly found in Dolakha Newar narrative texts. I will demonstrate how speakers use intonation to organize prosodic units into macro-units which I call “prosodic sentences”. I will argue that prosodic and syntactic sentences have parallel structures and that both allow for embedding. Despite the structural parallels between the two coding systems, they are still clearly independent, as I will demonstrate through exemplification and discussion of syntax/prosody “mismatches”. The paper illustrates how the inclusion of the prosodic level in the analysis of syntax is necessary for a full understanding of language as a dynamic system of communication.

2 Background on Dolakha Newar

Newar is a Tibeto-Burman language spoken primarily in Nepal. The total Newar population is about seven-hundred thousand (Bandhu 2003: 7). Most Newars live in the Kathmandu Valley, where there are three dominant dialects (Kathmandu, Patan and Bhaktapur), as well as a number of smaller varieties. In addition, there are other Newar villages located throughout Nepal, many of which have dialects of Newar distinct from those of the Kathmandu Valley.

The most conservative dialect which has been recorded to date is spoken in the village of Dolakha, located approximately 130 kilometers to the east and north of Kathmandu. This Dolakha dialect is mutually unintelligible with those of the Kathmandu Valley. They could be considered different languages instead of different dialects, however since the Newars constitute a single ethnic group, all speakers consider their language to be “Newar”. The mutual intelligibility of the two dialects is caused by significant differences in the phonology, morphology, and syntax of the languages. The split between the dialects occurred a minimum of 700 years ago.

Dolakha Newar is a non-tonal language with a fairly simple phonemic inventory. It has many polysyllabic words, and is primarily suffixing. The language has morphological ergativity indicated by an enclitic casemarker. Despite this, the language has primarily nominative syntax, and there is strong evidence for a subject category (Genetti 2007). Dolakha Newar is a verb-final language, although sometimes elements are postposed in connected speech, and it exhibits many of the typological correlates of verb-final word order that have been discussed in the literature, such as the presence of postpositions as opposed to prepositions, and the positioning of modifiers before the modified noun (Greenberg 1966, Hawkins 1983, Croft 1990).

One typological correlate of verb-final word order that is important for the current paper is the ordering of dependent clauses before main clauses. Syntactic sentences end when the speaker produces a clause with a finite verb. Thus finite clauses are by definition sentence-final. Dependent clauses, including complement clauses, converbal clauses, and

nominalized clauses, precede the final clause and are thus both non-finite and non-final.² The structure of the complex sentence is represented in (1). Any number of non-finite clauses may occur prior to the production of the final clause:

- (1) Structure of the complex sentence
 Non-final clause
 Non-final clause
 Final clause

At the end of each clause, the speaker must make a decision about the structuring of the sentence. Should s/he produce a finite verb, thus closing off the sentence and marking the end of a significant discourse unit? Or should s/he produce a non-finite verb, indicating that the sentence will continue, and use verb morphology to specify the syntactic and semantic relations between clauses? We can see that final verbs in this language become significant “decision points” for the speaker in the structuring of the discourse (Genetti and Slater 2004).

At the same time that speakers are making decisions about whether to indicate continuation or finality in the syntactic domain, they are also making decisions about whether to mark continuation or finality in the prosodic domain. Consider example (2), taken from a recorded narrative:³

- (2) *khu-mā mucā janm-ai ju-ene;*
 six-CL child born-BV happen-PART
 ‘The six children were born (and),
- ām mucā-pen thau thau thāĩ on-a.*
 DEM child-PL REFL REFL place go-3sPST
 the children each went to their own place.’

The sentence contained in (2) consists of two clauses produced over two prosodic units. Each prosodic unit is represented on a separate line.⁴ In this example, the clause boundaries and the prosodic boundaries occur in the same position. The first prosodic unit contains a converbal clause (the general converb is glossed PART(iciples) in Newar linguistics; Genetti 2005), and the second contains a finite clause. At the end of the first clause, the speaker decided to continue the sentence with the converb rather than break it off with finite morphology. Had she chosen to do so, the first line would have been a complete sentence: “The six children were born.” By using the converb, she shows an integration of the events depicted in the two clauses.

-
2. The only exception to this is direct quotation, which is embedded as an object complement, and carries the morphology appropriate for the speech situation it is attributed to.
3. The following grammatical glosses are used in this paper: BV borrowed verb; CL classifier; COMP complementizer; DAT dative; DEM demonstrative; ERG ergative; EXCL exclamation. FUT future; GEN genitive; INF infinitive; NEG negative; NOM nominalizer; PART participle (converb); PH past habitual; PL plural; PRTCL particle; PST past; REFL reflexive; TOP topic.
4. I use the term “prosodic unit” to indicate a stretch of speech uttered under a single intonation contour, and marked off by pause, changes in tempo, and other prosodic cues. This is what Chafe (1980 and later) refers to as an intonation unit. See also Du Bois et al (1993).

At the same time that she is marking the continuation or finality of the syntax, the speaker is also marking the continuation or finality of the prosody. The verbs which are in final position in these prosodic units are overlaid by the terminal intonation contours. In the first line, the pitch contour is rising; in the second line it is falling. The pitch trace of (1) is given in Figure 1, which plots the F0 in hertz over time. The arrows indicate the beginning of the verbal suffix of each unit.⁵

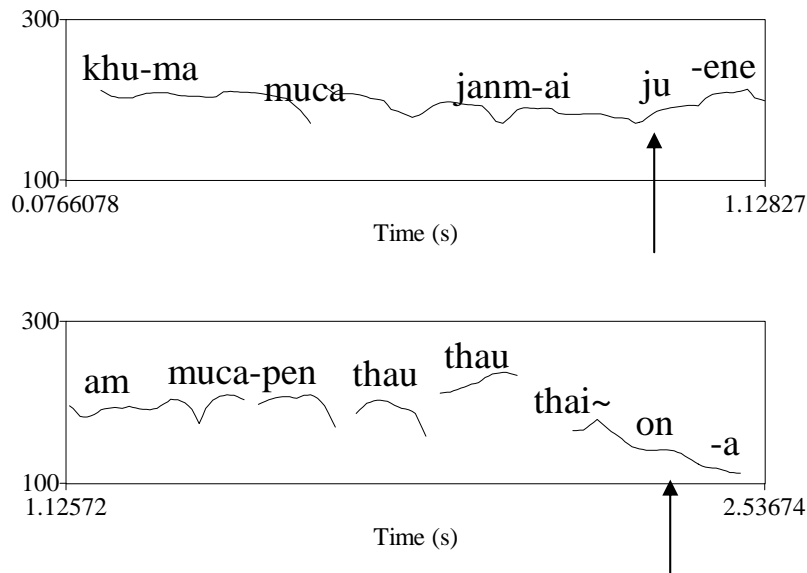


Figure 1: *Pitch trace of example (1)*

We can see that the syntactic and prosodic marking of continuation and finality are cotemporaneous. This is a common pattern which is due primarily to the fact that verbal suffixes come at the end of the clause in a verb-final language, and that ends of clauses are frequently at the ends of prosodic units, the position of terminal contours. I turn now to a brief description of the terminal contours used in the production of narrative discourse in this language.

3 Terminal intonation contours in Dolakha Newar

As with many other areas of linguistics, the field of intonation studies is rich with multiple perspectives, approaches, and sets of terminology. For this paper, I will be focusing on the terminal intonation contours, the pitch movements produced over the last two or three syllables of a prosodic unit. The focus on terminal contours was chosen because these contours are primarily responsible for indicating the relationships between prosodic units; terminal contours function to determine the broader prosodic organization of the text. Following Du Bois et al (1993), I will be using a functional categorization of terminal contours. They make the following observation:

5. The acoustic analysis and pitch traces were produced by Praat. The font which overlays the pitch trace does not accept diacritics; these are in the transcription under the figure heading.

At the end of a prosodic unit, a speaker will indicate intonationally whether the discourse business at hand is completed, or whether it will continue. (Du Bois et al 1993: 53)

“Transitional continuity” is the term used to refer to the two-way categorization of terminal contours into “final”, indicating completion, or “continuing”, indicating the speaker’s intention to go on. In my own work, I have found that this two-way division does not represent the richness of final contours in Dolakha Newar, and so I have made further subdivisions in these categories, distinguishing three types of final contours and two types of continuing contours (Genetti and Slater 2004). Each type of terminal contour is indicated by punctuation which is placed at the end of the prosodic unit. The five contours and their punctuation are listed in (3):

- | | |
|---|-------------------------------|
| (3) Terminal contour types in Dolakha Newar | |
| <u>Final</u> | <u>Continuing</u> |
| Prototypical final [.] | Anticipatory continuing [;] |
| Narrative final [[]] | Non-anticipatory contin. [.,] |
| Exclamatory final [!] | |

3.1 Final intonation contours

There are three types of final intonation contours. Prototypical final intonation is the most common. It is realized by a steady fall from the syllable in the unit which receives prosodic accent. An example is given in Figure 2; the arrow (here and in subsequent examples) indicates the beginning of the last word of the unit:

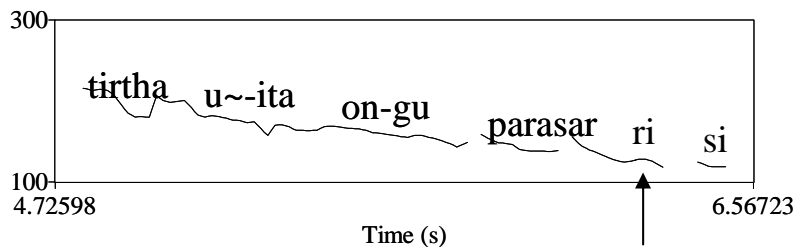


Figure 2: *Prototypical final contour*

tirtha u~ita on-gu paraasar risi
 pilgrimage go-INF go-3PH Parāsar Risi
 ‘Parāsar Risi went to go on a pilgrimage.’

The second common final contour has sustained level pitch throughout the prosodic unit. I refer to this as “narrative final intonation”, as I have observed it primarily in narrative discourse. An example is given in Figure 3:

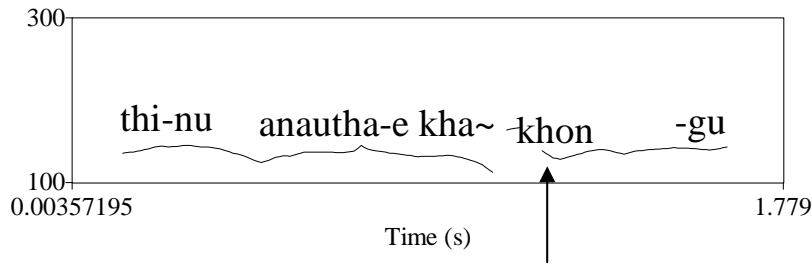


Figure 3: Narrative final intonation

thi-nu anauthā=e khā khon-gu /
 one-day strange=GEN thing see-1PH
 ‘Today we have seen this strange thing.’

The third type of final intonation is the exclamatory final. It is commonly found on exclamations and vocatives. It is realized by a distinctive rise-fall contour over the final word. Both the rise and the fall are clearly audible. An example is given in Figure 4:

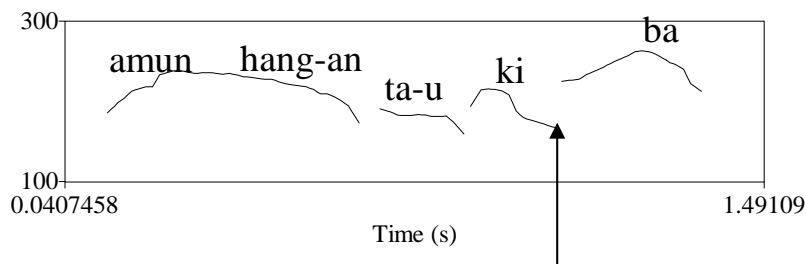


Figure 4: Exclamatory Final intonation

āmun hang-an ta-u ki bā !
 3sERG say-PART put-NOM COMP father
 ‘He said “Father!”’

3.2 Continuing intonation contours

I divide the continuing intonation contours into two categories. Anticipatory continuing has a marked rise at the end of the unit (about 60 hertz in the example below), and is commonly followed by a pause. In about a third of the units there is additionally a short drop in pitch during the latter half of the ultimate syllable. This drop is short and usually occurs with reduced amplitude, so it is not strongly perceptible. An example of anticipatory continuing intonation is given in Figure 5:

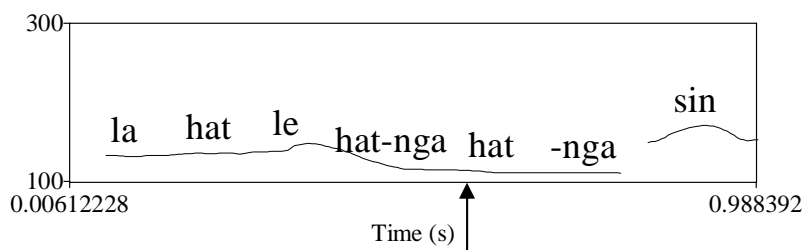


Figure 5: *Anticipatory continuing*

la hat le hat-ŋa hat-ŋasin ;
 EXCL say PRTCL say-when say-when
 ‘When they said: “Ok, say it then”’.

The other type of continuing contour does not have as dramatic a rise as the anticipatory continuing. The distinction between the two types of continuing contours is gradient, and the decision as to where to draw the line in the classification is somewhat arbitrary, as the division between the two could be made at any spot along the continuum. In general, contours were classed as anticipatory continuing if they had a marked rise and as non-anticipatory if the rise was moderate (in the example below the rise was 16 hertz). An example of a non-anticipatory continuing final contour is given in Figure 6:

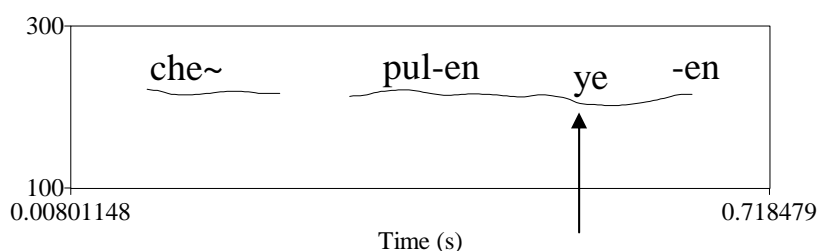


Figure 6: *Non-anticipatory continuing*

chē pul-en ye-en ,
 house return-PART come-PART
 ‘Returning to the house...’

4 Parallels in syntactic and prosodic structures

The classification of prosodic units by continuing and final transitional continuity allows us a deeper understanding of how prosodic units are related to each other. Continuing units instantiate larger prosodic macro-units which are kept open until the production of a final intonation contour. This is a very common pattern in the narrative data; an example is given in (4):

- (4) *thi-mā = n = uri* ;
one-CL=ERG=TOP

hatapata lungmā tuphi hā-ene ;
quickly mortar broom bring-PART

āku ta-en tar-ju /
there put-PART put-3sPST

‘One, quickly bringing a mortar and broom, put and kept them just so.’

Here we see two prosodic units with continuing intonation contours followed by a single prosodic unit with a final intonation contour. Genetti and Slater (in press) have labeled such prosodic macro-units “prosodic sentences”, since they have striking parallels in structure with syntactic sentences in languages of this type. In particular, the structure of the complex *syntactic* sentence given in (1), is directly paralleled by the structure of the complex *prosodic* sentence; both have a series of non-final units followed by a final unit.

Prosodic sentences function in narrative to produce prosodic cohesion over a number of independent prosodic units. Prosodic sentences are similar to the “prosodic presentation units” of Halford (1996), and the “talk units” of Halford (1996: 33-34) and Esser (1998: 481). The definition of these prosodic macro-units is somewhat different from my own, as these scholars are working within a different tradition of contour analysis which does not invoke transitional continuity. However, it appears that both approaches converge on identifying the same units. The prosodic sentence is also similar to the notion of “paratone” (Fox 1973, Brown 1977, Brown et al 1980, Fox 1984, Wichman 2000: 105-107, Wennerstrom 2001: 100-108 and *passim*). The paratone is conceptualized as an intonational paragraph (although smaller than a written paragraph (Brown et al 1980: 26)). It has been defined in different ways, depending in part upon the intonational model being used for the analysis. However it appears that the units identified as paratones in those frameworks would substantially overlap with what I call prosodic sentences. Prosodic sentences are also similar to what Fox (1984) terms “subordinating intonation structures”. More work is needed to compare, contrast, and ultimately synthesize the various proposals for prosodic macro-units currently found in the intonation literature.

Prosodic sentences usually correlate with syntactic sentences in narrative, sharing with them both initial and final boundaries. However the two do not necessarily overlap. An example of a prosodic sentence that is not a syntactic sentence is given in (5):

- (5) *bidur* ;
pāṇḍuk ;
ḍirtaraastra .
‘Bidur, Panduk, Dhirtarastra.’

This example consists of a list of three proper names, giving the order of the birth of three sons. It is the prosodic structure which makes this sequence of three noun phrases cohesive. The prosody in this example functions like syntax in providing information about the structural relationship between elements.

In addition to the parallels in the internal structuring of prosodic and syntactic sentences, there are also parallels in how syntactic and prosodic sentences combine. As with syntactic sentences, it is common for prosodic sentences to occur in sequence. It is also possible for prosodic sentences to be embedded (Genetti and Slater 2004). In my narrative data, this generally occurs when the speaker produces direct quotation. The quoted material is embedded both syntactically (as an object complement of a transitive verb of speaking), and prosodically. An example is given in (6); quoted material is in bold:

(6) Prosodic embedding

a. *bisma = ta nyen-ŋasin* ;
Bhisma=DAT ask-when

b. *e* |
exclamation

c. *kāsi oŋ-an*,
Kasi go-PART

d. *jal-ai jur-sa jukun*,
burn-BV happen-if only

e. *u pāp kaṭāun-ai jur-a* !
this sin cut-BV happen-3sPST

f. *hat-cu* .
say-3sPST

‘When they asked Bhisma, [he] said: “E! Only if you go to Kasi and [die by] burning will this sin be cut from you.”’

The speaker begins this sentence with a sequential converbal clause which recapitulates the action of the previous sentence. This clause is part of the main line of the narrative. The speaker then leaves the main line, as she shifts from producing the voice of the narrator to producing the voice of the character Bhisma in the production of the embedded direct quote (lines (b) through (e)). She then shifts back to the voice of the narrator with the quotative verb in line (f). Here she produces a finite form of the quotative verb, thus ending the syntactic sentence.

Turning to the direct quote, we can see that it is also complex. It begins with an exclamation *e*, which is followed by a general converbal clause in (c), a conditional converbal clause in (d), and a finite clause in (e). All this constitutes a single complex sentence, which is syntactically the complement object of the quotative verb *hat-cu*.

There are a number of morphosyntactic and prosodic cues which signal to the hearer that the material in lines (b) through (e) is embedded, including the production of an exclamation (not normally found in the main line of narrative), changes in voice quality, and changes in deixis (e.g. the use of the proximal demonstrative *u* in line (e)). All of these cues function as signals to the hearer to suspend the first clause of the sentence produced in (a) until the return to the main line in (f). The hearer correctly interprets the sentence as “When they asked him, he said X”, rather than “When they asked him – hey – he went to Kāsi”, an interpretation that doesn’t take lines (b) and (c) as embedded.

The syntactic structure of this sentence is paralleled quite directly by the prosodic structure. The first line of the prosodic sentence ends in anticipatory continuing intonation. This intonation type opens a prosodic sentence which can only be closed by final

intonation. The next prosodic unit, line (b), does contain narrative final intonation, however, the very same cues that serve to inform the hearer to embed this line syntactically also inform the hearer to embed this line prosodically. The same process of suspension that occurs at the syntactic level also occurs at the prosodic level. The hearer keeps open the prosodic sentence begun in line (a) while processing the two embedded prosodic sentences in lines (b) through (e). When the speaker returns to the main line narrative in line (f), the suspended prosodic sentence is resumed, and closed with the production of final intonation. The prosodic structure of (6) may be schematized as in (7), with the embedded lines offset to the right:

- (7) Prosodic structure of (6)
- a. continuing intonation [;]
 - b. final (end first embedded pros. sent.) []
 - c. continuing [,]
 - d. continuing [,]
 - e. final (end second embedded pros. sent.) [!]
 - f. final (end of non-embedded prosodic sentence) [.]

The majority of examples of prosodic embedding in my narratives are of this type, where the embedding co-occurs with direct quotation. Prosodic embedding is not restricted to this, however, but can occur anytime that the main line of the discourse is temporarily suspended, e.g. in the pursuits of “side interests” (Chafe 1980: 34-36), or in the production of “parenthesis” (Cruttendon 1986: 129, Bolinger 1989: 186ff, Wichman 2000: 94-101). A particularly relevant observation on parenthesis is made by Wichman, who notes: “The examples I have quoted have in common that if they were deleted they would leave the rest of the utterance prosodically coherent” (2000: 99). This is exactly the pattern which I have found with prosodic embedding. In example (9) above, lines (b) through (e) could be removed resulting in well formed structures at both the prosodic and syntactic levels. However, since the majority of my examples of embedding contain quoted material, I am reluctant to use the term “parenthesis”, which implies a digression possibly unrelated to the surrounding discourse. In narrative, quoted material is a crucial portion of the narrative content, and often functions to move the storyline forward. Nevertheless, the ability to suspend a prosodic sentence, insert something else, and then return to it, appears to be a common and probably universal phenomenon.

We have seen that in this language syntactic sentences and prosodic sentences are strikingly parallel in structure. They have similar internal properties in that both are formed by one or more non-final units followed by a final unit. They also have similar combinatorial properties in that both can occur in sequence or can be embedded. It is also true that the boundaries between prosodic and syntactic sentences commonly match up. When speakers produce final intonation contours together with finite verb morphology, they are signaling the end of significant units in the narrative (Genetti and Slater 2004). These units correspond to the layman’s concept of “the sentence”. They have been called “talk units” by Halford (1996), and “narrative sentences” by Genetti and Slater (2004). The discourse function of these units has not been adequately studied, however Chafe’s (1980: 26, 1994: 142) “center of interest” appears to be a promising direction of future research.

The convergence of syntactic and prosodic finality is also relevant to turn taking (Ford and Thompson 1996).

5 Independence of syntactic and prosodic structures

While syntactic and prosodic structure have strong parallels and substantially overlap, it is clear that correspondences between them are neither obligatory nor unique, as pointed out by t'Hart et al (1990:100) and others. The fact that the relationships between syntax and prosody are non-obligatory renders the attested correlations even more interesting; speakers are choosing to produce parallel structures the majority of the time. When speakers make the opposite choice, so that the two modalities do not run in tandem, they provide evidence for their independence. The study of such syntax/prosody “mismatches” – cases that go against common patterns of correlation between syntax and prosody – is particularly interesting when they are examined in the larger discourse context; speakers produce mismatches in order to meet particular communicative aims.

The fact that syntactic and prosodic boundaries usually co-occur has been established in a number of studies (Iwasaki and Tao 1993, Tao 1996, Matsumoto 2000). Genetti and Slater (2004), who analyzed the syntax/prosody correlations in one Dolakha Newar text in detail, found that 86% of prosodic unit boundaries followed either a noun phrase or a clause boundary. Similarly striking results were found for the co-occurrence of the marking of continuation and finality: 81% of the finite clauses in the narrative occurred with final intonation, while 99% of the non-finite clauses occurred with continuing intonation.

Despite these high percentages of co-occurrence, there are clearly some cases which contradict the attested patterns. This is one type of syntax/prosody “mismatch” (Genetti 2003): a mismatch in syntactic and prosodic boundary. An example is given in (8):

(8) *pusata main = e* ;
Pusata month=GEN

barta con-ṅasin ;
fast stay-when
'When it was the fast in the month of Pusata...'

Syntactically, this example consists of a simple intransitive clause with a subject and an intransitive verb. The subject noun phrase contains a genitive modifier *pusata main=e* ‘of the month of Pusata’ preceding the head noun *barta* ‘fast’. The result is a well-formed and integrated clause. Although this is one integrated syntactic unit, the speaker made a decision to distribute the clause over two prosodic units. While one might expect a break between the subject noun phrase and the verb as the major constituents of the clause, the speaker does not produce this. Instead, she breaks the noun phrase itself apart, putting the genitive modifier into one prosodic unit, and the head in another. In order to understand this seemingly odd decision, one must look more broadly at the narrative context. This sentence was produced in the first line of a long and involved narrative. The genitive modifier is set off prosodically in order to establish the temporal reference of the following episode. At the same time that the speaker separates *pusata main* prosodically, she also

smoothly produces the genitive clitic, marking it as dependent on the following head, and constructing a well-formed and integrated syntactic sentence.

Another type of syntax/prosody mismatch is found in the marking of finality and continuation. That is, a unit can be marked as final in one modality and simultaneously marked as continuing in another. An example of this is given in (9):

(9) *sampati ma-da* ,
wealth NEG-have

jin ma-bi-gi chana bā = ta .
1sERG NEG-give-1sFUT 2sGEN father=DAT
'She will not have wealth. I will not give her (in marriage) to your father.'

This example consists of two finite clauses in sequence, each containing a finite verb and each constituting an independent syntactic sentence.⁶ By contrast, the example contains only one integrated *prosodic* sentence; it has one line with continuing intonation and one with final intonation. The locus of the mismatch is the first line, *sampati ma-da*, 'she will not have wealth', which is marked as final at the syntactic level and continuing at the prosodic level. To understand why the speaker produced this mismatch, one again needs to consider the wider context of the narrative. This example is an embedded direct quote in a conversation regarding marriage negotiations. It is spoken by the father of the prospective bride, who is concerned for her financial future and therefore (at this stage of the negotiations) refuses to give the girl in marriage. The continuing intonation functions here to mark a significant relationship between the proposition of the first line and that of the second. The context allows the speaker to infer that the interpropositional relationship is causal; it is because of his conviction that she will be destitute that he is refusing the marriage. This raises the question of why the speaker did not then mark this causal relationship explicitly by using the causal converb, *ma-da-e-lāgin* 'because she will not have'. The answer is that the production of the finite verb form allows the material of this clause to be presented as an assertion, clarifying and strengthening the father's position in the negotiation. Since the speaker can indicate the interpropositional relationship with prosody, the verb form is free to be used for independent rhetorical purposes.

It is clear from these examples that a full understanding of how speakers weave syntax and prosody together can only be arrived at through a detailed qualitative analysis of a particular discourse at a particular point in time. While quantitative studies are clearly important in showing overall patterns and trends in the data, they must be balanced by detailed examination of the use of particular forms in context.

6 Conclusions

This paper has demonstrated that in Dolakha Newar there are a number of striking parallels between prosodic and syntactic structures. The marking of continuation or finality is realized at the ends of units in both domains, and these usually overlap temporally. Both syntax and prosody form macro-units with non-final units followed by final units. Also,

6. The existential verb *dar-* has irregular inflection. This is the negative past/present form.

both allow for the embedding of one unit into another. It is interesting to note that these parallels are due in part to the verb-final typology of the language; languages with other types of constituent ordering may not exhibit parallelisms to the same degree. Genetti (2003) explores this point in more depth.

Although there are significant parallels between syntactic and prosodic structure, speakers manipulate each independently and there are no required one-to-one correlations between domains. Evidence for this point is found in the production of syntax/prosody mismatches. Speakers can skew the two domains in order to meet the broader goals of the discourse.

This study was based on a methodology which includes detailed examination of the sound of recorded narratives together with their segmental transcription. The result is a richer study which reveals the interaction between the syntactic and prosodic domains. Listening to the recording as one performs an analysis allows a fuller understanding of why a particular coding decision was made at a particular point in time, and a fuller understanding of the dynamic process of discourse production.

Notes

I would like to thank Wallace Chafe, Matthew Gordon, Keith Slater, Greg Brown, Daniel Wood, and the UCSB Prosody Group for assistance and inspiration. All mistakes are my own responsibility.

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LEXICAL STRATA OF INDONESIAN VOCABULARY

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0 Introduction

Indonesian is known for its rich use of loanwords. It has adopted a number of words from different languages throughout its history. Scholars describe the historical borrowings in Indonesian as coming from Arabic, Chinese, Dutch, English, Hindi, Japanese, Portuguese, Sanskrit, Tamil, etc. (Gonda 1973, Jones 1984, Lapoliwa 1981, Lowenberg 1983, Quinn 2001, etc.). In this paper, I will focus on loanwords from Sanskrit, Arabic, Dutch and English in today's Indonesian language.

For the purpose of observing the morphophonemic degrees of coherence between the prefix and stems, this paper focuses on the history of the Indonesian lexicon in connection with the transitive verb forming prefix *məŋ-*. The morphophonemic boundaries show stronger or weaker degrees of coherence depending upon the origins of the stem vocabulary.

Indonesian lexical strata are layers formed within the Indonesian vocabulary as the result of accumulation of words from different languages and time periods through the history. Although the idea of lexical strata presented here is closely related to a Lexical Phonology (LP) framework, there is a fundamental difference between my proposal and the original LP strata. Major scholars who developed the theory of LP, such as Kiparsky (1982) and Mohanan (1982), based their analyses on morphophonological interactions between affixes of different classes and stems. However, I am using a stem-based analysis (c.f. Giegerich 1999) to give an explanation for a similar morphophonological situation. My approach allows us to account for the history of a language in the same organized way as the original LP framework. I will first introduce the historical background of the major loanwords in Indonesian before getting into the discussion of the morphophonemics.

1 Historical Background of the Major Loanwords

1.1 Sanskrit

Among the languages that influenced Indonesian, Sanskrit loanwords are concentrated in religious and scholarly terms. The French scholar Coedès (1948: Chapter II) viewed the contact between India and Indonesia as starting around 100 AD. The earliest inscription or Yupa inscription that dates back to c.400 was found at Kutai, West Kalimantan (Hunter 1998:12). According to Gonda (1973:67), there is a record of the existence of Hindu settlements in Java in 414 AD. Since Sanskrit loanwords started coming into the Indonesian language such a long time ago with strong religious influence roughly until the 14th century in different parts of today's Indonesia (Collins 1996:12), they are deeply assimilated into the indigenous vocabulary with respect to the morphophonemic variation with the *məŋ-* prefix. Many Indonesian speakers in general consider the Sanskrit loanwords as their native vocabulary.

Examples of Sanskrit loanwords in Indonesian are *dewa/dewi* (< *deva/deva*)

‘god/goddess’, *surga* (< *svarga*) ‘heaven’, *neraka* (< *naraka*) ‘hell’, *puji* (< *pūjā*) ‘worship’, *agama* (< *āgamā*) ‘religion’, *gembira* ‘delighted’ (< *gambhīra* ‘serious, sagacious’), *sarjana* (< *sajjana*) ‘virtuous, a wise man’, and *siswa* (< *śiṣya*) ‘student’ (data from Jones 1984:5-10).

1.2 Arabic

The Islamic religion started to spread throughout Indonesia circa 1300 (Jones 1984:12) with strong influence from the Arabic language. According to Collins (1996:30), “borrowing from Arabic into Malay greatly increased and Arabic loanwords began to supplement and replace Sanskrit and indigenous Malay words” in the 16th century. Lapoliwa (1982:288) reports that many words of Arabic origin, which had been introduced into the Indonesian language through the Islamic religion, have been adopted into Indonesian for a long time; thus, many of them have been nativized to the extent that they behave as native vocabulary considering morphophonemic rule applications.

Examples of Arabic loanwords in Indonesian include, *patuh* ‘to obey’, *terjemah* ‘to translate’, and *sadar* ‘to be aware’ (Alwi et al. 2000).

1.3 Dutch

Dutch merchants arrived at Bantam in West Java in 1596 (Vlekke 1959: Chapter V), and Dutch traders arrived in Ambon in the Moluccas in the 17th century (Lapian 1996: 42). Along with the Dutch East India Company operation from 1602 to 1799 (Jones 1984:24, Perengkuan 2001:4), Dutch influence became prominent in the Moluccas (Andaya 1996: 5657). From 1605, the Dutch controlled the government of much of the Moluccas, including supervision of the spice production and official administrations of the native people (Collins 1996:41).

Although Dutch became the official language of the colonial government in parts of today’s Indonesia and was taught in school, the actual use of the language was limited to the most elite Indonesians. Even among the very limited number of Indonesian population who were able to understand Dutch, the majority of them did not start acquiring Dutch until the 20th century (Dufon 1999:55, Jones 1984:24).

As far as loanwords go, unlike words of Sanskrit and Arabic origin, it is said that Dutch words are still to a large extent distinguished as *bahasa asing* ‘foreign words’ by the average Indonesian speaker (Suprpto 1993:12). Nonetheless, many words have been completely assimilated into today’s Indonesian compared to newer loanwords from English, and such assimilation can be observed in orthography as well. For example, there are many loanwords starting with /str/ clusters from both Dutch and English in Indonesian. For Dutch words, the Indonesian spelling commonly has an epenthetic vowel between the consonant clusters as in *seterap* ‘sweet drink made of syrup’ (< Dutch *strafen*), *seteruk* ‘receipt’ (< Dutch *strook*), *seterum* ‘electric current’ (< Dutch *stroom*), as oppose to the English loanwords in Indonesian such as *stroberi* (< English *strawberry*), *striptis* (< English *strip*), *stroke* (< English *stroke*), etc.

It is doubtful that most Indonesian speakers have knowledge of Dutch. The foreignness of the Dutch loanwords that led a scholar such as Suprpto (1992:12) to consider them to be ‘more foreign than Sanskrit and Arabic’ may be a result of miscategorization of Dutch loanwords with English vocabulary. Examples of Dutch loanwords used commonly in Indonesian include *kontrolir* ‘supervisor’ (< Dutch

controleur), *telepon* ‘telephone’ (< Dutch *telefoon*), and *portret* ‘to take a picture’ (< Dutch *portret*).

1.4 English

From about 1945, particularly after 1965, since Indonesia opened up to western economic and cultural influences, the newest loanwords have been adopted from English (Jones 1984:24ff). Despite a low education rate in Indonesia, many native speakers of Indonesian recognize English loanwords as words of English-origin relatively well. Due to the introduction of English via mass media by political leaders, scholars, journalists, and pop stars to the general public, acceptance of these loanwords has accelerated in today’s Indonesian society. According to Lapoliwa (1981:3), Dutch and English loanwords manifest their influence upon the Indonesian language and people in modern sciences, technology, and culture. Many Indonesian people consider the use of English loanwords as a sign of education; thus, expressions containing English loanwords have some degree of prestige in today’s general Indonesian society.

Collins (1996) states that the Indonesian language stands “unchallenged as the language of instruction and administration”; however, “the recent prescriptivist crack-down on the proliferation of English in public signs and mass communication channels implies a perceived threat to the Indonesian language” (Collins 1996:86). Examples of English loanwords commonly used in today’s Indonesian language are *teror* ‘terror’, *antisipasi* ‘anticipation’, *sosialisasi* ‘socialization’, *klasifikasi* ‘classification’, *mensurvei* ‘survey’ and so on (data from Alwi et al. 2000:113).

2 Allomorphic Distributions and Morphophonemic Rules of the *məŋ*- Prefix

Indonesian adopts lexical items from foreign words easily with affixations; thus, a productive prefix such as *məŋ*-can attach to loanwords of different origins to form transitive verbs. The *məŋ*-prefix is realized as *mə*-before sonorant consonants, and *məŋ*-before vowels and all monosyllabic stems respectively. For stems starting with voiced obstruents, the coda nasal of the prefix *məŋ*-assimilates to a place of articulation of the first segment of following polysyllabic stems. Generally speaking, in stems that begin with a voiceless obstruent /p, t, k, s/ the base-initial consonant is deleted after the assimilation³. The voiceless palatal affricate /tʃ/⁴ and all base-initial obstruents in monosyllabic stems are exceptions to obstruents deletion. I will focus on the morphophonemic rule concerning the *məŋ*-prefix with voiceless obstruents and vowels. Examples of the relevant morphophonemic realizations are as follows (data from Alwi et al. 2000, Kramer 1997).

(1) Stems starting with sonorants

<i>rokok</i>	→	<i>mərokok</i>	‘to smoke’
<i>latih</i>	→	<i>məlatih</i>	‘to practice’
<i>wakil</i>	→	<i>məwakilkan</i>	‘to represent’
<i>yakin</i>	→	<i>məyakinkan</i>	‘to convince of’

(2) Stems starting with vowels

<i>ambil</i>	→	<i>məŋambil</i>	‘to take’
<i>iŋat</i>	→	<i>məŋiŋatkan</i>	‘to remind’
<i>ulaj</i>	→	<i>məŋulaji</i>	‘to repeat’
<i>endap</i>	→	<i>məŋendap</i>	‘to settle, deposit’
<i>oŋkos</i>	→	<i>məŋoŋkosi</i>	‘to pay for one’s expense’

(3) Stems starting with monosyllabic stems

<i>bom</i>	→	<i>məŋəbom</i>	‘to bomb’
<i>cek</i>	→	<i>məŋəcek</i>	‘to check’

(4) Stems starting with voiced obstruents

<i>beri</i>	→	<i>məmberi</i>	‘to give’
<i>doroŋ</i>	→	<i>məndoroŋ</i>	‘to push’
<i>guna</i>	→	<i>məŋguna</i>	‘to use’

(5) Stems starting with voiceless obstruents

<i>potoŋ</i>	→	<i>məmotoŋ</i>	‘to cut’
<i>tonton</i>	→	<i>mənonton</i>	‘to watch’
<i>kirim</i>	→	<i>məŋirim</i>	‘to send’
<i>sakit</i>	→	<i>məŋakitkan</i>	‘to cause pain’

The *məŋ*-prefix assimilation is a common phenomenon observed, especially in the Western Malayo-Polynesian branch of the Austronesian language family (including languages spoken in the Philippines and western Indonesia) where **məŋ*- is the proto form for a transitive verbal marking prefix⁵.

3. Rule Application with Loanwords

3.1 Consonants

The behavior of nasal substitution suggests that the morphophonemic rules of Indonesian are sensitive to the status of stems as native or non-native parts. In other words, consonant assimilation and deletion with the prefix *məŋ*- is invariant for native vocabulary or nativized loanwords, but in newly adapted loanwords the deletion rule does not always apply. The former category includes native Indonesian vocabulary as well as Sanskrit and most Arabic loanwords. On the other hand, many of the Dutch and English loanwords are included in the latter category. Relevant examples are given in (6).

(6) *məŋ*-with voiceless obstruent-initial stems of different origins

Native	<i>məŋ-tontɔŋ</i>	→	<i>mənonton</i>	‘to view, watch’
Native	<i>məŋ-kaji</i>	→	<i>məŋaji</i>	‘to recite the Koran’
Sanskrit	<i>məŋ-puji</i>	→	<i>məmuji</i>	‘to worship’
Arabic	<i>məŋ-terjemah</i>	→	<i>mən(t)erjemahkan</i>	‘to translate’
Dutch	<i>məŋ-sopir</i>	→	<i>məŋopir</i>	‘to drive (chauffeur)’
Dutch	<i>məŋ-traktir</i>	→	<i>mən(t)raktir</i>	‘to treat someone’
English	<i>məŋ-teror</i>	→	<i>mən(t)eror</i>	‘to terrorize’

Deletions of the segments in the parenthesis in (6) are optional in today's Indonesian. In Sneddon's (1996:12) words, these voiceless obstruents are in a "transition period" in the loanword assimilation process in Indonesian.

3.2 Vowels

As lexical items starting with the voiceless obstruents show traces of the loanword assimilation process, words starting with vowels also show different behaviors at the morphophonemic level in terms of the loanword nativization. The prefix is invariably realized as *məŋ*-with vowel-initial stems; however, in native and nativized vocabulary, the velar nasal resyllabifies (as a syllable onset) with the stem-initial vowel. But, in non-nativized loanwords the velar nasal remains as a syllable coda. Therefore, with native or nativized loanwords, the velar nasal forms a syllable with the following stem-initial vowels whereas with less-assimilated loanwords, there is often a pause or a glottal stop insertion between the prefix and stem.

(7) *məŋ*-with vowel-initial stems of different origins

Native	<i>ancam</i>	→	<i>mə.ŋan.cam</i>	'to threaten'
	<i>undang</i>	→	<i>mə.ŋun.dan</i>	'to invite'
Sanskrit	<i>ajar</i>	→	<i>mə.ŋa.jar</i>	'to teach'
	<i>upacara</i>	→	<i>mə.ŋu.pa.ca.ra.i</i>	'to hold a ceremony for'
Arabic	<i>alam</i>	→	<i>mə.ŋa.la.mi</i>	'to experience'
	<i>utus</i>	→	<i>mə.ŋu.tus.kan</i>	'to delegate'
Dutch	<i>agen</i>	→	<i>məŋ.a.gen.i</i>	'to distribute'
	<i>impor</i>	→	<i>məŋ.im.por</i>	'to import'
	<i>informasi</i> ⁷	→	<i>məŋ.in.for.ma.si.kan</i>	'to inform'
English	<i>asosiasi</i>	→	<i>məŋ.a.so.si.a.si.kan</i>	'to associate with'

Together with the voiceless obstruents examples, the different behaviors of the *məŋ*-prefix clearly seem sensitive to the nativeness of the Indonesian vocabulary.

3.3 Syllabification with Consonants

For stems considered to be native and nativized Indonesian, the syllable assignment of the final nasal in the *məŋ*-prefix depends on what is available in the initial-position of the following stem. Consider the following cases given in the order of stems starting with the sonorants, voiced obstruents, /p/, /t/, /k/, and /s/ from different word origin (data from Alwi et al. 2000, Departmen Pendidikan Nasional 2001, Echols and Shadily 1989, Jones 1984, Sneddon 1996):

(8) Stems starting with sonorants

N:	<i>latih</i>	→	<i>mə.la.tih</i>	'to practice'
S:	<i>muka</i>	→	<i>mə.mu.ka.kan</i>	'to suggest, propose'
A:	<i>napas</i>	→	<i>mə.na.pas.kan</i>	'to exhale something'
D:	<i>motor</i>	→	<i>mə.mo.to.ri</i>	'to go by a car'
E:	<i>respons</i>	→	<i>mə.res.pons</i>	'to respond'

(9) Stems starting with voiced obstruents

N:	<i>duga</i>	→	<i>mən.du.ga</i>	‘to pray’
S:	<i>bukti</i>	→	<i>məm.buk.ti.kan</i>	‘to prove’
A:	<i>zakat</i>	→	<i>mən.za.kat.kan</i>	‘to donate (to mosque)’
D:	<i>Belanda</i>	→	<i>məm.be.lan.da.kan</i>	‘to make it Dutch-like’
E:	<i>gossip</i>	→	<i>məŋ.go.sip.kan</i>	‘to gossip’

(10) Stems starting with voiceless obstruent /p/

N:	<i>poton</i>	→	<i>mə.mo.ton</i>	‘to cut’
S:	<i>puji</i>	→	<i>mə.mu.ji</i>	‘to worship’
A:	<i>patuh</i>	→	<i>mə.ma.tu.hi</i>	‘to obey’
D:	<i>portret</i>	→	<i>mə.mot.ret</i>	‘to take a picture’
E:	<i>partisipasi</i>	→	<i>məm.par.ti.si.pa.si</i>	‘to participate’

(11) Stems starting with voiceless obstruent /t/

N:	<i>tonton</i>	→	<i>mə.non.ton</i>	‘to view, watch’
S:	<i>tata</i>	→	<i>mə.na.ta</i>	‘to put in order, organize’
A:	<i>takbir</i>	→	<i>mə.nak.bir.kan</i>	‘to make laudatory’
D:	<i>telepon</i>	→	<i>mə.ne.le.pon</i>	‘to call, telephone’
E:	<i>transfer</i>	→	<i>mən.trans.fer</i>	‘to transfer’

(12) Stems starting with voiceless obstruent /k/

N:	<i> kirim</i>	→	<i>mə.ŋi.rim</i>	‘to send’
S:	<i> kepala</i>	→	<i>mə.ŋe.pa.la.i</i>	‘to act as the head’
A:	<i> khotbah</i>	→	<i>mə.ŋot.bah.i</i>	‘to preach at, lecture someone’
D:	<i> klat</i>	→	<i>məŋ.kə.lat</i>	‘to draft a paper’
E:	<i> klipin</i>	→	<i>məŋ.kli.piŋ</i>	‘to clip’

(13) Stems starting with voiceless obstruent /s/

N:	<i> sakit</i>	→	<i>mə.ʃa.kit.kan</i>	‘to cause pain’
S:	<i> sentosa</i>	→	<i>mə.ʃen.to.sa.kan</i>	‘to provide rest and safety’
A:	<i> sadar</i>	→	<i>mə.ʃa.da.ri</i>	‘to realize’
D:	<i> seterika</i>	→	<i>mə.ʃe.te.ri.ka</i>	‘to iron’
E:	<i> sosialisasi</i>	→	<i>mən.so.si.a.li.sa.si.kan</i>	‘to socialize’

The border between the native/nativized category versus the non-nativized category is not clear-cut as observed in the consonant deletion of stem-initial /p, t, k, s/ segments as seen in examples (6) -(10). There are some loanwords that have not yet been fully nativized; thus, there exist variation in pronunciations at a morphophonemic level with *məŋ-*. This means that for the words starting with /p, t, k, s/, the steminitial consonants are sometimes dropped and sometimes kept, depending on the speaker without changing meanings⁸. Examples of such loanwords are given in (11).

- (11) a. *terjemah*⁹ → *mānterjemahkan/mānerjemahkan* ‘to translate’
 b. *traktir* → *māntraktir/mānəraktir* ‘to treat someone’
 c. *kategori* → *məṅkategorikan/məṅategorikan* ‘to categorize’
 d. *sukses* → *mānsukseskan/məṅukseskan* ‘to succeed’
 e. *proses* → *məmproses/məməroses* ‘to process’

In general, loanwords from Dutch and English show variation in consonant deletion whereas the native words and loanwords from Sanskrit and Arabic rarely have variation in this environment. At the same time, speakers of the Indonesian language are often aware that the loanwords from Dutch and English are considered to be foreign, while they tend to consider Sanskrit and Arabic loanwords as native.

4 Observation

4.1 Survey

To observe the consonant deletion and syllabification patterns regarding the *məṅ*-prefixation and the vowel-initial stems, I informally surveyed some native Indonesian speakers about the use of *məṅ*- and words of different origin both in Indonesia (Group A) and in Hawai‘i (Group B). The survey instrument contained a combination of *məṅ*-prefix and stems of different origins in different speech rates (fast, normal, and slow), randomly arranged. The stems were selected from three different categories, namely, 1. Native and nativized vocabulary, 2. Well-assimilated foreign loans, and 3. Less-assimilated foreign loans. All the stems in these different groups were chosen from Echols and Shadily (1975) with guidance of a high school teacher in Makassar who is a native Indonesian language speaker, Mr. Syahrudin.

Category 1 (native and nativized vocabulary) included *ambil* ‘take’, *ingin* ‘desire’, *undang* ‘invite’, *endap* ‘deposit/ settle’, and *ongkos* ‘cost.’ Category 2 (well-assimilated loanwords) had *aborsi* ‘abortion’, *informasi* ‘information’, *evaluasi* ‘evaluation’, and *operasi* ‘operation.’ Stems such as *antisipasi* ‘anticipation’, *imajinasi* ‘imagination’, *edit* ‘edit’, and *organisasi* ‘organization’ were used for Category 3 (less-assimilated loanwords)¹⁰.

4.2 Findings

The following table indicates syllabification patterns of the last nasal in the *məṅ*-prefix with the stem-initial vowels by four native speakers of Indonesian who had little exposure to foreign languages. (C = category, FS = fast speech, NS = normal speech, SS = slow speech, and SR = speech rate)

Table 1: *Vowel resyllabification of the four speakers in Indonesia (Group A)*

	FS	NS	SS	Affected by SR?
C 1	100%	100%	100%	No
C 2	56.2%	25%	6%	Yes
C 3	6%	0%	0%	No ?

The resyllabification of the coda nasal and stem-initial vowels takes place the most with Category 1 (native/nativized), followed by Category 2 (well-assimilated loanwords)

and Category 3 (less-assimilated loanwords). The speech rates seem to be affecting the results in Category 2 because people resyllabified the velar nasal with the stem-initial vowels in fast speech the most and slow speech the least.

Speakers in Group B are three native speakers of Indonesian who have lived in English-speaking countries for over five years. Again, the resyllabification took place the most in the order of Category 1, Category 2, and Category 3.

Table 2: *Vowel resyllabification of the three speakers in the English speaking countries (Group B)*

	FS	NS	SS	Affected by SR?
C 1	100%	100%	93%	No
C 2	25%	25%	16%	?
C 3	6%	0%	0%	No

For both groups, it is difficult to determine whether speech rates had any effects on syllabification patterns or not for this group, due to the small number of samples. Nonetheless, just by looking at the outcome, it does seem as if the slow speech was triggering non-application of the resyllabification in Category 2. In any case, these data and observations are just suggestive and needs further investigation with more samples.

5 Rule Ranking and Boundary Strength

Stanley (1973:191) states, “more than one type of boundary is necessary and that it makes initial sense to consider boundaries are ranked from strong to weak.” In accordance with Stanley (1973), the boundary involving the *məŋ* -prefix and loanwords in Indonesian are ranked in order from the most coherent (native/nativized = the weakest boundary) to the least coherent (less-assimilated loanwords = the strongest boundary). Differences in the various different degrees of cohesion are determined by the phonological rules of consonant deletions and syllabification patterns.

In order to account for the variation of the rule applications or “transition period” (Sneddon 1996:12), separating a domain of rule application into different strata provides a general view into the rule applications in Indonesian phonology. For this purpose, categories based on the different word origins (or nativeness) such as native/nativized, well-assimilated loanwords, and less-assimilated loanwords are used in the following figure.

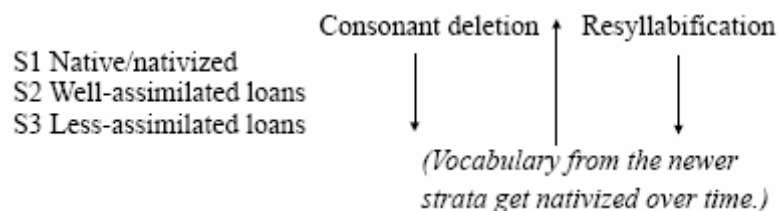


Figure 1: *Lexical Strata of Indonesian based on the degrees of nativeness*

Myers (1991:382) states, “there is a gradual loosening of restrictions on phonological representations.” He refers to Kiparsky’s Strong Domain Hypothesis (SDH) concerning the degrees of cohesion at the morphophonological level. Myers (1991:382) explains the SDH as follows¹¹:

- (12) a. All rules are available at the earliest level of the phonology.
 b. Rules may cease to apply, but may not begin to apply, at a later level by stipulation.

It appears that the application of the morphophonological rule in the patterns considered is a clear indication of the degree of nativeness. For example, a process of the on-going nativization of loanwords can be seen in examples in (11) with “a gradual loosening of restrictions on phonological representations” (Myers 1991:382). From the point of view of the SDH, the consonant deletion rule and resyllabification rules are available at the earliest level of the phonology (S1), and then they cease to apply gradually at the following level (S2).

When less-assimilated loanwords starting with vowels are prefixed with *məŋ-*, there is often a short gap or a glottal insertion between the two morphemes. According to Hyman (1978:452-454), if there is such a pause, it is an indication of a potential morpheme boundary sensitive to boundary strength. A general prediction is that with the existing loanwords, the boundaries will weaken over time and the evidence will appear in syllable structure. This means that the initial vowels in stems will start resyllabifying with the preceding velar nasal of the prefix, changing it from a coda to an onset in an assimilated form of a loanword.

6 Conclusion

This paper began with a brief history of loanwords in Indonesian, and morphophonological phenomena between a highly productive prefix *məŋ-* and stems of different lexical strata (native/nativized, well-assimilated loans, less-assimilated loans). Following this, the application of less well-reported morphophonemic rules (syllabification patterns with the vowel-initial stems) in different lexical strata were compared in two different groups of native Indonesian speakers. Regarding discreteness of the Indonesian lexical strata, the data tells us that connections between different strata are not clear cut but rather fuzzy for the following two reasons¹²: 1) variation is allowed in the consonant deletion rule applications, and 2) *məŋ-* and vowel-initial stems’ syllabification patterns were influenced by speech rate. As reported in this paper, more and more loanwords (especially from English) are coming into the Indonesian language today. In future, it can be suggested that further observation of the *məŋ-* prefix in loanwords should be investigated, especially with respect to the difference between speakers with and without knowledge of English.

Notes

I wish to thank Robert Blust, Uli Kozok, Kenneth Rehg and Albert Schütz for their helpful comments on earlier drafts and also for their continuous support of my work. My sincere appreciation also goes out to Dustin Cowell, Syahrudin, and the people who helped me with my survey. I am also grateful to Shôichi Iwasaki and the SEALS XIII organizers. All

errors and shortcomings are my responsibility alone.

1. Some verbal suffixes such as *-i* or *-kan* are often added to the roots along with the transitive verb prefix, however, details of these suffixes will not be discussed in this paper.
2. E.g., according to Collins (1996:82), slightly less than 2% people have university education.
3. Exceptions to this rule are words such as a native vocabulary *punya* ‘to possess/own’ (< (*em*)*pu* + *nya*) • *məmpunyai* (**məmunyai*) and an Arabic loanword *pengaruhi* ‘influence’ *məmpengaruhi* (**məmengaruhi*).
4. A language such as Javanese shows nasal assimilation of /tʃ/ to [ɲ], which is easier to explain than /s/ to [ɲ]. However, the obstruents here exclude an affricate /tʃ/ as well as all voiceless obstruents in monosyllabic stems.
5. The term Western Malayo-Polynesian has been widely used, but there is a question whether this is a valid subgroup (Ross 2002:19). Although only languages that have been called ‘Western Malayo-Polynesian’ make active use of homorganic nasal substitution, there are scattered indications that the process may also have been found in the common ancestor of the languages of eastern Indonesia and the Oceanic group (Blust 1977, 1999:68).
6. There is a homophone *kaji* meaning ‘inspect, examine, investigate’ derived from the same root (Echols and Shadily 1989:254). This meaning is usually prefixed as *mənkaji* with a reserved meaning ‘to inspect, to examine, to analyze’ while *məŋaji* is reserved for another meaning, ‘to recite the Koran’ in general.
7. A commonly used Dutch word that is equivalent for English ‘information’ is *inlichting*, but, there is another form *informatie* in Dutch lexicon (Kozok, personal communication, Travelag 2000).
8. Notice that epenthetic schwa is inserted in examples (11b) *m n raktir* ‘to treat someone’ and (11e) *məməroses* ‘to process’ in order to maintain a phonotactics of the Indonesian language. When impermissible consonant clusters are introduced to the Indonesian language from foreign sources, schwa is often inserted in pronunciation between the onset consonants in the loanword forms, as in *səlogan* ‘slogan’ (< Dutch/English), and *sətructor* ‘structure’ (< Dutch/English) (Alwi et al. 2000:77). Thus, schwa seems to be a minimal vowel in Indonesian. This schwa insertion is more seen in the orthography of the Dutch loanwords than English loanwords as mentioned earlier in the paper.
9. Sneddon (1996:12) notes that “after many years of use, *mənterjemah-kan* ‘translate’ was completely replaced by *mənerjemhkan* in a very short period during the mid-1980s.” 10. Although there are six Indonesian vowel phonemes /a, i, u, ə, e, o/, the vowel-initial stems of the first category contains only five phonemes /a, i, u, ə, o/ and the second and third category, only four /a, i, e, o/.
11. I learned this from Professor Kenneth Rehg’s seminar entitled “The lifecycle of phonological rules” during Fall 2001 semester. He has given a presentation at the department colloquium on the same topic (Rehg 2001).
12. Considering the morphophonological boundaries, Dressler (1985:3) explains that the variation between the allomorphic rules and phonological rules point out that lexical strata are separated by fuzzy rather than clear cut boundaries.

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THAI LANGUAGE AUDIO RESOURCE CENTER: THAI SPEECH DATABASE AND APPLICATION IN WEB-BASED LANGUAGE TEACHING

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0 Introduction

Recently, the importance of corpora or databases of language in research in linguistics, lexicography and natural language processing has gained increased recognition. The growth of the high speed internet enables the dissemination of and access to these text and multimedia language resources with ease and speed, making resource sharing among researchers from every corner of the world a possibility.

The development of audio resources of Thai language (especially speech) for research and development with dissemination via the internet is still in an early stage of evolution. This paper reports on **Thai Language Audio Resource Center**, one such Thai language resource now available via the web. (Hoonchamlong et al. 2002a, 2002b)

Thai Language Audio Resource Center (ThaiARC) project provides audio information (in the form of digitized audio files) on Thai language (especially speech) for academic research, disseminated via the Web as part of ThaiSARN (Thai Social/Scientific Academic Research Network) at <http://thaiarc.tu.ac.th>. ThaiARC also serves as an archive for these collections as reference and as a shared resource on Thai language for researchers.

The project pioneers the production and collection of various types of audio information on Thailand and the Thai language, such as royal speeches, academic lectures, oral literature, etc, for dissemination on the web. It also explores the application of speech data in web-based language teaching.

The audio files at ThaiARC are available in Wave (.wav) RealAudio (.ra) and mp3 formats, formats that are readily accessible by most computers. Besides being a repository for the collections of audio information on Thai Language, ThaiARC also provides electronic verbatim text/transcript and annotation accompanying each audio program, also distributed electronically through the web.

ThaiARC was funded by NECTEC (National Electronic and Computer Technology Center), NSTDA (National Science and Technology Development Agency), Ministry of Science, Technology and Environment of Thailand during the year 1997-2002. The project

was carried out in two phases at Thammasat University which also hosts the project website.

Phase 1 of the project was conducted during 1997-1999 as a pilot phase to establish the audio resource center by studying appropriate technology to be used in each stage of database development, namely, data formatting, archiving, data accessing and retrieval. Samples of three groups of Thai audio information, namely, speech styles, regional folktales and poetry are made available. In addition, a Thai Language Page was also established especially to provide English information on the Thai language to foreigners.

Phase 2 of the project was conducted during 2000-2002. The objectives of Thai Language Audio Resource Center (THAIARC) project Phase 2 are

- 1) to establish a resource for Thai language audio information for research, by systematically collecting Thai audio data for linguistic research, starting from the tones of the four Thai dialects, which are the distinct characteristics of Thai language. The tonal word sets are collected according to linguistics research design for tones.
- 2) to investigate the forms and techniques most appropriate for web-based language instruction, and to apply the collected Thai audio information in developing a model web-based lesson for teaching Thai listening comprehension skills for foreigners.

At present, the following four groups of Thai speech data are available as an online voice sample library on the following topics, along with verbatim transcripts and annotations:

- 1) **Thai Regional Dialects:** samples of word sets demonstrating tonal variations among the 4 major Thai dialects (Northern, Northeastern, Southern, Central) and Standard Thai, with audio file search tool for easy access, located at: <http://thaiarc.tu.ac.th/host/thaiarc/dialect>
- 2) **Thai Regional Folktales:** samples of Thai Folktales from the 4 major regions (Northern, Northeastern, Southern, Central), each with transcript and standard Thai translation.
- 3) **Thai Poetry:** samples of readings of various poetic styles and versifications. Explanations are available in both Thai and English.
- 4) **Speech Styles:** samples of the King's speeches for various occasions, for example, his Golden Jubilee Speech; also here are samples of various types of news broadcasts.

ThaiARC also features the “**Thai Language Page**” which aims to provide overview information about Thai language in various aspects for foreigners. This information includes the history of the Thai language, Thai alphabets and basic Thai phrases with audio files for tourists or those interested in Thai.

In addition, a sample application of **ThaiARC** audio and transcript data as “Web-based Instruction of Thai Listening Skills” is also demonstrated.

ศูนย์สนเทศเสียงไทย
Thai Language Audio Resource Center

Four groups of Thai audio samples

ภาษาไทยถิ่น Thai Dialect
ลีลาการใช้ภาษา Thai Speech Styles
นิทานพื้นบ้านถิ่นไทย Thai Regional Folktales
ร้อยกรองประเภทต่างๆ Thai Poetry

แนะนำโครงการ
About ThaiARC

Special Resources:
[Thai Language Page](#)
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[To view Thai fonts](#)

สำรวจศัพท์
จากชื่อมาจน
Links

ต้นแบบการสอนภาษาไทยให้ต่างชาติในด้านการฟังผ่านเครือข่ายเว็ส ไซด์ เว็บ
Web-based Thai Listening Skill Instruction

ตัวอย่างการใช้เทคโนโลยีเว็บกับบทเรียนภาษาไทยในฐานะภาษาที่สอง
Sample of Web Technology use in Learning Thai as a Second Language

Search ThaiARC [Search](#)

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Thai Audio Resource Center,
Thammasat University

Comments to [WebMaster](#)

You are visitor no.
88004

ThaiARC project is funded by

Figure 1: ThaiARC Home Page (May 2003)

Data Collection, Archiving and Dissemination

1 Thai Regional Dialects Word Sets

Thai is a tonal language belonging to the Tai language family, which includes languages spoken in Assam, northern Burma, all of Thailand including the peninsula, Laos, Northern Vietnam and the Chinese provinces of Yunnan, Guizhou (Kweichow) and Guangxi(Kwangsi).

In Thai and Tai dialectology, tone systems and variations in tone systems are important identifying features of the various Thai/Tai dialects. Based on a method developed in the discipline of comparative and historical Thai linguistics, William Gedney (1972)'s "Proto Tai Tone Matrix" or commonly known as "Gedney's Tone Box" has been widely used as a tool for collecting word lists for determining the tone system of a Thai/Tai dialect (see Figure 2.). The tone box is based on the development of various Tai tone systems by tone splits and tone mergers from the reconstructed three tones (Tone A, B and C) of Proto-Tai. The tone splits and mergers were influenced by certain features of initial consonants of Proto-Tai such as voicing and aspiration, and also the types of syllables and vowel length. The word lists collected are words that are known to be Tai in origin, i.e. words describing daily life and environment in villages shared by related Tai dialects.

Proto Tai Tone Matrix (adapted from Gedney 1972:434)

Initial Consonants at time of split	Live (Smooth) Syllables			Dead (Checked) Syllables	
	A	B	C	Long Vowels (DL)	Short Vowels (DS)
Class 1. Voiceless Friction *s *hm *ph					
Class 2. Voiceless unaspirated stops *p *t					
Class 3. Glottal *ʔ *ʔb					
Class 4. Voiced *b *m					

Figure 2: Proto-Tai tone matrix

The following diagram (Figure 3), adapted from Tingsabadh 2001, show how Standard Thai consonant classes and tone markers correspond with Proto-Tai initial consonant classes and tones.

Proto Tai Initial Consonants at time of split	Standard Thai Consonants
Class 1. Voiceless Friction *s *hm *ph	"HIGH" ข ฉ ถฐฝฝ ส ษ ศ ห (หม ทน ทง หย หร ทล ทว) kh ch th ph f s h m n ŋ y r l w
Class 2. Voiceless unaspirated stops *p *t	"MID" ก จ ตฎ ป k c t p
Class 3. Glottal *ʔ *ʔb	บ ด ฎ อ b d ʔ
Class 4. Voiced *b *m	"LOW" ค ช ทธตฒ พ ฟ ซ ฮ ม นณ ง ยญ ร ลฬ ว kh ch th ph f s h m n ŋ y r l w

Proto Tai Tones	Standard Thai Tone Marks
A	No marks ex. ป่า paa 'throw'
B	ˀ máy ʔèek ex. ป่า paa 'forest'
C	ˀ may thoo ex. ป่า paa 'aunt'

Figure 3: Proto Tai and Standard Thai consonant classes and tones

The following (Figure 4.) show the word lists, based on the Tone Box, that we use for collecting dialectal word samples.

Cons Class	Live Syllables			Dead Syllables	Dead Syllables
	A	B	C	Long V. (DL)	Short V. (DS)
1.	ขา khaa 'leg' หู huu 'ear' หัว hua 'head' หมา maa 'dog'	เข่า khaw 'knee' ไข่ khay 'egg' ผ่า phaa 'to cleave' ใหม่ may 'new'	หน้า naa 'face' เสื้อ sua 'blouse/shirt' ข้าว khaaw 'rice' ห้า haa 'five'	ศอก sook 'elbow' เสา saak 'pestle' หาบ haap 'carry with pole'	ผัก phak 'vegetable' สุก suk 'ripe, cooked' ขุด khut 'dig' หมัด mat 'flea'
2.	ตา taa 'eye' กิน kin 'eat' กา kaa 'crow' ปี pii 'year' ปลา plaa 'fish'	ไก่ kay 'chicken' เต่า taw 'turtle'	ก้าง kaag 'fish bone' เก้า kaaw 'nine' ป้า paa 'older aunt' ใต้ tay 'underneath' ต้ม tom 'boil'	ปาก paak 'mouth' ตาก taak 'to dry' ปีก piik 'wing' แปด paet 'eight'	เป็ด pet 'duck' เจ็ด cet 'seven' กบ kop 'frog' เจ็บ cep 'to be hurt' ตัก tak 'to scoop'
Cons Class	A	B	C	DL	DS
3.	บิน bin 'fly' ดำ dam 'black' เอว ?eew 'waist' ดาว daaw 'star' แดง dæg 'red'	บ่า baa 'shoulder' อ้อม ?im 'to be full' บ่าว baaw 'young man/groom'	อ้า ?aa 'to open' บ้า baa 'to be mad'	แดด dæet 'sunlight' ดอก dooak 'flower' บอด boot 'to be blind' อาบ ?aap 'to bathe'	เบ็ด bet 'fishing rod' อก ?ok 'chest' ดิบ dip 'to be raw'
4.	มือ mueu 'hand' หน้า naa 'face' งู guu 'snake' ลุง luu 'uncle' ควาย khwaay 'buffalo'	พ่อ phoo 'father' แม่ mee 'mother'	น้า naa 'younger aunt' ไม้ may 'wood' น้อง noong 'younger sibling' ม้า maa 'horse'	มืด mueut 'to be dark' ลูก luuk 'offspring' เลือด leuat 'blood' มีด miit 'knife'	มด mot 'ant' วัด wat 'temple' นก nok 'bird' ซัก sak 'to wash' มัด mat 'to tie'

Figure 4: Word list used in collecting dialect samples

The word sets were collected in May-August 2001 from the four major regional dialects in Thailand in addition to the Bangkok Thai or Standard Thai: A dialect that is a prominent dialect in each region was collected as a representative dialect.

- 1) Northern Thai (Kam Muang): represented by a dialect in Chiangmai province..
- 2) Northeastern Thai (Isan): represented by a dialect in Khonkaen and Mahasarakham
- 3) Southern Thai (Pak Tai): represented by a dialect in Nakhon Sithammarat.
- 4) Central Thai: represented by a dialect in Suphanburi

In addition to the word sets, Thai numbers in the above five dialects are also collected.

Our tone box word list comprises 78 words. For each dialect, we collected from six male and six female informants. Therefore, the total number of words collected are 4,680 words. As for the numbers, we collected 27 number words (0-10, 11, 20, 21, 30, 31, 40, 50, 60, 70, 80, 90, 100, 1000, 10000, 100000, 1000000) from the five dialects, from one male and one female informant.

The word sets were digitized into Wave (.wav) format. An interactive search program to access and listen to an audio file of a word in the word sets is provided. Users can set the following parameters to select an audio file (see Figure 5): a word from the tone box(1), region (2), gender of speakers (3) before clicking button 4 to submit the choices and clicking button 5 to play the audio of the desired word.

This search program was written in Javascript, therefore it works with a media player in any standard web browser such as Internet Explorer and Netscape.

ตัวอย่างเสียงวรรณยุกต์ภาษาไทยถิ่นต่างๆ
(Voice Samples of Thai Dialect)

กล่องวรรณยุกต์ (Tone Box)						ภาษาไทยถิ่น Thai Regional
A	B	C	DL	DS		
<input type="radio"/> ขา leg	<input type="radio"/> เข่า knee	<input type="radio"/> หน้า face	<input type="radio"/> แขน elbow	<input type="radio"/> ผัก vegetable	1	<input type="radio"/> กทม. Bangkok
<input type="radio"/> หู ear	<input type="radio"/> ไข่ egg	<input type="radio"/> เสื้อ cloth	<input type="radio"/> 杵 pestle	<input type="radio"/> สุก cooked		<input type="radio"/> กลาง Central
<input type="radio"/> หัว head	<input type="radio"/> ผ่า chop	<input type="radio"/> ข้าว rice	<input type="radio"/> พาย carry	<input type="radio"/> ขุด dig		<input type="radio"/> เหนือ North
<input type="radio"/> หมา dog	<input type="radio"/> ใหม่ new	<input type="radio"/> ห้า five		<input type="radio"/> หมัด flea		<input type="radio"/> อีสาน North-East
		<input type="radio"/> ผ้า cloth				<input type="radio"/> ใต้ South
<input type="radio"/> ตา eye		<input type="radio"/> ก้าง fishbone	<input type="radio"/> ปาก mouth	<input type="radio"/> เป็ด duck	2	
<input type="radio"/> กิน eat	<input type="radio"/> ไก่ chicken	<input type="radio"/> เก้า nine	<input type="radio"/> แดง dry	<input type="radio"/> เจ็ด seven		
<input type="radio"/> กา crow	<input type="radio"/> เต่า turtle	<input type="radio"/> ยี่สิบ aunt	<input type="radio"/> ปีก wing	<input type="radio"/> กบ frog		
<input type="radio"/> ปี year		<input type="radio"/> ใต้ under	<input type="radio"/> แปด eight	<input type="radio"/> เจ็บ pain		
<input type="radio"/> ปลา fish		<input type="radio"/> เต็ม boil		<input type="radio"/> ดูป dip up		
<input type="radio"/> บิน fly	<input type="radio"/> อก shoulder		<input type="radio"/> แดด sunlight	<input type="radio"/> เصيد fishhook	3	
<input type="radio"/> ดำ black			<input type="radio"/> ดอก flower	<input type="radio"/> อก chest		
<input type="radio"/> เอว waist	<input type="radio"/> คุ้ม enough	<input type="radio"/> ี่สิบ open	<input type="radio"/> บอด blind	<input type="radio"/> ดิบ raw		
<input type="radio"/> ดาว star	<input type="radio"/> น้า servant	<input type="radio"/> น้า mad	<input type="radio"/> บาน bath			
<input type="radio"/> แดง red						
<input type="radio"/> มือ hand	<input type="radio"/> พ่อ father	<input type="radio"/> น้า aunt	<input type="radio"/> มืด dark	<input type="radio"/> มด ant	4	
	<input type="radio"/> แม่ mother	<input type="radio"/> ไม้ wood	<input type="radio"/> ลูก child	<input type="radio"/> วัด temple		
<input type="radio"/> นา field		<input type="radio"/> น้อง brother	<input type="radio"/> เลือด blood	<input type="radio"/> นก bird		
<input type="radio"/> งู snake		<input type="radio"/> ี่สิบ horse	<input type="radio"/> มีด knife	<input type="radio"/> ซัก wash		
<input type="radio"/> ลุง uncle				<input type="radio"/> ผิด bind		
<input type="radio"/> ควาย buffalo						

ตัวอย่างเสียง (Voice No.)

<input type="radio"/> ผู้ชาย (Male)	<input type="radio"/> ผู้หญิง (Female)
<input type="radio"/> 1	<input type="radio"/> 1
<input type="radio"/> 2	<input type="radio"/> 2
<input type="radio"/> 3	<input type="radio"/> 3
<input type="radio"/> 4	<input type="radio"/> 4
<input type="radio"/> 5	<input type="radio"/> 5
<input type="radio"/> 6	<input type="radio"/> 6

← 4
 ← 5

This sample is currently under construction.
 Some voice samples are unavailable (present with a beep sound).
 Statistics: (as current published wav files)
 total = 78 x 12 x 5 = 4,680 wav files, size vary from 10 - 100 KB with average of 29 KB per file

Figure 5: Interactive program for tone word sets

In addition, accompanying texts and excerpts from articles in Thai give an overview of the phonological characteristics of each regional dialect, the tone box, the process of tone word set collection are also provided.

2 Thai Regional Folktales

The samples of Northern and Southern folktales are selected and digitized from the audio-taped folktales collection of Social Research Institute of Chiangmai University and Thaksin Khadi Institute of Prince of Songkhla University respectively. The samples of North-eastern folktales are selected from the collection of Dr. Wajuppa Tossa of Mahasarakham University and collected from the informants. The samples of central Thai (Suphanburi) Folktales are collected from informants.

Each folktale is presented as verbatim transcript in Thai orthography with a translation into Standard Thai.(see Figure 6). The verbatim transcript of each tale is presented in the left column and the Standard Thai translation in the right column. Users can select to listen to the tales in paragraph units or as whole tales. The audio file formats available are: Wave (.wav), Real Audio (.ra) and MPEG3 (.mp3).

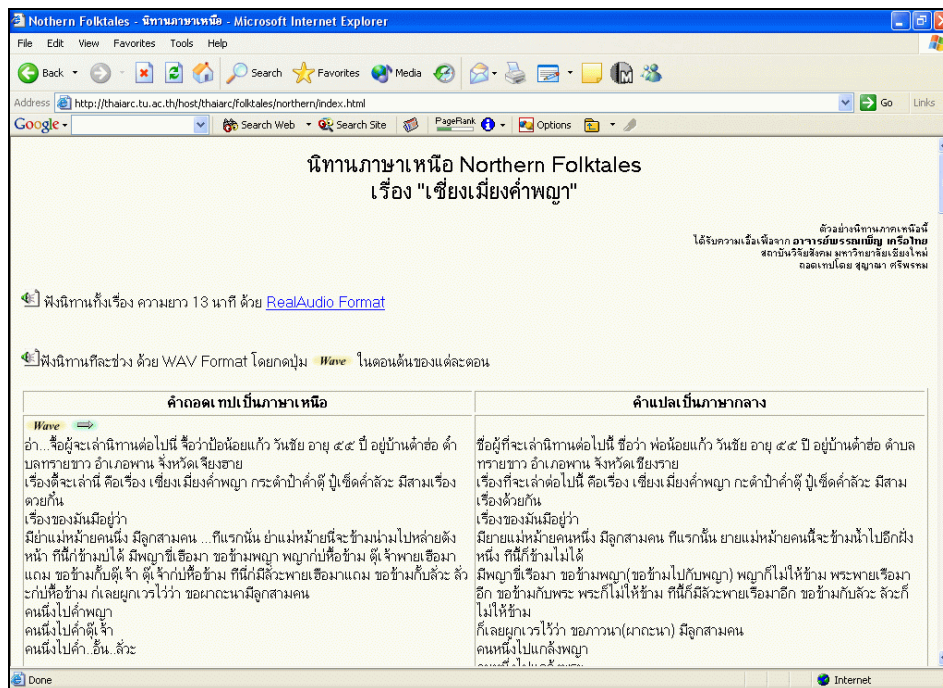


Figure 6. Northern Folktales page

3. Thai Poetry

Sample pieces of various types of versification of Thai poetry were selected from a Thai reference grammar by Thonglo (1972) and spoken by Thavorn Sikkhakosol, a lecturer at Thammasat University. Accompanying texts include diagrams of versification pattern of each type and excerpts from articles in Thai and English on Thai poetry. The audio files are in both wave and Real Audio format. Figure 7 shows a sample Thai poetry page.

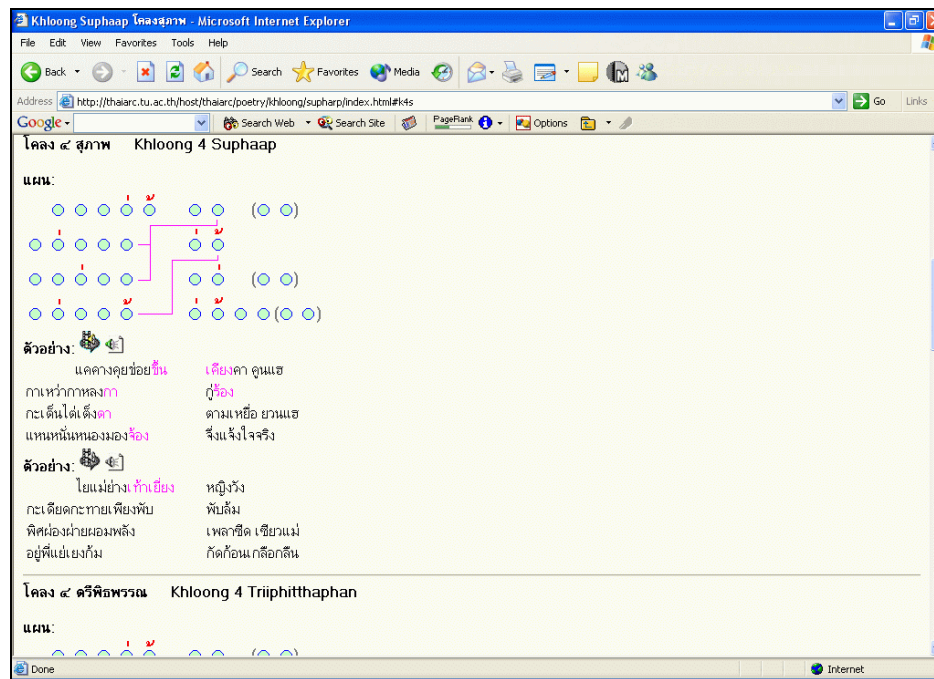


Figure 7. A page showing Khlong versification pattern and examples.

4 Speech Styles:

The audio samples of the speech styles which are available are:

1. the King's speeches for various occasions, for example, his Golden Jubilee Speech.
2. three types of news broadcasts: weather forecast, local news and foreign news.

A verbatim transcript are provided for each speech sample.

5 Sample Application of the Thai Speech Database: Web-based Instruction of Thai Listening Comprehension

Nowadays, the computers' role in education is well recognized as a new medium for presenting and delivering lessons. A commonly used term to describe such a role is "Computer Aided Instruction" or CAI. In the context of language learning/instruction by using computers, "Computer Assisted Language Learning" or CALL is the widely used term. This encompasses various technologies available for use with computers such as using computers with educational software on CD-ROMs, using computers to play various multimedia files (audio, video clips) and using networked computers to access language resources and data via the World Wide Web.

ThaiARC as a Thai Speech database that is accessible via the web can be a useful resource in teaching Thai to foreigners in addition to being a Thai language resource for researchers or the general public. The authentic speech samples of various genres and dialects of spoken Thai are available and their accompanying texts can be applied as teaching materials for various language skills, especially in listening comprehension skills.

We have explored the web technologies and their optimal uses in language instruction and have designed a sample web-based lesson in listening comprehension skill, using the available data from ThaiARC. In designing the web-based lesson, we have taken into account the features of web technologies and the language teaching methodology that can make full use of the simple web technologies available. To ensure accessibility for all

users, the sample web-based lesson makes use of commonly available freeware and shareware.

6 Potentials of Web Technologies as Instructional Media

Web-based instruction is normally thought of as one type of Computer Aided Instruction. However, Horton (2000) pointed out the following differences between Web-based instruction and other types of CAI:

Typical CAIs are disk-based instruction: they use a computer in running instructional software on CD-ROMs which are normally interactive multimedia lessons, i.e., there are texts, graphics, animations, audio clips and also video-clips in a lesson; learners can get automatic feedback from lessons and exercises. However, computers are used as “standalone” computers this way, i.e., there is no communication and interaction among users via the computers in use - whether among learners or between instructors and learners. In addition, the content and exercises on the CD-ROMs are static and cannot be added to or changed or deleted.

On the other hand, to elaborate on Horton (2000: 19), web-based instruction has the following advantages over typical CAIs:

- 1) Centralized storage and maintenance: The web is used as storage for course lessons, exercises and data, and also the site for dissemination and delivery of instruction. The content of the lessons and exercises can easily be updated and changed anytime from anywhere by the authorized web maintainer.
- 2) Access to web-based resources: We can make use of the hypermedia link feature of the web page to access resources on other websites such as libraries, museums, articles from journals, newspapers, magazines, radio and television broadcast programs on the web, and so forth.
- 3) Collaboration mechanism: The web provides various means for learners to communicate with fellow learners, instructors and other web users. The communication could be “synchronous” (real-time or live) communication such as chat by text or by voice in chatrooms, or “asynchronous” communication such as e-mail.

The majority of language lessons and instructions available via the web at present do not fully utilize the full capability and potentials of the web; they only use the web as the media to disseminate interactive multimedia lessons and exercises in the same way that CD-ROMs are used as media.

7 Limitations of Web Technologies as Instructional Media

In maximizing the potential of the web in language learning, instructors should assess the web features that suit both the learners’ technical and language skills and expertise. It would be to the learners’ disadvantage and a waste of their effort for them to try to use the media without a grasp of the web technologies employed in the lessons and exercises. The following skills and expertise of learners, based on Horton’s (2000: 337) observations, should be considered in designing web-based instruction:

- 1) Language fluency: Some types of communication requires high language proficiency, especially in the real-time or synchronous communication inherent in voice chat, audio-conferencing or video-conferencing. On the other hand, asynchronous communication such as e-mail or web-board posting allows users time to compose and revise a message, so they require a lesser degree of language proficiency. This point is especially important for web-based language lessons, which should choose among these modes of communication for those appropriate to the language level of learners.
- 2) Sound quality and accents: This is a point to consider in web-based lessons/activities that use sound or voice communication. The audio quality tends to degrade when transmitted over the internet. This, coupled with various accents in pronunciation that might not be familiar to learners can cause difficulty in comprehension and communication on the learners' part.
- 3) Typing skill: This is a point to consider in web-based lessons/activities that use the keyboard in communication such as e-mail, web-board posting, text chat, especially with the "real-time" communication by keyboard called for in text chatting. Learners need to have adequate typing skills in order to communicate effectively with keyboards. This should be of special consideration in web-based instruction of foreign language with non-typical scripts or keyboard layouts.
- 4) Web/Internet technical expertise: Each web technology may require different levels of internet technical skills from users, for example, web browsing and e-mailing require less technological skill than chat or voice e-mailing. Lessons and activities in web-based instruction should suit the learners' level of skill and comfort in these technologies.

8 A sample web-based Thai listening comprehension lesson.

The target audience of the sample listening comprehension lesson are Thai learners at intermediate high or advanced low level who can read and write simple Thai paragraphs. The listening skill lesson will acquaint the learners with one genre of authentic everyday Thai speech that can be accessed from the sources on the web. We have selected weather forecast news for use in this sample lesson, which is a type of news speech styles that are available as sample Thai speech disseminated via ThaiARC.

Weather forecast news has many desirable characteristics for use as an authentic language material in a listening comprehension lesson. It has a number of formulaic expressions and a well-defined vocabulary range, with a fixed sequence of presentation. Therefore most of the information is predictable. Additionally, the information can be useful in daily life such as in trip planning. In addition, weather forecast news is an authentic piece of information that we have access to everyday.

The weather forecast news used in the lesson is from a broadcast from Radio Thailand as part of Radio Thailand daily morning news. Learners are introduced to vocabulary and expressions commonly used in talking about weather and various regions of Thailand.

The sample web-based lesson is located at:

<http://thaiarc.tu.ac.th/host/thaiarc/wbll/intro.htm>

There are four parts in this sample lesson:

Part 1: Home Page: Gives introduction to the lesson components, the objectives of the lesson and the sequence of activities in the lesson. (Figure 8)

Part 2: Vocabulary and Expression Explanation and Practice. (Figure 9) Learners can listen to each word and expression introduced. A map of Thailand is also presented as a visual aid. (Figure 10)

Part 3: Exercises: A set of 28 questions (multiple choice) in English to test the comprehension of the weather forecast news presented in the lesson. Learners will get immediate feed back from the system. (Figure 11)

Part 4: Assignment. Learners are directed to Radio Thailand web page to listen to the actual weather forecast of the day. (Figure 12)

The screenshot shows a Microsoft Internet Explorer browser window with the address bar displaying <http://thaiarc.tu.ac.th/host/thaiarc/jwb/vocab.htm>. The page content is as follows:

Type of activity :	Listening comprehension
Level :	Advanced (learner able to read Thai)
Objective:	<p>After this lesson you will</p> <ul style="list-style-type: none"> • know about weather related vocabulary and expressions. • understand the weather forecast report and can extract the weather information for use in real life.

Instructions for the lesson

Step 1 : Study and practice a weather forecast report presented by Radio Thailand, which consisted of 3 sections (overall weather conditions, weather conditions of each region, temperature of each region). For each section, you will see a list of frequently used weather vocabulary and expressions (with audio).

Step 2 : Do the exercise.

Step 3 : Do the assignment.

GO! to step 1

Figure 8. Lesson Introduction

Section 1: สภาพอากาศทั่วไปของประเทศไทย
(Overall weather conditions.)

click to listen

*Note The words in red are frequently used weather vocabulary and expressions.

เวลาในขณะนี้ จัดนาฬิกาสี่สิบห้า นาที
ต่อไปเชิญท่านฟังรายงานอากาศของกรมอุตุนิยมวิทยา
กรมอุตุนิยมวิทยา รายงานลักษณะทั่วไป เมื่อเวลา 4 นาฬิกาวันนี้
บริเวณความกดอากาศสูงระลอกใหม่ปกคลุมภาคตะวันออกเฉียงเหนือแล้ว
คาดว่าจะปกคลุมประเทศไทยตอนบนในวันนี้
ลักษณะดังกล่าวจะทำให้ประเทศไทยยังคงมีอากาศหนาวเย็นโดยทั่วไปต่อไปอีก
สำหรับคลื่นลมในอ่าวไทยยังคงมีกำลังแรง คลื่นสูง 2 ถึง 3 เมตร
ขอให้ชาวเรือเดินเรือด้วยความระมัดระวังในระยะนี้

Vocabulary and Expressions

รายงานอากาศ	n.	weather report
กรมอุตุนิยมวิทยา	n.	Meteorological Department
ความกดอากาศสูง	n.	high pressure
หนาว	adj.	cold
เย็น	adj.	cool

Figure 9. Vocabulary and expressions

Section 2: สภาพอากาศของภาคต่าง ๆ
(Weather conditions of each region.)

click to listen

*Note The words in red are frequently used weather vocabulary and expressions.
The words in blue are name of region.

สำหรับพยากรณ์อากาศตั้งแต่เช้าวันนี้ถึง เช้าวันพรุ่งนี้
ภาคเหนือ อากาศหนาวกับมีหมอกในตอนเช้า สำหรับยอดดอย อากาศหนาวจัด
ภาคตะวันออกเฉียงเหนือ อากาศหนาว สำหรับยอดดอย อากาศหนาวจัด
ภาคกลาง มีหมอกบางในตอนเช้า ทางตอนบนของภาคอากาศค่อนข้างหนาว ส่วนทางตอนล่างของภาคมีฝนเล็กน้อยบางพื้นที่
ภาคตะวันออกรวมทั้งชายฝั่ง อากาศเย็น
ภาคใต้ฝั่งตะวันออก อากาศเย็นกับมีฝนฟ้าคะนองกระจายเป็นแห่ง ๆ ส่วนมากบริเวณจังหวัดปัตตานี ยะลาและนราธิวาส
ภาคใต้ฝั่งตะวันตก อากาศเย็นกับมีฝนฟ้าคะนองบางพื้นที่
กรุงเทพมหานครและปริมณฑล อากาศเย็นและมีฝนเป็นส่วนใหญ่ในตอนเช้า

Map of Thailand (with name of region)
Click the name to listen.

Figure 10. Weather news transcript with map of Thailand

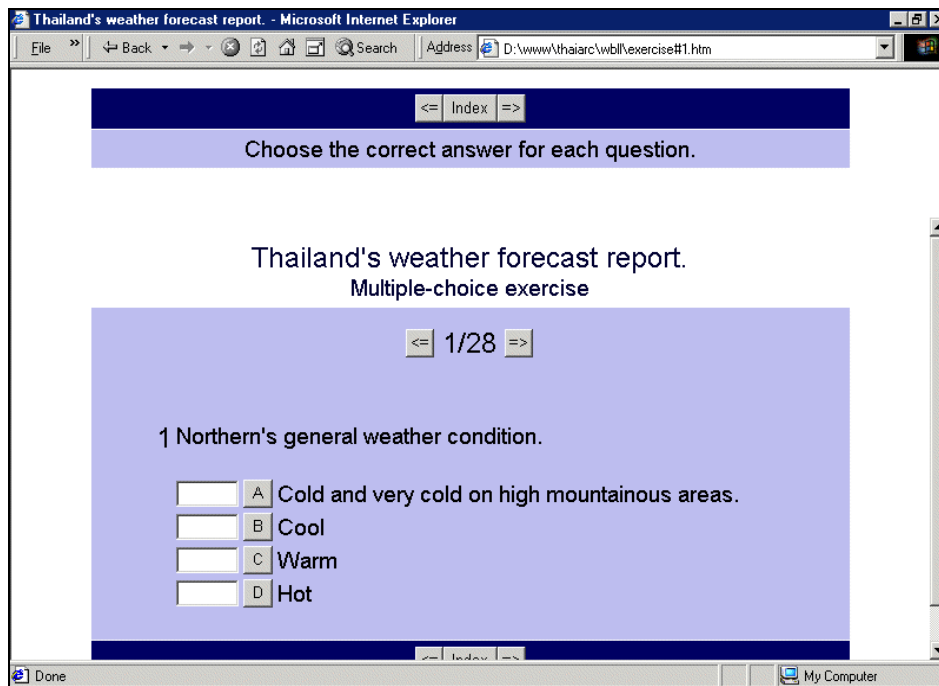


Figure 11. Comprehension test

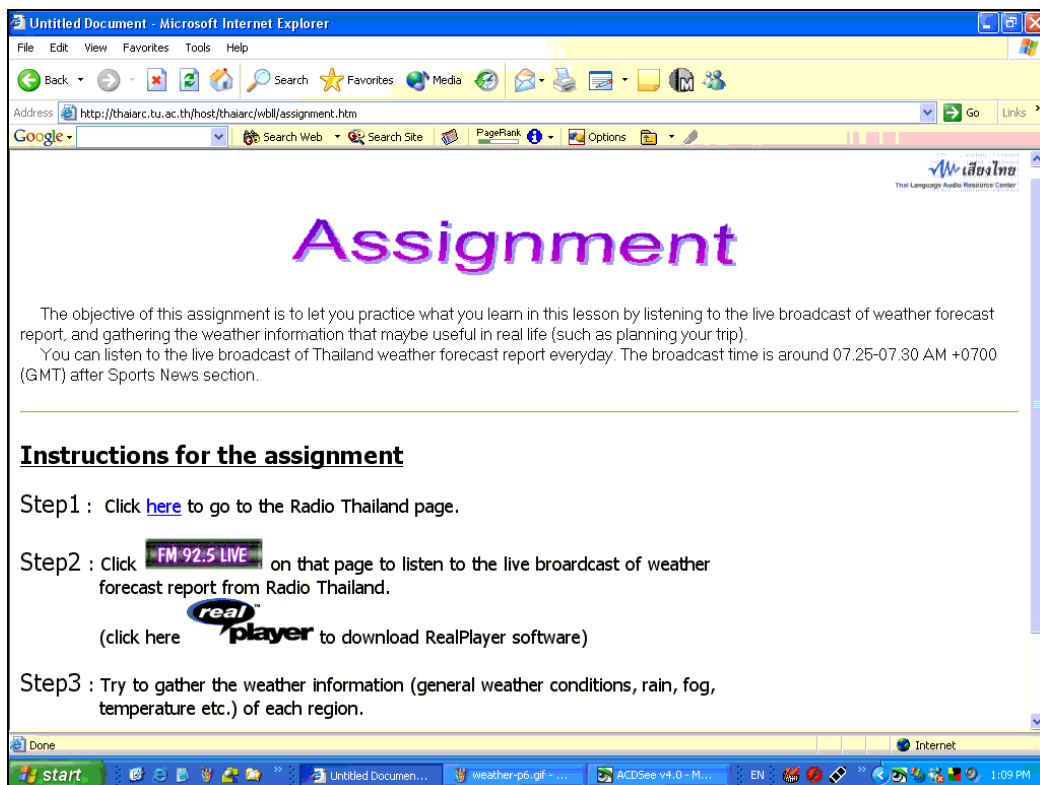


Figure 12: Assignment

Closing Remarks

We have outlined above the development of the Thai Language Audio Resource Center (ThaiARC) and the Thai speech data available at the ThaiARC website at: <http://thaiarc.tu.ac.th>. We invite researchers of Thai and those interested in Thai to visit the site and make use of the Thai speech data that we have provided for you.

Notes

ThaiARC research project was supported by Computer Network Research and Development Grant, National Electronics and Computer Technology Center, National Science and Technology Development Agency of Thailand. We would like to thank the Information Processing Institute for Education and Development of Thammasat University for hosting ThaiARC's website and providing technical support for the site. We also would like to acknowledge the grant from University Research Council of the University of Hawaii which enabled the first author to present this paper at SEALS 13th Annual Meeting.

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CONSONANTAL LENITION AND VOCALIC TRANSFER IN KADAI LANGUAGES: WITH DISYLLABIC PROTO-BE-TAI AS SUPPORTING EVIDENCE

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0 Introduction

The Be forms for ‘stone’, ‘horn’, ‘leg’ etc. have long constituted a significant problem from a Comparative Tai, historical point of view because their initials show “extra-normal” L tone category rather than an H tone, which is otherwise uniformly found in other Tai dialects (cf. Hansell, 1988).

In addition to this, a further, confusing patterning is presented by the occurrence of certain consonants and vowels in Be words such as ‘to laugh’, ‘ear’, ‘snake’ etc. in the process of reconstructing Proto-Be-Tai.

In order to provide these problems with a logically convincing solution, it is now necessary to posit proto-forms other than those set up by simply putting together the existing phonemes of cognate words.

This paper suggests that the phonetic changes here called “Consonantal Lenition (CL)” and “Vocalic Transfer (VT)” occurred in the course of development from Proto-Be-Tai to both Proto-Be and Proto-Tai, and elsewhere widely in the Kadai languages, and supports this hypothesis with descriptions of concrete historical changes from Proto-Be-Tai to modern Be and Tai dialect forms. Both of the CL and VT changes correspond to what has characteristically occurred in certain sesqui-syllable types of words when these turned into monosyllabic forms.

It should be noted that the designation of “Southern Tai” (ST) is used here to include Li Fang Kuei’s (1977) Central Tai (CT) and also Southwestern Tai (SWT). The variety Saek is occasionally referred to independently from Northern Tai (NT) due to its extremely conservative phonetic features, though in principle it would belong to the NT group.

The abbreviations used in this paper are as follows:

PB	Proto-Be
PT	Proto-Tai
PBT	Proto-Be-Tai
(P)NT	(Proto-)Northern-Tai
(P)ST	(Proto-)Southern-Tai
(P)CT	(Proto-)Central-Tai
(P)SWT	(Proto-)Southwestern-Tai
(P)KS	(Proto-)Kam-Sui
PKS (T)	PKS reconstructed by Thurgood (1988)
PLakkja	Proto-Lakkja (cf. Theraphan, 1991)
PHlai	Proto-Hlai (cf. Kosaka, 1996)
PAN	Proto-Austronesian (cf. Dempwolff, 1938)
Be (Qs.)	Qiongsan dialect of the Be language (cf. Liang Min et al., 1996)

The modern Be forms are from Hashimoto (1980) unless otherwise noted. The modern Lakkja forms are cited from Mao Zongwu et al. (1982).

1 Consonantal lenition

First, consider the following interesting phonetic changes.

- *ʔan daj (= 'thing' + 'which') > *ʔa(n)daj > Siam. ʔāraj 'what'
 *ʔan nii (= 'thing' + 'this') > *ʔa(n)nii > Saek. ʔārii 'this (thing)'
 *luuk bauw > *luuk kǎ-bauw > Saek. (luuk) kwəə 'daughter-in-law'
 *tǎpas > Proto-Monic. *twas 'to sweep' (cf. Diffloth, 1984)

Now observe that the Nhaheun language of the Mon-Khmer family (Bahnaric branch) historically demonstrates a series of similar consonant changes in a systematic manner, as follows. Capital C is used to represent an optional consonant.

*Cǎpb- >	*Cǎb- >	*Cw- (ex. *tǎpal > *tǎbal > dwaw 'mortar')
*Cǎm- >	*Cw-	(ex. *tǎmɔɔ > nwɔɔ 'stone')
*Cǎt/d- >	*Cǎd- >	*Cr- (ex. *pǎtɛh > *pǎdɛh > brɛh 'earth')
*Cǎn- >	*Cɿ-	(ex. *kǎnɿɿ > *ŋɿɿɿ > ŋɿɿɿ 'pillow')
*Cǎcʃ- >	*Cǎj- >	*Cj- (ex. *kǎcɛt > *kǎjɛt > gjeet 'to kill')
*Cǎk(g)- >	*Cǎg- >	*Cw- (ex. *tǎkuaj > *tǎguaj > *dwuaj > dwaj 'horn')
*Cǎs- >	*Cɿ-	(ex. *kǎsɛɛ > khjɛɛ 'rope')

On the other hand, the following change is seen in Oy (also of Bahnaric branch).

*Cǎl- > *Cr- (ex. *jǎlaa > jraa 'thorn', *hǎlɔŋ > hrɔŋ 'neck' etc.)

The above consonant changes could be arranged in formulae as in Table 1.

Table 1

*-p-, -b-, -m- >	-w-
*-t-, -d-, -n-, -l- >	-r-
*-c-, -j-, -s- >	-(^h)j-
*-k-, -g- >	-w-

These consonant changes as shown above are referred to as Consonantal Lenition (CL) hereafter.

In fact, the Be and Tai languages also underwent a parallel (though not quite identical with the velar series) set of CL changes (Table 2).

Table 2

*-p-, -b-, -m- >	*(-)w-
*-t-, -d-, -n-, -l- >	*(-)r-
*-j-, -z-	*(-)j-
*-k-, -g-	*x-, *ɣ-

We will now present the details of CL for the Be and Tai languages (Note that when the minor-syllable initial is specifically taken up in *cf.*, the manner of change follows the described formula).

1.1 CL in Be

Table 3: *Principal formulae*

Proto-Be-Tai		Proto-Be		Be (Hashimoto)
*-p-, *-b-	>	*w-, *ʔw-	>	v-, v- (ex. ‘year’, ‘thin’)
*-d-, *-l-	>	*(ʔ)r-	>	l- (z- in Be (Qs.)) (ex. ‘raw’)
*-k-, *-g-	>	*x-, *ɣ-	>	h-, h- (ex. ‘green’, ‘person’)
<i>cf.</i> *T-d- (> *ʔd-) ¹	>	*ʔl-	>	l- (l- in Be (Qs.)) (ex. ‘red, purple’)
<i>cf.</i> *h-t- (> *(h)nt-) ²	>	*d-	>	d- (ex. ‘stone’)
<i>cf.</i> *h-k- (> *(h)ŋk-)	>	*g-	>	g- (ex. ‘bitter’)
<i>cf.</i> *h/ʔ/k-l-	>	*ʔl-	>	l- (l- in Be (Qs.)) (ex. ‘yellow’)
<i>cf.</i> *mp-	>	*b-	>	ḃ- (ex. ‘cloud’)
<i>cf.</i> *-b-	>	*ʔw-	>	b- (in Be (Qs.); rephosivization)

1.2 CL in Saek

Table 4: *Principal formulae*

Proto-Be-Tai		Proto-Saek		Saek
*-p-, *-b-, (*-m-)	>	*hw-, *ʔw-, (*ʔw-)	>	v-, v-, (v-) (ex. ‘rain’, ‘thin’)
*-t-, *-d-, (*-n-)	>	*hr-, *ʔr-, (*r-)	>	r-, r-, (r-) (ex. ‘stone’, ‘red’)
*-j-, *-z-	>	*j-, *j-	>	j-, j- (ex. ‘lover’, ‘to wash’)
*-k-, *-g-	>	*x-, *ɣ-	>	h-, ɣ- (ex. ‘green’, ‘neck’)
<i>cf.</i> *P-b-	>	*ʔb-	>	b- (ex. ‘leaf’, ‘sky’)
<i>cf.</i> *T-d-	>	*ʔd-	>	d- (ex. ‘nose’, ‘navel’)
<i>cf.</i> *R-r-	>	*ʔr-	>	r- (ex. ‘boat’, ‘roof’)
<i>cf.</i> *k-p-, *k-b-	>	*kw-, *kw-	>	kw-, kw- (ex. ‘leg’)
<i>cf.</i> *p-t-, *p-d-, *k-d-	>	*pr-, *pr-, *kr-	>	pr-, pr-, tr- (ex. ‘eye’)
<i>cf.</i> *h-j- (> *h-j-)	>	*s- ³	>	s- (ex. ‘man, male’, ‘to use’)
<i>cf.</i> *h-k- (> *h-ŋk-)	>	*h-g-) > *ɣ-	>	ɣ- (ex. ‘bitter’)
<i>cf.</i> (*h-mp-,) *h-nt-, *h-ŋk-	>	(*b,) *d-, *g-	>	(ph-,) th-, kh- (ex. ‘to arrive’)

1.3 CL in NT

Table 5: Principal formulae

Proto-Be-Tai		Proto-Northern-Tai		Northern Tai dialects
*-p-, *-m-	>	*hw-, *w-	>	f-, f- etc. (ex. 'rain', 'tree')
*-t-, *-n-, *-l-	>	*hr-, *r-, *r-	>	r-, r-, r- etc. (ex. 'stone')
*-j-	>	*j-	>	j- etc. (ex. 'lover', 'to point')
*-k-, *-g-	>	*x-, *ɣ-	>	h-, h- etc. (ex. 'green')
cf. *h-j- (> *h-j-)	>	*s-	>	s- etc. (ex. 'man, male')
cf. *h-k- (> *h-ŋk-)	>	*h-g- > *ɣ-	>	h- etc. (ex. 'bitter')
cf. *h-m/n/ŋ/l-	>	*hm-, *hn-, *hŋ-, *hl-	>	m-, n-, ŋ-, l- etc. (ex. 'dog')
cf. (*h-mp-,) *h-nt-, *h-ŋk-	>	(> (*b,)) *d-, *g-	>	(ph-,) th-, kh- etc. (ex. 'to arrive')
cf. *-b-, *-d-	>	*ʔb-, *ʔd- ^d	>	b-, d- etc. (ex. 'thin', 'red')
cf. *h/k/p-l-	>	*hl-, *kl-, *pl-	>	l-, kl-, pl- etc. (ex. 'yellow')

1.4 CL in ST

Table 6: Principal formulae

Proto-Be-Tai		Proto-Southern-Tai		Southern Tai dialects
*-p-	>	*hw-	>	f- (ex. 'rain')
*-t-	>	*hr-	>	h- (ex. 'stone')
*-k-, *-g-	>	*x-, *ɣ-	>	x/kh-, x/kh- etc. (ex. 'green')
cf. *h-p-, *h-t-, *h-k-	>	*ph-, *th-, *kh- ^s	>	ph-, th-, kh- etc. (ex. 'to extract')
cf. *-b-, *-d-	>	*ʔb-, *ʔd-	>	b-, d- etc. (ex. 'thin', 'red')
cf. *k-t- (> *[k/t] ^h ət-)	>	* ^h t- (only in PCT)	>	th-, h- etc. (ex. 'stone')

Examples of CL follow.

*Cǎpii ⁰	>	*wii ⁰	>	*wəj ⁰ (PB) > vəi ⁵⁵ 'year'
*Cǎlak	>	*rok (PB)	>	lok ⁵⁵ , zək ⁸ (Qs.) 'to steal'
*Cǎdiinj ⁰	>	*ʔriinj ⁰	>	riinj ¹ (Saek) 'red'
*Cǎnam ²	>	*ram ² (PNT)	>	ram etc. 'water'
*hǎjaaj ⁰	>	*hjaaj ⁰	>	*saaj ⁰ (PNT) > saaj etc. 'man, male'
*kǎtin ⁰	>	*[k] ^h ǎtin ⁰	>	*hǎtin ⁰ > *hrin ⁰ (PNT/PSWT) > riin, hin etc. 'stone'

2 Vocalic transfer

Vocalic Transfer (VT) is defined here as a movement of the minor-syllable vowel to the medial position of the major syllable in the course of lexical monosyllabization.

In VT proposed by Benedict (1975, p.182-3), the appearance of the vowel *-ua(-) is attributed to the minor-syllable vowel *-i- (corresponding to what is represented here as *-ĭ-), whereas in the author's opinion, *-ua(-) must have occurred by way of diphthongization from *-aa(-) due to the voiced nature of the major-syllable initial (cf. Chapter 3).

As a consequence, what is meant by VT here is different from Benedict's in that it is not responsible for *-ua(-) diphthongization, and indicates in concrete the type of phonetic changes described in formulae below (Table 7, 8). It is to be mentioned that the distinction between "Standard type" and "Medial-encroaching type" of VT below is not really based on the existence of some explicit or inevitable boundary between the two. C_i in formulae is used here to represent the major-syllable initial.

2.1 Standard type

Table 7: Principal formulae

*C _i C _i aa	>	*(-)C _i 'jaa	(> *-ia)	(ex. 'hand' in KS; 'snake' in Be)
*C _i C _i aw	>	*(-)C _i 'jaw	(> *-iaw)	(ex. 'to laugh' in Be and NT)
*C _i C _i ak	>	*(-)C _i 'ja(a)k	> *(-)C _i 'jaak	(ex. 'woman, girl' in KS)
*C _i C _i up	>	*(-)C _i 'jup		(ex. 'raw' in Sui)
*C _ü C _i aa	>	*(-)C _i 'waa	(> *-ua)	(ex. 'navel' in Sui, Hlai; 'boat' in Sui, NT)
*C _ü C _i aw	>	*(-)C _i 'waw	(> *-uaw)	(ex. 'to laugh' in Saek)
*C _ü C _i aj	>	*(-)C _i 'waj	(> *-uaj)	(ex. 'stream' in ST)
*C _ü C _i ii	>	*(-)C _i 'wii		(ex. 'trace', 'chicken louse', 'stream' in NT)

Examples of VT (Standard type) follow.

*C _i maa ⁰	>	*C _{əm} jaa ⁰	>	*ʔmjaa ⁰ (PKS) 'hand'
cf. *[Cə]maa ⁰	>	*mua ⁰	>	*mia ⁰ > mie ² (Lakkja) 'hand'
*C _i dup	>	*C _{əd} jup	>	*ʔdjup > djup ⁷ (Sui) 'raw'
*k _{ür} aw ⁰	>	*k _{ər} waw ⁰	>	*[k] ^h əruaw ⁰ > *hruaw ⁰ (Saek) 'to laugh'
cf. *k _ä ruu ⁰	>	*kruu ⁰ (PKS (T)) '..'		
*k _{ür} ii ²	>	*[k] ^h ərwi ²	>	*h _{ər} wii ² > *hrwi ² (PNT) > rui, vii etc. 'stream'
cf. *k _ä rii ²	>	*[k] ^h ərii ²	>	*h _{əri} i ² > *hrii ² (Saek) > rii ⁴ '..'
*k _{ür} aj ²	>	*k _{ər} waj ²	>	*[k] ^h ruaj ² (PST) > khuei, huaj etc. 'stream' ⁶
*C _ü rii ⁰	>	*[Cə]rwii ⁰	>	*rwii ⁰ (PNT) > lwii, zvi etc. 'trace'
cf. *[Cə]rii ⁰	>	*rii ⁰ (Saek)	>	rii '..'

2.2 Medial-encroaching type

Table 8: Principal formulae

*C _i C _i aa	>	*(-)C _i 'jaa	>	*(-)C _i 'jəə (assim.)	>	*(-)C _i 'tuu (reciprocal assim.)
*C _i C _i ak	>	*(-)C _i 'jak	>	*(-)C _i 'jək (assim.)	>	*(-)C _i 'tuk (reciprocal assim.)
*C _ü C _i aa	>	*(-)C _i 'waa	>	*(-)C _i 'woo (assim.)	>	*(-)C _i 'uu (assim.)
*C _ü C _i ak	>	*(-)C _i 'wak	>	*(-)C _i 'wok (assim.)	>	*(-)C _i 'uuk (assim.)
*C _ü C _i ii	>	*(-)C _i 'wii	>	*(-)C _i 'ooj		

Examples of VT (Medial-encroaching type) follow.

*Cĩmaa ⁰ >	*Cǝmjaa ⁰ >	*Cǝmjǝǝ ⁰ >	*[Cǝ]muuu ⁰ (PBT) ‘hand’
*Cĩlak >	*Cǝljak >	*[Cǝ]ljæk >	*luuk (PNT) ‘child’
cf. *[Cǝ]lak >	*lak (PLakkja) ‘person’		
*kũraa ⁰ >	*kǝrwaa ⁰ >	*[k] ^h ruoo ⁰ >	*[k] ^h ruu ⁰ (PST) > khjuu, huu etc. ‘ear’
cf. *kǝraa ⁰ >	*[k] ^h ǝraa ⁰ >	*hǝraa ⁰ >	*ʒaa ⁰ > *ɕaa ⁰ (PB) > sa ¹³ ‘..’
*Cũlak >	*[Cǝ]lwak (> *lwok) >		*lu(u)k > *luuk (PST) ‘child’
*Cũrii ⁰ >	*[Cǝ]rwii ⁰ (> *ruuj ⁰) >		*rooj ⁰ (PST) > rɔj etc. ‘trace’

Following are some phonetic changes similar to the ones described above (medial-encroaching type).

English

year [jɪə]	(vs. German. Jahr [jar])
warn [wɔːə-]	(vs. German. warnen [vaːrnən])

Chinese

/jə/ [jɛ̃] ‘also’	(vs. /tə/ [tɻ̃] ‘to get’)
/wə/ [wɔ̃] ‘I, me’	(vs. /kə/ [kɻ̃] ‘to separate’)

3 Diphthongization

The supposition of proto-sesqui-syllabic structure and the subsequent CL change have made it possible to hypothesize that the diphthongized vowel *-uaa(-) is due to the voiced quality of the major-syllable initial.

*pǝraak >	*pǝruak >	*p ^h ruak (PT) ‘tarō’	(cf. PKS. *-aak)
*hǝlaa ⁰ >	*hǝlua ⁰ >	*hlua ⁰ (PT) ‘to be left over’	(cf. PKS/PHlai. *-aa)
*Tǝdaaj ⁰ >	*Tǝduaj ⁰ >	*ʔduaj > dǝj (Saek) ‘empty’	(cf. PST. *-aaj)
*pǝlaak >	*pǝluak >	*pluak (PST) ‘bark’	(cf. Saek. -aak)

We must bear in mind, however, that the fact of the diphthongization not occurring regularly where expected cannot be explained satisfactorily for the time being. See the following counter-examples where diphthongization failed to occur.

*hǝlaa ⁰ >	*hlua ⁰ (PT) ‘to be left over’ VS.	*hǝnaa ⁰ >	*hnaa ⁰ (PT) ‘thick’
*pǝlaak >	*pluak (PST) ‘bark’ VS.	*kǝlaak >	*klaak (PST) ‘scabies’
*maa ⁰ >	*mua ⁰ > *mia ⁰ > mie ² (Lakkja) ‘hand’ VS	*maa ⁰ >	ma ² (Lakkja) ‘you’

4 Conclusion

CL, in a sense, can be characterized as a sort of medialization of the major-syllable initial under a strong drift of monosyllabization, whereas VT can be regarded as a sort of medialization (via metathesis) of the minor-syllable vowel.⁷

Therefore, we can say that two waves of medialization (chronologically, first for the minor-syllable vowel, and the second for the major-syllable initial) occurred in the process of monosyllabization of sesqui-syllabic proto-forms in the Tai-Kadai family.

*Cĩmaa⁰ > *Cǎmjaa⁰ > *wuur⁰ (NT) ‘hand’ (-j- for the first, -w- for the second)
 *Cũlaan⁰ > *Cǎlwaan⁰ > *ruan⁰ (NT) ‘to crawl’ (-w- for the first, -r- for the second)

In the present study, we have shown that certain historical changes in Mon-Khmer languages offer crucial evidence for the postulation of CL.

The reconstructed sesqui-syllabic proto-forms, moreover, make it easy to hypothesize the occurrence of phonetic changes such as assimilation, dissimilation, metathesis, simple dropping of the minor syllable etc. that we end up depending upon to explain some “problematic” correspondences in Kadai languages as well as their genetic identification at a higher level.⁸

DATA (excerpt)

The manner of Be’s (Hashimoto, 1980) tonal split is as follows.

	∅	1	2	D
H	13	33	33	33
L	55	21	21	55

1 Proto-Be-Tai

1.1 Diachronic changes of initials (original simple or cluster type)

PBT > PB > Modern Be

- *p- > *p- > ɸ- (ex. ‘mouth’, ‘wing’)
- *b- > *b- > ɸ- (ex. ‘leaf’)
- *m- > *m- > m- (ex. ‘ant’, ‘fruit’)
- *t- > *t- > d- (ex. ‘eye’, ‘liver’)
- *d- > *d- > d- (ex. ‘body louse’, ‘ashes’)
- *n- > *n- > n- (ex. ‘this’, ‘otter’)
- (*j- > *z- > s- (ex. ‘hole’))
- *ɲ- > *j- > ʒ- (ex. ‘mosquito’)
- *k- > *k- > g- (ex. ‘to eat’, ‘to go up’)
- *g- > *g- > g- (ex. ‘neck’, ‘to itch’)
- *ŋ- > *ŋ- > ŋ- (ex. ‘gills, cheek’)
- *r- > *r- > l- (z- in Be (Qs.)) (ex. ‘house’, ‘strength’)
- *l- > *l- > l- (l- in Be (Qs.)) (ex. ‘to choose’, ‘deep’)
- *w- > *w- > v- (ex. ‘fire’, ‘seed’)
- *s- > *h- > h- (ex. ‘pillar’, ‘pestle’)
- *h- > *h- > h- (ex. ‘shell’, ‘to smell, fragrant’)
- *ʔ- > *ʔ- > ʔ- (ex. ‘to take’, ‘to go out, to emerge’)
- *ʔj- > *ʔj- > ʒ- (ex. ‘to stay’, ‘to stand’)
- *pl- > *p- > ɸ- (ex. ‘fish’, ‘water leech’)
- *br- (> *dz-) > *j- > tʃ- (ex. ‘tomorrow’)
- *mp- > *b- > ɸ- (ex. ‘sky, cloud’)
- *ml- > *m- > m- (ex. ‘insect’, ‘seed, grain’)

- *kr- > *x- > h- (ex. ‘head’, ‘(for two persons) to carry’)
 *gr- > *ɣ- > h- (ex. ‘mortar’)
 *ŋw- > *ŋw- > v-/ŋ- (before a round vowel) (ex. ‘sun, day’)

1.2 Diachronic changes of initials (original sesqui-syllabic type)

PBT > PB > Modern Be

- *kǎp- > *w- > v- (ex. ‘hair (body), feather’)
 *hǎm- ~ ʔǎm- > *ʔm- > m- (ex. ‘dog’, ‘flea’)
 *hǎt- (> *(h)nt-) > *d- > d- (ex. ‘stone’, ‘to split, to chop’)
 *hǎn- ~ ʔǎn- > *ʔn- > n- (ex. ‘face’, ‘mouse’)
 *hǎŋ- ~ ʔǎŋ- > *ʔj- > ʒ- (ex. ‘big’, ‘scabies’)
 *hǎk- (> *(h)ŋk-) > *g- > g- (ex. ‘bitter’, ‘knee’)
 *hǎŋk- (> *ŋx-) > *ŋ- > ŋ- (ex. ‘rice’)
 *hǎŋg- (> *ŋɣ-) > *ŋ- > ŋ- (ex. ‘chin’)
 *tǎŋ- > *ʔŋ- > ŋ- (ex. ‘to cry, to weep’)
 *pǎr- (> *[p]ʰr- > *hr- > *ɣ-) > *c- > s-/ʃ- (ʃ- appearing before -u) (ex. ‘vegetable’)
 *kǎr- (> *[k]ʰr- > *hr- > *ɣ-) > *c- > s-/ʃ- (ʃ- appearing before -u) (ex. ‘way, road’)
 *hǎr- ~ ʔǎr- > *ʔr- > l- (z- in Be (Qs.)) (ex. ‘to laugh’)
 *bǎl- > *ʔr- > l- (z- in Be (Qs.)) (ex. ‘gall bladder’)
 *kǎl- > *ʔl- > l- (l- in Be (Qs.)) (ex. ‘fish scale’, ‘far’)
 *hǎl- ~ ʔǎl- > *ʔl- > l- (l- in Be (Qs.)) (ex. ‘yellow’, ‘grandchild’)
 *-p- > *w- > v- (ex. ‘year’, ‘to dream’)
 *-b- > *ʔw- > v- (ex. ‘thin’, ‘shoulder’)
 *-m- > *ʔm- > m- (ex. ‘mucus’, ‘tree, sugarcane’)
 *-d- > *ʔr- > l- (z- in Be (Qs.)) (ex. ‘black, raw’, ‘to get’)
 but, *Tǎd- (> *ʔd-) > *ʔl- > l- (l- in Be (Qs.)) (ex. ‘red, purple’)
 *-k- > *x- > h- (ex. ‘green’; excepting the above-mentioned case of *hǎk-)
 *-ik- (> *-kj- > *xj-) > *s- > t- (ex. ‘to cross’, ‘to crow’)
 *-g- > *ɣ- > h- (ex. ‘person’)
 *-ig- (1) (> *-gj- > *ɣj-) > *z- > t- (ex. ‘thatch’)
 *-ig- (2) (> *gj-; dropping of minor syllable ?) > *j- > tʃ- (ex. ‘to squeeze’)
 *-l- > *r- > l- (z- in Be (Qs.)) (ex. ‘to steal’; except *b/k/h/ʔ-l-)
 *-s- > *s- > t- (ex. ‘tail, extreme’)

1.3 PBT examples of original sesqui-syllabic type

PBT. *[kǎ]pon⁰ ‘hair (body), feather’

(> *kǎpon⁰ > *won⁰ >) PB. *wun⁰ > vun⁵⁵

> PT. *pon⁰~*pǎkon⁰(metath.) > *pon⁰(NT)~*xon⁰(ST) > pun, khon, xun etc.

PBT. (*kǎtin⁰ >) *[k]ʰǎtin⁰ ‘stone’

(> *hǎtin⁰ > *(h)ntin⁰ >) PB. *din⁰ > dīn⁵⁵

(> *[k]ʰǎtin⁰ >) PT. *[k/t]ʰǎtin⁰ > *hrin⁰(NT/SWT)~*tʰrin⁰(CT) > riin, thin etc.

PBT. *[hən]təŋ⁰ ‘to arrive’

> PB. *toŋ⁰ > dɔŋ¹³

> PT. *həntəŋ⁰ > *ntəŋ⁰ ~ *hətəŋ⁰ > *dan⁰(NT) ~ *thuŋ⁰(ST) > taŋ, thuŋ etc.

PBT. *[pə]kaa⁰ ‘leg’

(> *kəpaa⁰ (metath.) >) PB. *wa⁰ > va⁵⁵

> PT. *[pə]kaa⁰ ~ *kəpaa⁰ (metath.) > *kaa⁰ (NT) ~ *xaa⁰ (ST) ~ *kwa⁰ (Saek) > kaa, xa, kwa etc.

PBT. *həkəm⁰ ‘bitter’

(> *həkəm⁰ > *(h)ŋkəm⁰ >) PB. *gam⁰ > gam⁵⁵

> PT. *həkəm⁰ > *həŋkəm⁰ (> *həgəm⁰ > *gam⁰)(NT) ~ *khom⁰(ST)

> ɣam etc.

PBT. *[kũ ~ kǎ ~ ø]raa⁰ ‘ear’

(> *kəraa⁰ > *[k]həraa⁰ > *hraa⁰ > *ʂaa⁰ >) PB. *caa⁰ > sa¹³

> PT. *[kũ]raa⁰ > *rua⁰(NT) ~ *kərwaa⁰ (> *[k]hruu⁰)(ST)

> ruu, rua, khjuu etc.

PBT. *[k/h][ĩ ~ ỹ]raw⁰ ‘to laugh’

(> *hĩraw⁰ > *həřjaw⁰ >) PB. *ɣriaw⁰ > liau¹³, ziau² (Qs.)

> PT. *k[ĩ ~ ỹ]raw⁰ > *kəřjaw⁰ ~ *kəřwaw⁰ > *[k]hriaw⁰ (NT) ~

*[k]hruaw⁰ (Saek) ~ *k[ĩ]rua⁰ (ST; dissim.)

> riaw, ruaw, khua, hua etc.

1.4 P(B)T examples of original sesqui-syllabic type

The following sesqui-syllabic forms are those restrictedly reconstructed at the PT level for the moment, though potentially being traced back to the PBT level.

P(B)T. (*kə̌taw⁰ >) *[k]hə̌taw⁰ ‘head louse’

> PB. *--- > ---

(> *[k]hə̌taw⁰ >) PT. *[k/t]hə̌taw⁰ > *hraw⁰(NT/SWT) ~ *t^hraw⁰(CT)

> raw, thaw

P(B)T. *h[ũ ~ ǎ]mii⁰ ‘pubic hair’

> PB. *--- > ---

> PT. *h[ũ ~ ǎ]mii⁰ > *hə̌mwii⁰ ~ *hə̌mii⁰ > *hmooj⁰(ST) ~ *hmii⁰(NT) > mɔɔj, mii

P(B)T. *p[ũ ~ ǎ]lii¹ ‘to release’

> PB. *--- > ---

> PT. *p[ũ ~ ǎ]lii¹ > *pə̌lwii¹ ~ *pə̌lii¹ > *plooj¹(ST) ~ *plii¹(Saek)

> plɔɔj, plii etc.

P(B)T. *[kǎ ~ Cǎ]leep ‘husk of rice’

> PB. *--- > ---

> PT. *[kǎ ~ Cǎ]leep > *kleep (ST) ~ *reep (NT) > klɛp, ɣɛp, rip etc.

Notes

1. As for the capital letters other than C, their meanings are as indicated below:
 P= p/b
 T= t/d
 R= r or some sonorant of that kind impossible to determine for the moment
 L= l or some sonorant of that kind impossible to determine for the moment
 For those having proceeded to undergo a preglottalization (phonetically considered as a kind of fortition) in Be and Saek —both of them are so to speak “CL language”—, we posit a minor syllable having a homorganic initial with that of the major syllable. See the following diachronic changes bringing about a fortis (or geminated) initial in Nhaheun, and a minor-syllable alternation between So and Kui.
 cf. (*kǎpaan ~) *pǎpaan > Nhaheun. ʰpaan ‘*crowd*’ (cf. Laven. kǎpaan)
 cf. (*hǎlaan ~) *lǎlaan > Nhaheun. ʰlaan ‘*trough*’ (cf. Laven. hlaan)
 cf. So. cǎlēa: ~ Kui. lǎlia ‘*thorn*’
2. The nasalizing feature of the sound of h is further confirmed in the following examples.
 cf. *hǎtaŋ > *(h)ntaŋ > Nhaheun. daŋ ‘*bitter*’ (cf. Laven. hntaŋ)
 cf. *hǎlcɔŋ > *(h)nlɔŋ > *nnɔŋ > Nhaheun. ʰnɔŋ ‘*bridge*’ (cf. Laven. hlɔŋ)
 cf. *hǎcɔŋ > *(h)ŋcɔŋ > Laven. hŋjɔŋ ‘*shrimp*’ (cf. Nhaheun. cɔŋ)
3. *hj- > s- is a phonetic change that occurred in Lawa as well (ex. ‘*ear*’).
4. It is very characteristic in NT that sesqui-syllabic *-b- and *-d- went through fortition (and not CL) differently from Saek, and commonly with ST.
5. In regard to the difference between *-k- > *x- and *h-k- > *kh- in PST, White Tai still maintains the distinction as in /xun/ ‘*hair (body), feather*’, /xǎu/ ‘*horn*’ etc. for the former and /khum/ ‘*bitter*’, /khǎu/ ‘*rice*’ etc. for the latter.
6. Alternation between NT *-ii and ST *-aj is also attested with ‘*fire*’, ‘*chicken louse*’ etc.
7. In fact, there do exist cases in which VT seems to have occurred in Giarai (cf. Romah Dêl, 1977) and Northern Roglai (cf. Thurgood, 1999) (..... noted by R.K.).
 Malay. tǎliŋa vs. Giarai. tongia ‘*ear*’
 Malay. ɯlar vs. Giarai. lɔa ‘*snake*’
 Malay. mɨnum vs. Giarai. moŋnum ‘*to drink*’
 Malay. hɨdup vs. Northern Roglai. haɨu? ‘*alive*’
 Malay. pɨrak vs. Northern Roglai. paɨa? ‘*silver*’
 Malay. dɨri vs. Northern Roglai. daɨəi ‘*thorn*’
8. In addition to the ones that have been frequently mentioned since long like ‘*eye*’, ‘*hand/five*’, ‘*raw*’, ‘*head louse*’ etc., we have very interesting examples in terms of comparison with Austronesian such as the following. Namely, all the three underwent VT in the manner of *-u-i > *-wii.
 PBT. *Cǎrii⁰ ~ *rii⁰ ‘*trace*’ VS. PAN. *huɖi ‘*latter part*’
 PT. *hǎmii⁰ ~ *hǎmii⁰ ‘*pubic hair*’ VS. PAN. *gumi[‘] ‘*beard*’
 PT. *pǎlii¹ ~ *pǎlii¹ ‘*to release*’ VS. PAN. *puli[‘] ‘*to recover*’
 The idea of ‘*putting again (to the original state)*’ could be the semantic core for the both cases.

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A HISTORICAL STUDY OF TIME MARKERS IN THAI

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0 Introduction

To understand an event fully, one has to locate it in real time. Such a calendric expression as ‘at 8 a.m. on the first of May 2003’ can best fulfill the location task. However, in real life, for the purpose of everyday communication, one does not always want such an exact time to locate all events. Instead, one usually wants to understand an event in relation to another event, whether it occurs before or after that event or at the same time. When we talk about the time of an event in relation to a certain point of time or a temporal reference point, we are talking about time deixis.

According to Fillmore (1997), time deixis refers to the time at which the communication act takes place. Linguistic time markers or time expressions as the formal properties for time deixis include both calendric expressions such as 8 o’clock, to-day, the past ten years, and non-calendric expressions which range from bound morphemes known as tense to lexical items and composite lexical constructions such as now, then, this, that, when, in the past. This paper deals with non-calendric expressions excluding tense which is not used in Thai. These time expressions will be referred to as deictic time markers or sometimes time markers.

The paper studies deictic time markers within a limit of a simple sentence and a subordinating clause in a complex sentence. Its purpose is first to examine the structure of the deictic time markers; secondly, to group the time markers into semantic types on the basis of their relation to the present moment or in relation to another event; and thirdly, to study how time markers reveal the concept of time in Thai. Since materials studied are drawn from the four periods: Sukhothai (SK) (1283-1350), Ayutthaya (AY) (1350-1767), Mid-Ratanakosin (RN) (1851-1910), and Modern Thai (MT), a historical study is therefore taken into account.

It will be assumed that the materials of all four periods are phonologically more or less of the same dialect, that is, the Bangkok dialect. Following this assumption, the transcription of the materials of all four periods is based on the phonemic system of Bangkok Thai given at the end of this paper¹.

1 Structure of Thai deictic time markers

Comrie (1985) proposed three classes of time expressions: lexical items, lexically composite expressions and grammatical categories. Since in Thai, time is expressed lexically, the third class is not relevant here.

1.1 Lexical items as deictic time markers

By lexical item, I mean a one-word structure. Based on the data of the four periods, deictic time markers of one-word structure can be grouped into two types: monosyllabic and non-monosyllabic words. The monosyllabic time markers are few in number. They are *nii*⁴⁵ (SK, AY, RN, MT) (this)² ‘now’, *nan*⁴⁵ (SK, AY, RN, MT) (that) ‘before’, *naa*⁴² (SK, AY,

Shoichi Iwasaki, Andrew Simpson, Karen Adams & Paul Sidwell, eds. *SEALSXIII: papers from the 13th meeting of the Southeast Asian Linguistics Society* (2003). Canberra, Pacific Linguistics, 2007, pp.105-124.

RN, MT) (front) ‘future’, $k\text{ɔ}n^{22}$ (SK, AY, RN, MT) (preceding) ‘before’, $m\text{u}a^{42}$ (SK, AY, RN, MT) (point of time) ‘when’, $d\text{ə}m^{33}$ (AY, RN, MT) (origin) ‘before’. Except for the last two which can occur independently, these monosyllabic time markers must co-occur with a preposition in a preposition phrase (see 1.2.2) or a noun in a noun phrase (see 1.2.1). Some of the preposition phrases developed into lexical time markers in later periods as discussed below. As can be seen, these monosyllabic time markers except for $m\text{u}a^{42}$ do not basically denote time. $n\text{i}i^{45}$, $n\text{a}n^{45}$ are demonstratives; $n\text{a}a^{42}$ is a noun denoting a body organ, a face; $k\text{ɔ}n^{22}$ is an adverb meaning ‘in front’.

Non-monosyllabic lexical time markers include $bat^{22} n\text{i}i^{45}$ ‘now’ (SK, AY, RN, MT), $m\text{u}a^{42} k\text{ɔ}n^{22}$ ‘before’ (SK, AY, RN, MT), $t\text{ɛ}^{22} k\text{ɔ}n^{22}$ ‘before’ (SK, AY, RN, MT), $t\text{ɛ}^{22} k\text{ɔ}n^{22} n\text{i}i^{45}$ ‘before’ (RN, MT), $diaw^{24} n\text{i}i^{45}$ ‘now’ (RN, MT), $phaay^{33} laŋ^{24}$ ‘later, time ahead’ (AY, RN, MT), $phaay^{33} naa^{42}$ ‘time ahead’ (RN, MT), $laŋ^{24} laŋ^{24}$ (MT) ‘recently’. These lexical time markers either developed from noun phrases or preposition phrases.

From noun phrases:

- i) $bat^{22} n\text{i}i^{45}$ < bat^{22} ‘breath’ $n\text{i}i^{45}$ ‘this’
- ii) $m\text{u}a^{42} k\text{ɔ}n^{22}$ < $m\text{u}a^{42}$ ‘point of time’ $k\text{ɔ}n^{22}$ ‘preceding period’
- iii) $phaay^{33} laŋ^{24}$ < $phaay^{33}$ ‘side’ $laŋ^{24}$ ‘back’
- iv) $phaay^{33} naa^{42}$ < $phaay^{33}$ ‘side’ naa^{42} ‘front’
- v) $laŋ^{24} laŋ^{24}$ < $t\text{ɔ}n^{33} laŋ^{24} laŋ^{24}$ < $t\text{ɔ}n^{33} laŋ^{24}$ < $t\text{ɔ}n^{33}$ ‘portion’ $laŋ^{24}$ ‘back’

from preposition phrases:

- vi) $t\text{ɛ}^{22} k\text{ɔ}n^{22}$ < $t\text{ɛ}^{22}$ ‘from’ $k\text{ɔ}n^{22}$ ‘preceding period’
- vii) $t\text{ɛ}^{22} k\text{ɔ}n^{22} n\text{i}i^{45}$ < $t\text{ɛ}^{22}$ ‘from’ $k\text{ɔ}n^{22}$ ‘preceding period’ $n\text{i}i^{45}$ ‘this’

Some observations should be made here. First, from the Sukhothai period until now there has been an increase of lexical time markers in the non-monosyllabic group. By way of contrast, the monosyllabic lexical time markers seem to be a closed class with members almost all of which do not occur independently. Secondly, some non-monosyllabic markers are analyzed as phrases in the Sukhothai period and probably in the Ayutthaya period. They have become lexical words, no longer analyzable synchronically, in the latter two periods. These include $bat^{22} n\text{i}i^{45}$, $m\text{u}a^{42} k\text{ɔ}n^{22}$ and $t\text{ɛ}^{22} k\text{ɔ}n^{22}$. Thirdly, the noun phrases formed in the later periods show the use of nouns denoting a portion or a part as the head noun. These lexical time markers include $phaay^{33} laŋ^{24}$ ‘in the future’ with the head noun ‘ $phaay^{33}$ ’ meaning ‘a side’; $phaay^{33} naa^{42}$ ‘in the future’ again with ‘ $phaay^{33}$ ’ meaning ‘a side’; $t\text{ɔ}n^{33} laŋ^{24}$ ‘afterwards’ with the head noun $t\text{ɔ}n^{33}$ meaning ‘a portion’. Lastly, the reduplication in $t\text{ɔ}n^{33} laŋ^{24} laŋ^{24}$ may illustrate that $t\text{ɔ}n^{33} laŋ^{24}$ has not yet been finalized as a one-word time marker. $laŋ^{24} laŋ^{24}$ which shows a further development from $t\text{ɔ}n^{33} laŋ^{24} laŋ^{24}$, however occurs as a one-word time marker. (see also 1.2.1 b) Fourthly, the time markers given here usually denote a stretch of time except $bat^{22} n\text{i}i^{45}$ which means the present point of time. $diaw^{24} n\text{i}i^{45}$ may denote either a point of time or a period of time, i.e. the present time.

1.2 Lexical composites as deictic time markers

Lexical composite deictic time markers can be grouped into two types of construction: a noun phrase, and a prepositional phrase. Each construction displays several patterns. But although some new patterns are added, what actually gives variety is the introduction of new lexical items in the slots of the patterns.

1.2.1 Noun phrase deictic time markers

Noun phrase deictic time markers in the data of the four periods illustrate three main patterns:

- a) temporal noun – demonstrative nii^{45}/nan^{45}
- b) temporal noun – spatial noun naa^{42}/lan^{24} – direction word pay^{33}/maa^{33}
- c) spatial noun - locative preposition - demonstrative pronouns nii^{45}/nan^{45}

a) Temporal noun - demonstrative nii^{45}/nan^{45}

viii)	$mua^{42} nan^{45}$	‘the past’ (SK, AY, RN)
ix)	$mua^{42} nii^{45}$	‘the present’ (SK, AY, RN)
x)	$chua^{42} nii^{45}$	‘this life time’ (SK)
xi)	$chuan^{42} nii^{45}/nan^{45}$	‘this/that period’ (RN, MT)
xii)	$toon^{33} nii^{45}/nan^{45}$	‘this/that moment’ (MT)
xiii)	$ra^{45} ya^{45} nii^{45}/nan^{45}$	‘the present/past period’ (MT)
xiv)	$khə^{33} na^{22} nii^{45}/nan^{45}$	‘at present/at that time’ (AY, RN, MT)
xv)	$wee^{33} laa^{33} nii^{45}/nan^{45}$	‘the present/past time’ (MT)

It can be seen that in the first slot, a variety of nouns occur. The data show that in the Sukhothai and Ayutthaya periods, only temporal nouns, mua^{42} ‘when’, $chua^{42}$ ‘life time’, $khə^{33} na^{22}$ ‘while’ are used in this slot whereas in the Ratanakosin and Modern Thai periods, words with spatial notions as a portion $toon^{33}$ or distance $ra^{45} ya^{45}$ are introduced. The first nouns except mua^{42} usually denote a portion or a part in the stretch of time specified by nii^{45}/nan^{45} . The last example, $wee^{33} laa^{33} nii^{45}$ (time-this) ‘now’ in Modern Thai illustrates a semantically indefinite temporal word which when modified by demonstrative nii^{45} denotes a specific portion of time i.e. the present time.

mua^{42} is interpreted as a noun in the Sukhothai period and Ayutthaya because of the evidence such as $thuk^{45} mua^{42}$ ‘every time’ where mua^{42} is apparently a noun. (In $mua^{42} nan^{45}/nii^{45}$ where nii^{45} and nan^{45} are demonstratives, $mua^{42} nan^{45}/nii^{45}$ denote the present period and the past period respectively. Because mua^{42} could be followed by a noun or a noun phrase as in $mua^{42} chua^{42} phoo^{42} kuu^{33}$ (the time - the life time - father - I) ‘in my father’s life time’, it is easy for mua^{42} to be grammaticalized into a preposition ‘when’ in later periods as in $mua^{42} - wee^{33} laa^{33} - peet^{22} - naa^{33} li^{45} kaa^{33} - wan^{33} nii^{45}$ (MT) (when - time - eight - o’clock - today) ‘at 8 o’clock today’.

Another observation must be made for mua^{42} . In the Ayutthaya period there were a great number of occurrences of mua^{42} followed by a verb phrase that ends with nan^{45} , for example, $mua^{42} - rap^{45} pra^{22} than^{33} - ?aa^{33} haan^{24} - nan^{45} - mii^{33} - khon^{33} - maa^{33} - duu^{33} - maak^{42}$ (when - eat - food - that - have - man - come - see - much) ‘When eating, many people came to look at us). Here it is likely that mua^{42} was modified by a kind of

verb nominal, with nan⁴⁵ a demonstrative adjective marking the construction a noun phrase.

b) Temporal noun - spatial noun naa⁴²/lan²⁴ - (pay³³/maa³³)

- xvi) maa⁴² naa⁴² ‘the time ahead, the future’ (SK, RN)
 xvii) tɔɔn³³ lan²⁴ ‘recently’ (MT)
 xviii) tɔɔn³³ lan²⁴ lan²⁴ ‘recently’ (MT)
 xix) raɯ⁴⁵ yaɯ⁴⁵ lan²⁴ ‘in the immediate past’ (MT)
 xx) tɔɔn³³ lan²⁴ maa³³ ‘in the recent past to now’ (MT)
 xxi) khaaŋ⁴² naa⁴² pay³³ ‘in the future’ (MT)

This pattern appears most in Modern Thai and the lexical composites in this pattern have certain restrictions. One cannot have *tɔɔn³³ naa⁴², *raɯ⁴⁵ yaɯ⁴⁵ naa⁴² or *khaaŋ⁴² lan²⁴ to convey temporal meaning. Because of the restriction, tɔɔn³³ lan²⁴, khaaŋ⁴² naa⁴², raɯ⁴⁵ yaɯ⁴⁵ lan²⁴ are likely to become compound words in later time. In fact, phaay³³ lan²⁴, which first appeared in the Ayutthaya period, was most probably a noun phrase which has become in Modern Thai a non-monosyllabic lexical time marker (see 1.1). The use of naa⁴² ‘front’ and lan²⁴ ‘back’ with spatial notions illustrate the front/back orientation as will be discussed later in section 3.

tɔɔn³³ lan²⁴ lan²⁴ also found only in Modern Thai shows an extension of the construction where the spatial word is reduplicated. From this reduplicated expression, lan²⁴ lan²⁴ ‘recently’, a lexical time marker is derived.

In the Ratanakosin period maa³³ ‘come’ and pay³³ ‘go’ appeared after the non-monosyllabic temporal nouns such as phaay³³ lan²⁴ maa³³ (recent past-come) ‘later (in the past)’. From then, temporal expressions meaning a period of time may be followed by pay³³ or maa³³ with temporal relation to the present time, if not otherwise specified (see Section 3); thus we have khaaŋ⁴² naa⁴² pay³³ (future-go) ‘in the future’.

c) Spatial noun - locative preposition - demonstrative pronoun nii⁴⁵/nan⁴⁵

Deictic time markers of this type are found only in Modern Thai data. These are:

- xxii) lan²⁴ caak²² nan⁴⁵ ‘afterwards’
 (back-from-that)
 xxiii) lan²⁴ caak²² nii⁴⁵ (pay³³) ‘from now (on)’
 (back-from-this-go)
 xxiv) kɔɔn²² naa⁴² nii⁴⁵ ‘before now’
 (preceding time-front-this)
 xxv) kɔɔn²² naa⁴² nan⁴⁵ ‘before that time’
 (preceding time -front-that)

These time markers are best explained by means of metaphors i.e. the back of the referential time, nan⁴⁵ or the front of the referential time, nii⁴⁵. It should be pointed out

here that there are prepositions $laŋ^{24}$ $caak^{22}$ ‘after’ and $kɔɔn^{22}$ naa^{42} ‘before’ used in Modern Thai, for example:

- 1) $laŋ^{24}$ $caak^{22}$ - $soŋ^{24}$ $khraam^{33}$ - $look^{42}$ - $khraŋ^{45}$ - $thii^{42}$ - $sɔɔŋ^{24}$
(after - war - world - time - two)
After World War II
- 2) $kɔɔn^{22}$ naa^{42} - $ʔuʔ^{22}$ bat^{22} $tiʔ^{22}$ $heet^{22}$ - $khraŋ^{45}$ - nan^{45}
(before - accident - time - that)
Before that accident

Considering the structure of the deictic time markers proposed above, i.e. spatial noun – locative preposition – demonstrative pronouns nii^{45}/nan^{45} , it is reasonable to say that the prepositions are derived from the temporal noun phrases rather than the other way around; general considerations of grammaticalization paths would also suggest this.

1.2.2 Preposition phrase deictic time markers.

The term "preposition phrase deictic time marker" can be used to refer to preposition phrases that occur as composite units functioning as time adverbials for example,

- 3) $tɛɛ^{22}$ nan^{45} maa^{33} - $khaw^{24}$ - $kɔʔ^{42}$ - may^{42} - maa^{33} - $ʔiik^{22}$ - $ləəy^{33}$
(since then - he - then - not - come - again - (not any more))
Since then he never came again.

Preposition phrase deictic time markers usually contain nii^{45} ‘this’ or nan^{45} ‘that’ which are analyzed here as demonstrative pronouns. A few preposition phrase deictic time markers contain naa^{42} , a noun meaning ‘face’ or ‘the front part’. The preposition phrase deictic time marker in the Sukhothai period was constructed with a particular pair of prepositions: $tɛɛ^{22}$ (from) mua^{33} (to) as in $tɛɛ^{22}$ nii^{45} mua^{33} naa^{42} ‘from now till the time ahead’. In the Ayutthaya period, this preposition phrase has become $tɛɛ^{22}$ nii^{45} mua^{42} naa^{42} with a change of tone in mua^{33} . Following are some preposition phrase time markers that appeared in the last two periods studied.

- | | | |
|---------|---|-----------------------------|
| xxvi) | $tɛɛ^{22}$ nii^{45} pay^{33}
(from - this - go) | ‘from now on’ (RN, MT) |
| xxvii) | $tɛɛ^{22}$ nan^{45} maa^{33}
(from - that - come) | ‘from that time’ (RN, MT) |
| xxviii) | nay^{33} wee^{33} laa^{33} $diaw^{33}$ kan^{33}
(in - time - one - together) | ‘at the same time’ (RN, MT) |
| xxix) | $taŋ^{42}$ $tɛɛ^{22}$ nan^{45} maa^{33}
(from - that - come) | ‘since then’ (RN, MT) |

- xxx) nay³³ may⁴² chaa⁴⁵ ‘soon’ (MT)
(in - not - slow)
- xxxii) taŋ⁴² tɛɛ²² nii⁴⁵ tɔɔ²² pay³³ ‘from this time’ (MT)
(since - this - connect - time)

As can be seen, most time markers above contain the initial boundary or the source prepositions tɛɛ²² or taŋ⁴² tɛɛ²². The time marker nay³³ may⁴² chaa⁴⁵, which first appeared in Modern Thai, seems to be a loan translation from an English expression ‘in no time’.

1.3 Deictic temporal prepositions and subordinators

Most deictic time markers discussed above contain the words nii⁴⁵ ‘this’ or nan⁴⁵ ‘that’ which serve as the temporal referential point for the temporal interpretation. nii⁴⁵ ‘this’ is interpreted as coinciding with the present time. nan⁴⁵ ‘that’ refers to the time mentioned earlier in the text and usually it is the time before the present time. Some time markers such as phaay³³ laŋ²⁴, mua⁴² kɔɔn²², tɛɛ²² kɔɔn²² which do not contain the words nii⁴⁵ and nan⁴⁵, unless specified otherwise, refer to the locution time of the utterance as the temporal referential point. The deictic temporal prepositions and subordinators are different. They mark the noun or noun phrase, in case of preposition, or the subordinating clauses in case of subordinators as the temporal referential point. For example thɯŋ²⁴ diaw²⁴ nii⁴⁵ ‘until now’ thɯŋ²⁴ marks diaw²⁴ nii⁴⁵ as the temporal terminal point.

1.3.1 Deictic temporal prepositions

From the Sukhothai period until the modern time, there are both inherent temporal prepositions such as

- xxxii) mua⁴² ‘when’ (SK, AY, RN, MT)
- xxxiii) taŋ⁴² tɛɛ²² ‘since’ (RN, MT)
- xxxiv) con³³ ‘till’ (RN, MT)

and grammaticalized temporal prepositions such as

- xxxv) tɛɛ²² ‘since’ (RN, MT)
- xxxvi) nay³³ ‘in’ (AY, RN, MT)
- xxxvii) caak²² ‘from’ (MT)
- xxxviii) thɯŋ²⁴ ‘to, till’ (MT)

thɯŋ²⁴ and caak²² are inherent verbs meaning ‘to arrive’ and ‘to depart’. They have been grammaticalized into locative prepositions ‘to’ and ‘from’ respectively. As derived temporal markers, they convey the meanings of terminal point and initial points of time respectively. nay³³ ‘in’, a locative preposition, grammaticalized from a noun, is similarly used as a temporal preposition. tɛɛ²² is most probably grammaticalized from a borrowed Burmese verb meaning ‘to begin’.

1.3.2 Deictic temporal subordinators

As has been mentioned, temporal subordinators mark the subordinating clause immediately after them as the temporal reference to the event in the main clause of a complex sentence. In the data, thirteen temporal subordinators are found:

xxxix)	mua ⁴²	‘when’	SK	AY	RN	MT
xl)	tiam ³³ tee ²²	‘since’	SK	-	-	-
xli)	khra ⁴⁵	‘when’	-	AY	RN	-
xlii)	kwaa ²²	‘till’	-	AY	RN	MT
xliii)	con ³³	‘until’	-	AY	RN	MT
xliv)	phoo ³³	‘when, as soon as’	-	AY	RN	MT
xlv)	con ³³ kwaa ²²	‘until’	-	-	RN	MT
xlvi)	khə ³³ na ²²	‘when, while’	-	-	RN	MT
xlvii)	kon ²²	‘before’	-	-	RN	MT
xlviii)	lan ²⁴ caak ²²	‘after’	-	-	-	MT
xlix)	kon ²² naa ⁴²	‘before’	-	-	-	MT
l)	wee ³³ laa ³³	‘when’	-	-	-	MT
li)	toon ³³	‘when’	-	-	-	MT

As can be seen from the list above, only mua⁴² has been used as a temporal subordinator since Sukhothai, while tiam³³ tee²² and khra⁴⁵ are now obsolete. Besides, several subordinators are synonyms, for example mua⁴², khra⁴⁵, wee³³ laa³³, toon³³ all mean ‘when’. Moreover, several temporal subordinators are made up from a combination of two synonymous words such as con³³ kwaa²² both of which mean ‘till’, or they are derived from noun phrases such as lan²⁴ caak²² from lan²⁴ caak²² nan⁴⁵, kon²² naa⁴² from kon²² naa⁴² nan⁴⁵. In Modern Thai, a temporal noun as wee³³ laa³³ ‘time’ and toon³³ ‘period of time’ are also used as temporal subordinators. Below are examples of the temporal subordinating clauses in complex sentences:

- 4) toon³³ - khaw²⁴ - hok²² lom⁴⁵ - chan²⁴ - may⁴² - yuu²² - baan⁴²
(time - he - fall - I - not - stay - home)
‘When he fell, I was not home.’
- 5) mua⁴² - kuu³³ - khun⁴² - yay²² - daay⁴² - sip²² kaaw⁴² - khaw⁴², ...
(when - I - up - big - get - nineteen - year, ...)
‘When I was nineteen years old, ...’

2 Semantic types of deictic time markers

In order to locate an event in a time line, a temporal point of reference is needed. The deictic temporal point of reference linguists usually mention is the zero point of reference (Comrie, 1985; Lyons, 1995) which coincides with the present moment (Comrie, 1985) or the locution time of utterance (Lyons, 1995). However, the necessary temporal reference point does not always have to coincide with the locution time of utterance, it can be another event identifiable in a context either in an adjacent phrase or clause or in a larger text. In this article two types of temporal reference point are assumed: the locution time of utterance - or in this paper the time when the text was written - and the text time reference -

which in this paper can be found in a subordinating clause or phrase, or is alternatively present in surrounding text. Comrie (1985) called the first type of temporal reference the absolute time reference and the second, the relative time reference. Comrie's terms will be adopted because they are generally known but from time to time, the terms 'text time reference' will be used for the latter type or reference.

In discussing semantic types of temporal relations or connections between the main clause and its subordinating clause in English, Givón (1993) mentioned altogether eight types of relations. They are given here with an example of the temporal subordinator which conveys the semantic type in the bracket: precedence (before), subsequence (after), simultaneity (while), point coincidence (as), terminal boundary (till), initial boundary (since), and intermediacy (between). He also mentioned 'when' as a generic time subordinator which can convey several semantic relations, for example, 'when' can indicate subsequence as well as simultaneity:

When he left home, she felt ill. (Subsequence)

When she walked back home, it started to snow. (Simultaneity)

We will use these terms with some modifications. First, in connection with the terms 'precedence' and 'subsequence', we will use Kortmann's (1997) terms 'posteriority' and 'anteriority' respectively instead. The reason is that the two terms given by Kortmann are more consistent with the other terms in Givón's set in the sense that all terms now refer directly to the temporal reference point. Givón's terms, precedence and subsequence, refer rather to the clauses in relation to the temporal reference point than directly to the temporal reference point itself. Secondly, we will include 'point coincidence', 'intermediacy' and 'simultaneity' under the same terms, 'simultaneity'.

Thus, in discussing semantic types of the deictic time markers either as absolute time reference or relative time reference, we will be referring to the following semantic types: anteriority, posteriority, simultaneity, terminal boundary, initial boundary and generic 'when'. These terms are primarily Givón's terms (1995) with some terms introduced by Kortmann (1997).

2.1 Absolute time reference

As mentioned above, when the temporal point of reference coincides with the present moment or is situated relative to the present moment, there is absolute time reference. In Thai, this is usually displayed by the inclusion of *nii*⁴⁵ in the time markers. However some of the time markers in this type do not have *nii*⁴⁵, especially those in the anteriority sub-type. The five sub-types identified are: simultaneity, anteriority, initial boundary, posteriority and terminal boundary.

2.1.1 Simultaneity

When the time of the time markers is the same as that expressed in the locution time, we have the simultaneity semantic type, for example in

- 6) bat²² nii⁴⁵ - phom²⁴ - khəw²⁴ - pəət²² - kaan³³ praŋ²² chum³³
 now - I - request - open - meeting
 Now I would like to declare open the meeting.

The event ‘open the meeting’ occurs at the time $\text{bat}^{22} \text{nii}^{45}$ ‘now’ which coincides with the locution time. Below are the time markers in this sub-type with the indication of the periods when they are found.

lii)	$\text{bat}^{22} \text{nii}^{45}$	SK	AY	RN	MT
liii)	$\text{chua}^{42} \text{nii}^{45}$	SK	-	-	-
liv)	$\text{mua}^{42} \text{nii}^{45}$	SK	AY	RN	-
lv)	$\text{mua}^{42} \text{lun}^{33} \text{nii}^{45}$	SK	AY	-	-
lvi)	$\text{diaw}^{24} \text{nii}^{45}$	-	-	RN	MT
lvii)	$\text{tɔɔn}^{33} \text{nii}^{45}$	-	-	RN	MT
lviii)	$\text{chuan}^{42} \text{nii}^{45}$	-	-	RN	MT
lix)	$\text{wee}^{33} \text{laa}^{33} \text{nii}^{45}$	-	-	RN	MT
lx)	$\text{khə}^{33} \text{naʔ}^{22} \text{nii}^{45}$	-	-	RN	MT
lxi)	$\text{pat}^{22} \text{cu}^{33} \text{ban}^{33} (\text{nii}^{45})$	-	-	-	MT

It can be seen that some of the time markers in the simultaneity sub-type are now obsolete and many are introduced in the two latter periods. Two sub-types can be distinguished in simultaneity. One is ‘the point of time’ sub-type. The other is ‘the period of time’ sub-type. In the Sukhothai period, $\text{bat}^{22} \text{nii}^{45}$ seemed to indicate the second sub-type. It has been changed to the first sub-type in Modern Thai. $\text{diaw}^{24} \text{nii}^{45}$ can be in either sub-type whereas the rest of the time markers in the above list are in the second sub-type.

2.1.2 Posteriority

When the event in the sentence occurred before the locution time, we have the posteriority type, for example in,

- 7) $\text{kɔɔn}^{22} - \text{nii}^{45} - \text{khaw}^{24} - \text{tua}^{33} - \text{lek}^{45}$
 before - this - he - body - small
 Before, he was slim.

The event ‘being slim’ occurred before the locution time or the present time. The following time markers are in this type:

lxii)	$\text{mua}^{42} \text{kɔɔn}^{22}$	SK	AY	RN	MT
lxiii)	$\text{tɛ}^{22} \text{kɔɔn}^{22}$	SK	AY	RN	MT
lxiv)	$\text{tɛ}^{22} \text{kɔɔn}^{22} \text{nii}^{45}$	-	-	-	MT
lxv)	$\text{kɔɔn}^{22} \text{naa}^{42} \text{nii}^{45}$	-	-	-	MT
lxvi)	$\text{kɔɔn}^{22} \text{nii}^{45}$	-	-	-	MT

The data show that several posteriority markers are coined in Modern Thai. It is interesting to see that in $\text{tɛ}^{22} \text{kɔɔn}^{22} \text{nii}^{45}$ found in Modern Thai, nii^{45} is added in analogy with other nii^{45} constructions probably to refer to the zero point or the present time.

2.1.3 Initial boundary

- 8) caak²² nii⁴⁵ pay³³ - khun³³ - may⁴² - khuan³³ - maa³³ - haa²⁴ - phom²⁴ - ?iik²²
 (from now on - you - not - should - come - see - I - again)
 From now on, you should not come to see me any more.

Time markers indicating the initial boundary type include the following:

lxvii)	tɛɛ ²² nii ⁴⁵	SK	AY	-	-
lxviii)	tɛɛ ²² nii ⁴⁵ pay ³³	-	AY	RN	MT
lxix)	tɔɔ ²² pay ³³ nii ⁴⁵	-	-	-	MT
lxx)	caak ²² nii ⁴⁵ pay ³³	-	-	-	MT

Again, time markers in the initial boundary type include nii⁴⁵, the word for the zero point. The markers for initial boundary increase from tɛɛ²² ‘since’, found since Sukhothai to grammaticalized prepositions from verbs, tɔɔ²² ‘connecting’ and caak²² ‘from’, found only in Modern Thai. It must be noted that all initial boundary time markers, since they have nii⁴⁵ as the starting point, convey future time. The use of the direction word pay³³ ‘go’ indicating ‘time forward’ emphasizes future time.

2.1.4 Anteriority

Anteriority markers include naa⁴² ‘front’ and laŋ²⁴ ‘back’ from the front-back axis as in:

- 9) laŋ²⁴ caak²² nii⁴⁵ raw³³ khon³³ caʔ²² dii³³ khun⁴²
 (after - this - likely - will - good - up)
 After this, we should become better.

lxxi)	phaay ³³ laŋ ²⁴	-	AY	RN	MT
lxxii)	phaay ³³ laŋ ²⁴ pay ³³	-	-	-	MT
lxxiii)	phaay ³³ naa ⁴² (pay ³³)	-	-	-	MT
lxxiv)	laŋ ²⁴ caak ³³ nii ⁴⁵	-	-	-	MT
lxxv)	khaaŋ ⁴² naa ⁴² pay ³³	-	-	-	MT

Time markers with laŋ²⁴ ‘back’, which implies a point behind the zero point, express the time after the zero point. Similarly, the word naa⁴² ‘front’ indicates time ahead of the zero point. Again the use of the direction word pay³³ ‘go’ emphasizes time after the zero point or in the future.

2.1.5 Terminal boundary

The data available show only two terminal boundary time markers as absolute time references: thɯŋ²⁴ tɔɔn³³ nii⁴⁵ ‘until now’ and con³³ (thɯŋ²⁴) diaw²⁴ nii⁴⁵ ‘until now’.

- 10) thɯŋ²⁴ tɔɔn³³ nii⁴⁵ yaŋ³³ may⁴² mii³³ thaŋ³³ rak⁴⁵ saa²⁴
 (till now - still - not - have - way - cure)
 Till now there is still no way to cure ‘it’.

- lxxvi) thəŋ²⁴ tɔɔn³³ nii⁴⁵ ‘until now’ (MT)
 lxxvii) con³³ (thəŋ²⁴) diaw²⁴ nii⁴⁵ ‘until now’ (MT)

These markers with nii⁴⁵ or diaw²⁴ nii⁴⁵ as the zero point mark the present time as the end point of a stretch of time.

The diagram below is an attempt to summarize the semantic types of the deictic time markers of the absolute time reference group.¹

2.2 Relative time reference

In the following two sentences the temporal reference point for the event in the main clauses is not the locution time but another event. In sentence 11, the reference point is nan⁴⁵, which must be identified from the text. This is referred to as relative time reference. In Thai, the time markers indicating the relative time reference usually include nan⁴⁵ ‘that’. However, when the time markers function as the subordinator of a subordinating clause, the subordinating clause functions as the relative reference for the main clause.

- 11) laŋ²⁴ caak²² nan⁴⁵ - khaw²⁴ - duu³³ - dii³³ - khən⁴²
 after - he - look - good - up
 Afterwards, he looked better.
- 12) phɔɔ³³ - khaw²⁴ - ʔɔɔk²² - caak²² - li⁴⁵ - kɔʔ⁴² - thuuk²² - yin³³
 as - he - out - from - elevator - then - touch - shoot
 As he got out of the elevator, he was shot.

In the first example, the event ‘looked better’ occurs relative to nan⁴⁵. In order to locate real time, one has to look for an identification of nan⁴⁵ in the text. It is however sufficient that the event ‘looked better’ occurs after the reference point nan⁴⁵ without having to look for the real time. In the second example, the subordinator phɔɔ³³ indicates the temporal relation between the event in the main clause and that in the subordinating clause in the manner that both occur at the same time or simultaneously.

Below are semantic types of time markers in the relative time reference group. It can be noticed that similar semantic types occur as those for the absolute reference group.

2.2.1 Simultaneity

Some sentence examples are given here:

- 13) nay³³ - wee³³ laa³³ - nan⁴⁵ - may⁴² - mii³³ - khray³³ - yuu²² - baan⁴²
 in - time - that - not - have - who - stay - home
 At that time, no one was home.
- 14) khaw²⁴ - thuuk²² - yin³³ - ra⁴⁵ waan²² - khap²² - rot⁴⁵ - pay³³ - hua²⁴ hin²⁴
 he - touch - shoot - between - drive - car - go - Huahin
 He was shot while he was driving to Huahin.

¹ Editorial note: the manuscript as it came to us had a diagram placeholder at this point, but the intended diagram was either not received or misplaced, and we regret that we were unable to obtain it before proceeding to publication. We offer our apologies to Pranee.

lxxviii)	nay ³³ wee ³³ laa ³³ nan ⁴⁵ 'at that time'	-	-	-	MT
lxxix)	raŋ ⁴⁵ waan ²² nan ⁴⁵ 'during that time'	-	-	RN	MT
lxxx)	chuan ⁴² nan ⁴⁵ 'in that period of time'	-	-	-	MT
lxxxii)	khə ³³ naŋ ²² nan ⁴⁵ 'during that time'	-	-	-	MT
lxxxiii)	khə ³³ naŋ ²² (subordinator) 'while'	-	-	RN	MT
lxxxiv)	phoo ³³ (subordinator) 'as soon as'	-	-	RN	MT
lxxxv)	raŋ ⁴⁵ waan ²² (subordinator) 'while, as soon as'	-	-	-	MT

In the first example which is a simple sentence, the event, yuu²² baan⁴² 'stay home' occurred at the same time as nan⁴⁵ 'that' serving as a relative time reference. In the second sentence, the event in the subordinating clause with raŋ⁴⁵ waan²² as a subordinator occurs at the same time as the event in the main clause. In other words, the subordinating clause serves as the reference temporal point. Again, some time markers indicate a point of time (phoo³³, khə³³ naŋ²²) while others mark the stretch of time (nay³³ wee³³ laa³³ nan⁴⁵, raŋ⁴⁵ waan²² nan⁴⁵). The relative reference time markers of the simultaneity type were infrequently attested in the first two periods, whereas in the latter two periods they are common in their occurrence.

2.2.2 Posteriority

- 15) nat⁴⁵ - phop⁴⁵ - nay³³ - rua³³ - koon²² - rua³³ - ʔook²²
 appointment - meet - in - ship - before - ship - out
 (We) made an appointment to meet in the ship before it left the port.

lxxxv)	koon ²² naa ⁴² nan ⁴⁵ 'before that time'	-	-	-	MT
lxxxvi)	koon ²² naa ⁴² nan ⁴⁵ khun ⁴² pay ³³ 'before that time'	-	-	-	MT
lxxxvii)	koon ²² (subordinator) 'before'	-	AY	RN	MT

The posteriority time markers listed above indicate that the temporal relative reference point nan⁴⁵ occurred in the past, after, or in subsequence to the event in the simple sentence. Similarly, the event in the subordinating clause with koon²² as the subordinator occurred following or after the event in the main clause. In Givón's terms, the event in the main clause preceded the temporal relative reference nan⁴⁵.

- 16) $k\text{ɔɔn}^{22}$ - naa^{42} - nan^{45} - $chan^{24}$ - yuu^{22} - $chian\eta^{33}$ may^{22}
 before - that - I - stay - Chiangmai
 Before that, I stayed in Chiangmai.

Between $k\text{ɔɔn}^{22}$ naa^{42} nan^{45} and $k\text{ɔɔn}^{22}$ naa^{42} nan^{45} $khun^{42}$ pay^{33} , the latter indicates the event deeper in time before the relative reference nan^{45} . (see Section 3)

2.2.3 Anteriority

- 17) $khaw^{24}$ - $klap^{22}$ - $baan^{42}$ - lan^{24} $caak^{22}$ - $sɔɔp^{22}$ - set^{22}
 he - return - home - after - examination - finish
 He went back home after he finished with his exam.

lxxxviii)	lan^{24} $caak^{22}$ nan^{45}	-	-	RN	MT
	‘after that’				
lxxxix)	lan^{24} $caak^{22}$ nan^{45} maa^{33}	-	-	-	MT
	‘after that’ (past)				
xc)	lan^{24} $caak^{22}$ nan^{45} pay^{33}	-	-	-	MT
	‘after that’ (future)				
xc i)	$tɔɔ^{22}$ maa^{33} $phaay^{33}$ lan^{24}	-	-	-	MT
	‘after that, afterwards’				
xc ii)	lan^{24} $caak^{22}$ (subordinator)	-	-	RN	MT
	‘after’				

Although nan^{45} marks the time anterior to the event involved, it does not have to only refer to anterior time in the past, it can also be used to refer to time ahead in the future. In other words, it only marks events subsequent to nan^{45} , whether or not nan^{45} refers to the past or future event:

- 18) (raw^{33} - $ca\eta^{22}$ - pay^{33} - $thun\eta^{24}$ - $room^{33}$ - wan^{33} - can^{33} - naa^{42}) lan^{24} - $caak^{22}$ - nan^{45} - ηiik^{22} - $sɔɔ\eta^{24}$ - wan^{33} - $cun\eta^{33}$ - $ca\eta^{22}$ - pay^{33} - paa^{33} $riit^{42}$
 (we - will - go - arrive - Rome - Monday - next) - back - from - that - more - two - day - so - will - go - Paris
 (We will arrive in Rome next Monday.) Two days after that, we will go to Paris.
- 19) lan^{24} - $caak^{22}$ - nan^{45} - maa^{33} - $khaw^{24}$ - $khun\eta^{24}$ $reun\eta^{33}$ - $khun^{42}$
 back - from - that - come - he - strong - up
 After that time/afterwards, he became stronger.

Sentences 18 and 19 show that nan^{45} ‘that’ can be a relative time reference before the zero point or after the zero point, depending on the context. If the context is not specified, the common interpretation would be that nan^{45} ‘that’ indicates a time before the zero point and if specified, nan^{45} refers to a point of time in the future. It must be observed that pay^{33} ‘go’ and maa^{33} ‘come’ help mark time in the future and time in the past respectively.

2.2.4 Initial boundary

Initial boundary subordinators found in the data include *tiam*³³ *tɛɛ*²² ‘since’ which was used only in the Sukhothai period, and *taŋ*⁴² *tɛɛ*²² which is used in the later periods, for example:

- 20) *phii*⁴² - *phua*²⁴ - *phuu*⁴² - *ʔaay*⁴² - *taay*³³ - *caak*²² - *phua*²⁴ - *tiam*³³ *tɛɛ*²² - *yaŋ*³³ - *lek*⁴⁵
(brother - we - man - eldest - die - from - us - since - still - small)
Our eldest brother died when he was small.

- 21) *taŋ*⁴² - *tɛɛ*²² - *khaw*²⁴ - *maa*³³ - *thəə*³³ - *kɔʔ*⁴² - *dii*³³ - *khun*⁴²
(since - he - come - she - then - good - up)
Since he came, she has become better.

Besides subordinators, a prepositional phrase *tɛɛ*²² *nan*⁴⁵ is found marking an initial boundary.

- 22) *tɛɛ*²² - *nan*⁴⁵ - *maa*³³ - *thuk*⁴⁵ - *khon*³³ - *kɔʔ*⁴² - *mii*³³ - *khwaam*³³ - *suk*²²
from - that - come - every - man - then - have - happiness
From that time on, everyone was happy.

2.2.5 Terminal boundary

This semantic type is found only in a complex sentence marking the temporal relations between the events in the main clause and a subordinating clause. The subordinating clause conveys the terminal boundary, for example:

- 23) *thon*³³ - *yu*²² - *kwaa*²² - *caʔ*²² - *sin*⁴² - *ʔaa*³³ *yuʔ*⁴⁵ (AY)
endure - stay - till - finish - age
(They have to) endure until their lives end.

xciii)	<i>kwaa</i> ²² ‘till’	SK	AY	-	-
xciv)	<i>con</i> ³³ <i>kwaa</i> ²² ‘till’	-	-	RN	MT
xcv)	<i>con</i> ³³ ‘till’	-	-	-	MT

In Modern Thai, *kwaa*²² does not convey the terminal boundary but posteriority, for example:

- 24) *kwaa*²² - *khaw*²⁴ - *caʔ*²² - *klap*²² - *luuk*⁴² - *kɔʔ*⁴² - *lap*²² - *lɛɛw*⁴⁵ (MT)
before - he return - child - then - asleep - already
Before he returned, his child has already fallen asleep.

2.2.6 The generic “When”

*mua*⁴² can convey several temporal meanings: simultaneity, anteriority, for example:

Simultaneity:

25) mʉa⁴² - chua⁴² - phɔɔ⁴² - kuu³³ - kuu³³ - bam³³ rəɔ³³ - kɛɛ²² - phɔɔ⁴² - kuu³³
(SK)

(when - life - time - father - I - I - please - to - father - I)
During my father's life time, I pleased him.

Anteriority:

26) mʉa⁴² - khaw²⁴ - taay³³ - loŋ³³, baan⁴² kɔŋ⁴² thuuk²² - khaay²⁴ (MT)

(when - he - die - down - house - then - touch - sell)
When/after he passed away, the house was sold.

Posteriority:

27) mʉa⁴² - thəɔ³³ - klap²² - maa³³ - khaw²⁴ - taay³³ - pay³³ - lɛɛw⁴⁵

when - she - return - come - he - die - go - already
When she returned, he already passed away.

In fact, there is no need to have a distinct subordinator for the above semantic types. The context itself indicates the ordering of the events. Most probably because of this, temporal subordinators were few in the earlier periods.

Besides mʉa⁴², the Ayutthaya period displayed khran⁴⁵, and phɔɔ³³, both of which can also denote several semantic relations. phɔɔ³³ is still used in Modern Thai whereas khran⁴⁵ is now obsolete.

3 Deictic markers and concept of time

In this section deictic time markers will be studied in terms of metaphors to see how time is conceived of by the Thais. Fillmore (1977) mentioned two types of time metaphor in English in connection with time deixis. The first is the moving time metaphor in which time is the moving object. The other is what I call the standing time metaphor in which time is a static object. The study of deictic time markers in Thai also can be illustrated via these two types of metaphors, with different orientations.

3.1 The moving time metaphor

When the following set of deictic time markers are examined, two groups can be distinguished on the basis of the words kɔɔn²² 'preceding' and laŋ²⁴ 'behind, back':

xcvi) tɛɛ²² kɔɔn²² 'before'

xcix) phaay³³ laŋ²⁴ 'future'

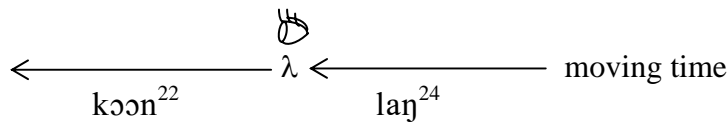
xcvii) mʉa⁴² kɔɔn²² 'before'

c) wan³³ laŋ²⁴ 'future'

xcviii) wan³³ kɔɔn²² 'the previous day(s)'

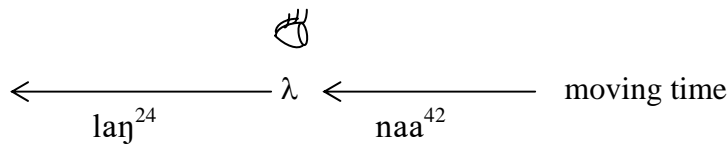
Considering that all deictic time markers above with kɔɔn²² convey the past time or the preceding time and all deictic markers with laŋ²⁴ convey the future or the time to come, it is reasonable to think of time as a moving object. If a speaker stands with his face in the same direction as the moving time and the time moves from behind his back, the time that he sees must be that which passed him and preceded him. The time behind his back is unseen, he can refer to it as the time behind: phaay³³ laŋ²⁴ (side-back), wan³³ laŋ²⁴ (day-

back). Because the time has yet to pass him, it is in the future. The following diagram illustrates moving time and the speaker orientation.



- | | | | |
|-------|------------------------------------|------|------------------------|
| ci) | tɛɛ⁴ koon²² ‘before’ | civ) | phaay³³ lan²⁴ ‘future’ |
| cv) | mna⁴² koon²² ‘before’ | cv) | (wan³³ lan²⁴ ‘future’) |
| ciii) | (wan³³ koon²² ‘the previous days’) | | |

If the speaker changes his orientation and turns his back to the past, facing the moving time, he will now see the future as the time ahead. The deictic time marker phaay³³ naa⁴² (side-ahead) ‘future’ illustrates the moving time metaphor with the new orientation. tɔn³³ lan²⁴ ‘the past’ and lan²⁴ lan²⁴ ‘recent past’ also illustrate the past in the new orientation.



- | | | | |
|--------|---------------------------|------|------------------------|
| cix) | tɔn³³ lan²⁴ ‘past time’ | cix) | phaay³³ naa⁴² ‘future’ |
| cx) | lan²⁴ lan²⁴ ‘past time’ | cx) | wan³³ naa⁴² ‘future’ |
| cviii) | phaay³³ lan²⁴ ‘past time’ | | |

3.2 The standing time metaphor

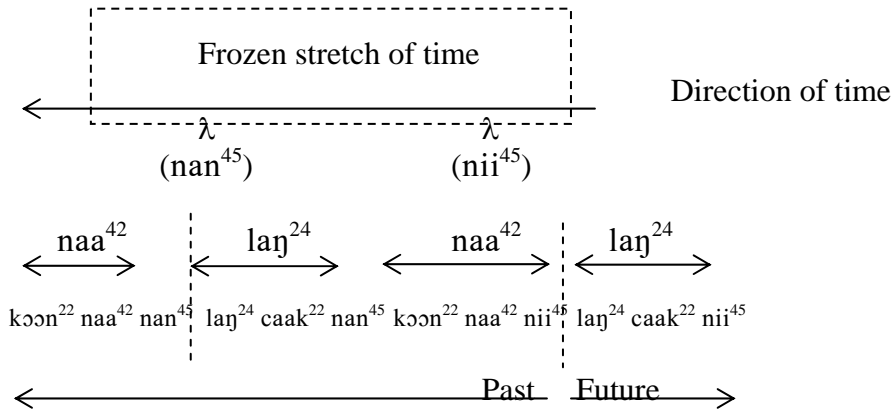
Time is always moving but we can freeze a portion on the real time line. When we do this, we have the standing time metaphor. The following sets of deictic markers indicate two static temporal points: nan⁴⁵ ‘that’, and nii⁴⁵ ‘this’.

- | | | |
|--------|-------------------------|-------------------------|
| cxii) | lan²⁴ caak²² nan⁴⁵ | lan²⁴ caak²² nii⁴⁵ |
| cxii) | koon²² naa⁴² nan⁴⁵ | koon²² naa⁴² nii⁴⁵ |
| cxiii) | caak²² nan⁴⁵ maa³³ | caak²² nii⁴⁵ pay³³ |
| cxiv) | taŋ⁴² tɛɛ²² nan⁴⁵ maa³³ | taŋ⁴² tɛɛ²² nii⁴⁵ pay³³ |

The words lan²⁴ ‘back’ and naa⁴² ‘front’ indicate the back portion and front portion of the static points nan⁴⁵ and nii⁴⁵. The time is moving in the same direction as in the first type of metaphor only in this metaphor, we stop it for the purpose of sequencing the events. The words caak²² and taŋ⁴² tɛɛ²² seem to confirm the static status of the reference points: lan²⁴ caak²² nan⁴⁵, (the back portion from that), ‘after that, afterwards’. Because nii⁴⁵ ‘this’ is usually conceived as the present time, lan²⁴ caak²² nii⁴⁵, caak²² nii⁴⁵ pay³³, taŋ⁴² tɛɛ²² nii⁴⁵ pay³³ refer to time beyond the present or time in the future.

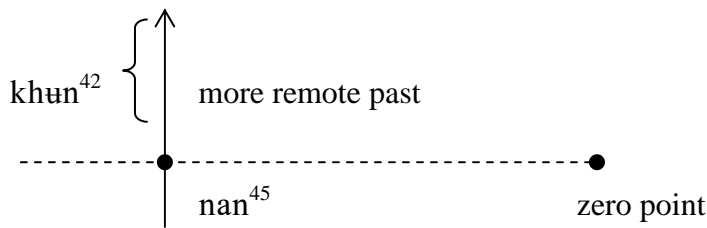
The direction word maa³³ ‘come’ and pay³³ ‘go’ seem to give the direction towards and from the zero point. This is evident from the fact that time markers denoting the past can co-occur with maa³³ except for *koon²² naa⁴² nan⁴⁵ maa³³ and *koon²² naa⁴² nii⁴⁵

maa³³. Time markers denoting the time in the future can co-occur with pay³³ ‘go’ and not with maa³³ ‘come’. It is possible to explain why *kɔɔn²² naa⁴² nii⁴⁵ maa³³ is not acceptable. This is because nii⁴⁵ is the zero point and therefore there is no distance for maa³³. As for *kɔɔn²² naa⁴² nan⁴⁵ maa³³, it is probable that the time is too remote from the nii⁴⁵ point and maa³³ does not seem possible. The following diagram is an attempt to illustrate the standing time metaphor:



3.3 The time layer metaphor

So far we have the horizontal axis of time, which gives us the picture of a sequence of events. However, we also conceive time in a vertical line with the previous time ‘above’ the present time. A temporal expression in Thai reflects this concept of time metaphor: kɔɔn²² - naa⁴² - nan⁴⁵ - khun⁴² - pay³³ (preceding-that-up-go) ‘Before the past period, the remote past period’. The vertical axis reflects the layers of the periods and again pay³³ is used as time far away from the speaker.



If we look at the list of time markers, we can see that we have more expressions for the present and the past than for the future. This may reveal that a Thai speaker feels more familiar with the present and the past and therefore, has more temporal expressions to refer to it with. With fewer expressions for the future, it probably means that he has no experience of the future and thus has no necessity to refer to hypothetical future events in detail. It is also apparent that the concepts of time revealed by the moving time metaphor and the standing time metaphor serve as the basis for the coining of new deictic temporal expressions in modern Thai.

4 Conclusion

In conclusion, the study of time markers from the four periods shows that time markers in Modern Thai are larger in number than those in the other three periods. In fact, there was a sharp increase already in the Ratanakosin period. The time markers in the two latter periods especially in Modern Thai show not only more time markers but also longer time markers. The long time markers are either doublets such as *con*³³ *kwaa*²² ‘until’ or phrases such as *tɔɔ*²² *pay*³³ *khaŋ*⁴² *naa*⁴² ‘in the future’. Phrasal time markers can be either noun phrases such as *lan*²⁴ *caak*²² *nan*⁴⁵ ‘afterwards’ or preposition phrases such as *taŋ*⁴² *tɛɛ*²² *nan*⁴⁵ *maa*³³ ‘from that time, since then’.

It is seen that in the Sukhothai period demonstrative pronouns *nii*⁴⁵ and *nan*⁴⁵ and the noun meaning ‘face’ have been extended to give temporal meanings. From the Ayutthaya period nouns denoting a distance have been used in temporal expressions. In Modern Thai grammaticalized prepositions from verbs such as *caak*²² ‘from’, *thun*²⁴ ‘to’ are used also as time markers. Thus, it can be said that more and more words are added to the time marker lexicon and only a few words become obsolete and disappear. Consequently, synonyms in time markers are not rare. For ‘now’, one may have *bat*²² *nii*⁴⁵, *diaw*²⁴ *nii*⁴⁵, *tɔɔn*³³ *nii*⁴⁵, *raŋ*⁴⁵ *yaŋ*⁴⁵ *nii*⁴⁵, *wee*³³ *laa*³³ *nii*⁴⁵; for ‘the future’, one may have *wan*³³ *lan*²⁴, *wan*³³ *naa*⁴², *phaay*³³ *naa*⁴², *khaaŋ*⁴² *naa*⁴² *tɔɔ*²² *pay*³³, *tɔɔ*²² *pay*³³ *khaaŋ*⁴² *naa*⁴², *tɛɛ*²² *nii*⁴⁵ *pay*³³.

How time is conceived of in modern Thai is not different from its conception during the Sukhothai period, that is, time is conceived as an entity moving from the back of a speaker or moving facing him; or as an entity standing still with the referential points *nii*⁴⁵ ‘this’ and *nan*⁴⁵ ‘that’. However, elaborations of these concepts are also apparent. One may now refer to the event as behind or in front of the referential point and close to or far from the zero point.

It is interesting to observe that *mua*⁴² equivalent to ‘when’ in English can convey several semantic temporal types. Moreover, it can be used to mark not only time but conditioning or reason such as in:

- 28) *mua*⁴² *khaw*²⁴ *may*⁴² *thoŋ*⁴² *naŋ*²⁴ *sua*²⁴ *khaw*²⁴ *koŋ*⁴² *khon*³³ *sɔɔp*²² *tok*²²
 (since/if - he - not - read - book - he - then - fail - examination - fall)
 If he does not review his lessons, he will fail the exam.

Since he does not review his lessons, he will probably fail the examination.

Although this is interesting to probe into, it is far beyond the scope of this paper.

Notes

I would like to express my deep appreciation for the helpful comments given by Professor Bernard Comrie and Associate Professor Kingkarn Thepkanjana who have both kindly spent their precious time reading through the original paper.

1. The Modern Thai phonemic system given here is for a broad transcription used in this paper.

Consonants:

<i>p</i>	<i>t</i>	<i>c</i>	<i>k</i>	<i>ʔ</i>
<i>ph</i>	<i>th</i>	<i>ch</i>	<i>kh</i>	
<i>b</i>	<i>d</i>			
<i>f</i>	<i>s</i>			<i>h</i>
<i>m</i>	<i>n</i>		<i>ŋ</i>	
<i>l</i>	<i>r</i>			
<i>w</i>		<i>y</i>		

Vowels:

<i>i</i>	<i>ii</i>	<i>ɨ</i>	<i>ɨɨ</i>	<i>u</i>	<i>uu</i>
<i>e</i>	<i>ee</i>	<i>ə</i>	<i>əə</i>	<i>o</i>	<i>oo</i>
<i>ɛ</i>	<i>ɛɛ</i>	<i>a</i>	<i>aa</i>	<i>ɔ</i>	<i>ɔɔ</i>

Diphthongs:	<i>ia</i>	<i>ua</i>	<i>ua</i>		
Tones:	24	33	22	42	45

These tones correspond to the following Proto-Tai tones respectively: A1H, A1M-A2, B1-DS1-DL1, B2-C1-DL2, C2-DS2

2. Inherent meaning of the word is given in brackets, the temporal meaning in inverted commas is secondary.

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HUMANS, ANIMALS, AND THE INDEXING OF SOCIAL STATUS IN BALINESE FOLKTALE NARRATIVE: THE CASE OF *UKUD* AND *DIRI*

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0 Introduction

One concept that may be categorized and expressed by the presence of classificatory devices cross-linguistically is *social status*. More specifically, this sort of classification appears to capture the *differences* in social status present in any given situation. Aikhenvald 2000 states that languages that capture this particular distinction may do so along a number of parameters, such as social position, kinship, age, culturally appropriate level of accorded respect, etc. Keating 1997 describes two types of possessive classifier strategies in Pohnpeian that encode the social status level of the possessor: a set of classifiers for high-status possessors vs. a construction that uses a single classifier (*tungoal*) for low-status possessors. In Korean, three classifiers for humans exist - a general classifier (*myeng*), an honorific classifier for referents of higher status than the speaker (*pwun*), and a classifier for corpses or dead people (*kwu*) (Oh 1994). Thus, the use of specialized classifiers is an available strategy for explicitly expressing differences in social status in languages where such distinctions are integrated in their respective lexical grammars.

In contrast, Balinese, an Austronesian language well known for integrating considerations of status into its grammar through various “speech styles” (see Errington 1988 for a discussion on speech levels in Javanese), has numeral classifiers that traditionally are not described as explicitly expressing differences in social status. However, this study will show that their usage frequency in Balinese (folktale) narrative suggests otherwise: the two classifiers used for animate referents – *ukud* for animals and some humans and *diri* for humans – are used most often to introduce referents that occupy a lower status compared to other referents within the same stretch of narrative discourse, while the higher status referents are never mentioned with these classifiers. Two claims will be made here. Firstly, Balinese presents an alternative strategy for indexing low social status via classifiers since this not accomplished through a distinctly specialized set of classifiers. Rather, the *occurrence of the classifiers themselves* signals this type of low status indexing in Balinese since they are not obligatory quantification strategies. Secondly, these implicit functions would not be apparent without examining discourse data.

1 The Working Definition of a “Numeral Classifier”

Before proceeding, it is necessary to make explicit the working definition of a “numeral classifier” used here. Many classifier studies adopt a cognitive-semantic based definition, e.g. Aikhenvald 2000, Allen 1977, Lee 1987, *inter alia*. However, for reasons of simplicity, the present study will adopt the morphosyntactic definition given in Downing 1996 (16):

1. It may directly follow a numeral.
2. It readily co-occurs with a noun denoting the referent whose number is indicated by the numeral-classifier construction.
3. It denotes a natural unit of the referent, whose (usually but not necessarily inherent) characteristics dictate its choice.

The morphemes *diri* and *ukud* fit all three criteria, as seen in (1) and (2) below, respectively:

- (1) Ada tuturan satua anak ma-kurenan, ngelah kone
 exist story tale person MA-spouse N:have it.is.said

pianak luh-luh duang diri
 child female-RED NAS:two CL:PERSON

“There is a story about a man with a wife and, it is said, *two girls*” (*Crukuk Kuning*)¹

- (2) "Ih Tiwas, ene icang maan **kutu a-ukud**."
 EXCL T. this 1(L) N-get louse NAS:one-CL:ANIMAL

“Hey Tiwas, I got *a louse*.” (**I Sugih teken I Tiwas**)

In these cases, both morphemes in question a) follow numerals (e.g. *duang* ‘two’ and the prefix *a-* ‘one’), b) co-occur with nouns that denote referents being quantified in these constructions (*pianak* ‘child’ and *kutu* ‘louse’), and c) denote natural units of the referents, as *ukud* (generally) denotes animals while *diri* denotes humans. Thus, these two morphemes fit the numeral classifier definition given above.

2 Data and Methodology

The data used in this study come from a Balinese folktale narrative genre known as *satua*, which were traditionally orally transmitted. They now appear as written texts that were

¹ Abbreviations used in this study: (H): high speech-style Balinese; (L): low speech-style Balinese; (M): medium speech-style Balinese; 1: first person; 2: second person; 3: third person; ADVERS: adversative; APPL: applicative; CL: classifier; DEF: Balinese “definite” suffix (*-e/-ne*); LNK: linker; LOC: locative; MA-: Balinese “S-Trigger” prefix; N-: Balinese “A-Trigger” prefix; NAS: nasalized numeral; NEG: negative; POSS: possessive; RED: reduplicated form; TITLE1: Balinese caste title; TITLE2: Balinese royal title. For working definitions of “trigger” terminology, please see Cumming 1991.

Definitions for some of the above abbreviations are as follows: A) **Status titles (TITLE1)** indicate the social castes of referents whose names are marked with these titles: *i* is generally for people of low caste, while *ida* is reserved for royalty, high priests, deities, and the like. B) **Royal titles (TITLE2)** are typically used for royalty, which include *sang* for kings, *sri* for queens, and *raden* for their children. C) **Linker -n (LNK)** appears after vowel-final nouns in possession constructions. D) **“Definite” suffixes -e /-ne (DEF)**, which are structurally similar to the third person pronoun, are traditionally glossed as ‘the’.

compiled by the *Team Penyusun Buku-buku Sub. Bidang Satua Bali* [Book Compilation Group, Sector of Balinese *Satua*] (Warna (ed.) 1975) for use within the elementary school classroom. 21 *satua* were chosen from this compilation, i.e. those that had at least one numeral classifier construction with either *ukud* or *diri*. A total of 40 eligible tokens were found in the present data: 24 tokens with *ukud* and 16 with *diri*.

These tokens were then categorized into three main relational categories where a low vs. high status relationship would be present: CHILD (/PARENT), SUBJECT (/SOVEREIGN), and ANIMAL (/HUMAN). In addition, two miscellaneous categories were used: MISC LOW for cases where a status differential relationship is present but cannot be categorized under any of the above categories, and INDETERMINATE for cases where no status differential can be ascertained. 35 tokens had overt head nouns; 5 tokens had classifiers that were used anaphorically.

3 Balinese Numeral Classifier Constructions

It is useful at this point to consider the characteristics of the NP and numerals in Balinese, since both are extremely pertinent to the structural characteristics of Balinese numeral classifier constructions. After these two grammatical features have been described, the structural properties of Balinese numeral constructions will be discussed.

3.1 *The Balinese NP*

The NP in Balinese is generally head-initial. Nominal modifiers usually appear with the head noun in the following order: status titles >> royal titles >> N >> linker *-n* >> possessors >> “definite” suffixes >> quantifying expressions >> demonstratives.

3.2 *Balinese Numerals*

Balinese numerals, or more specifically numerals “two” through “seven”, have been traditionally described as being divided into three main paradigms (Kersten 1984, Barber 1977), each with its own set of functions. The first numeral paradigm is the *bentuk dasar* “basic forms”, with “basic” defined as the morphologically simplest of the three paradigms. The second is the *bentuk berduplikasi* “reduplicated forms”, which shows full reduplication for monosyllabic numerals (e.g. *pat* ‘four’ → *patpat*) and partial reduplication of the initial consonant plus an epenthetic vowel for polysyllabic numerals (e.g. *lima* ‘five’ → *lelima*). The third is the *bentuk berbunyi sengau* “nasalized forms”, where the numerals ‘two’ through ‘seven’ have an additional velar nasal suffix, except for ‘six’. Additionally, numerals ‘two’ and ‘three’ have high (H) and low (L) speech style variants. These three paradigms are illustrated in **Error! Reference source not found.** below:

Table 1: *The Three Numeral Paradigms in Balinese (following Kersten 1984).*

Num.	“Basic” Form	“Reduplicated” Form	“Nasalized” Form
‘1’	sa	-	[a-]
‘2’	dua (L) / kalih (H)	dadua (L) / kekalih (H)	duang (L), kalih (H)
‘3’	telu (L) / tiga (H)	tetelu (L) / tetiga (H)	telung (L), tigang (H)
‘4’	pat	patpat	petang
‘5’	lima	lelima	limang
‘6’	nem	nemnem	enem
‘7’	pitu	pepitu	pitung
‘8’	kutus	[akutus]	[kutus]
‘9’	sia	[asia]	[sia]
‘10’	dasa	[adasa]	[dasa]

The “nasalized” numerals are generally associated with numeral classifier constructions, as illustrated in (3)-(4):

- (3) kaget ada tingal-in-a anak luh
suddenly exist see-APPL-3 person female

bajang-bajang **pitung diri**
maiden-RED NAS:seven CL:PERSON

“Suddenly there he [Rajapala] saw seven maidens” (I Rajapala)

- (4) Ada tuturan satua anak makurenan,
exist story tale person MA-spouse

ngelah kone pianak luh-luh **duang diri.**
have it.is.said child female-RED NAS:two CL:PERSON

“There is a story about a married person who had two girls” (Crukuk Kuning)

As these examples show, the numerals associated with the numeral classifiers are of the nasalized numeral paradigm. However, in the present set of data, 31/40 tokens (77.5%) of *ukud/diri* tokens have the numeral “one” from this paradigm, which takes the form of the prefix *a-* rather than a form with the velar nasal suffix.

3.3 Structural Characteristics of Numeral Classifier Constructions

The internal structure of numeral classifier constructions in Balinese can generally be characterized by the following pattern: [N Num CL]. Thus, Balinese numeral classifiers are inserted into the syntactic slot that immediately follows the numeral, which is expected given the working definition of the numeral classifier above. In the data, this is the only attested pattern for tokens that have all three elements present (30 tokens). Examples of this pattern are shown in (5)-(6) below:

- (5) Ada tuturan satua anak ma-kurenan, ngelah kone
 exist story tale person MA-spouse N:have it.is.said

pianak luh-luh duang diri
 child female-RED NAS:two CL:PERSON

“*There is a story about a man with a wife and, it is said, two girls*” (Crukcek Kuning)

- (6) I Sugih j-umah-ne masiksikan,
 TITLE1 rich LOC-house-3:POSS look.for.lice

maan **kutu a-ukud**
 N:get louse NAS:one-CL:ANIMAL

“*Ms. Rich in her house looked for lice [in her own hair] and got one louse*”
 (I Sugih teken I Tiwas)

In cases where the head noun is not expressed, the ordering between the numeral and classifier is preserved, i.e. [Num CL], as seen in (7):

- (7) Ne **a-diri** buta, ane lenan bongol.
 this.one NAS:one-CL:PERSON blind REL other deaf

“*This one [guard] is blind, the other one is deaf*” (I Ketimun Mas)

In lieu of a numeral, a quantifier such as *saka* ‘each’ may be inserted into the numeral slot, as shown in (8):

- (8) "Akuda ada Menaru dini kola lakar nguyak,
 how.many exist M. here 1(L) will N:roll

lakar tampah kola **saka ukud.**"
 will slay 1(L) each CL:ANIMAL

“*However many Menaru (n.o. witch in the story) are here, I will roll them, I will slay each one [of them].*” (I Cupak teken I Grantang)

It is also possible for a small class of quantity-modifying adverbs (e.g. *angan* ‘a single one’) to intervene between the head noun and the numeral classifier complex, as shown in (9):

- (9) Uling semengan mamencar
since morning fish.by.net

tusing maan **be angan a-ukud.**

NEG N:get fish single NAS:one-CL:ANIMAL

“*Since morning, [Cupak] went fishing and didn’t get a single fish.*” (I Cupak teken I Grantang)

Now that the necessary background information has been discussed, the following sections will present the distributional characteristics of the two animate classifiers and their correlations with the indexing of (low) social status.

4 Distributional Characteristics of *ukud* and *diri*

As the following two sections will show, the distributional characteristics of *ukud* and *diri* are quite similar, in that there is a tendency for both classifiers to introduce referents that bear a low social status relative to other participants within the stretches of narrative discourse in which they appear. (However, Balinese classifiers in general are rather rare in folktale narrative – Luna 2003 shows that they serve to introduce referents on the narrative discourse level.)

4.1 Distribution of *ukud*

The classifier *ukud* is generally associated with a referent that is an animal, as shown in examples (10) and (11):

- (10) Tonden makelo suba teka i rangsasa
not.yet long.time already come TITLE1 demon

ng-aba be **kidang a-ukud**

N-get meat deer NAS:one-CL:ANIMAL

“*Not long after that the demon came and took the meat of one deer*” (Bulang Kuning)

- (11) Mara keto, saget ma-kryuk
just like.that suddenly MA-crow

siap-e a-ukud,

chicken-DEF NAS:one-CL:ANIMAL

“*Just then, suddenly, a chicken crowed*” (Tuung Kuning)

However, it is possible for *ukud* to occur with human referents, as shown in (12) and (13):

- (12) Meme bapanne demen pesan,
mother father-LNK-3:POSS happy very

wireh ngelah **panak** mara **a-ukud**.
because have child just NAS:one-CL:ANIMAL

“His mother and father were very happy, because they now have **a child**.” (I Cubling)

- (13) Ada **dagang nasi** **a-ukud**
exist seller cooked.rice NAS:one-CL:ANIMAL

m-engkeb ma-dagang.
MA-be.hidden MA-sell

“There is **a rice vendor** doing her trade in secret” (I Cupak teken I Grantang)

Generally, situations where human referents or non-animal animate referents in general occur with *ukud* are in the minority compared to situations where the classifier is used with animal referents, as suggested by Table 2 below:

Table 2: Token distribution of referent relations classified by *ukud*.

Type of Relationship	No. Tokens
ANIMAL (/HUMAN)	15 (62%)
CHILD (/PARENT)	5 (21%)
SUBJECT (/SOVEREIGN)	0 (0%)
MISC LOW	3 (13%)
INDETERMINATE	1 (4%)
TOTAL	24 (100%)

The above figures show that *ukud* occurs most frequently with animal referents (15/24; 62%), which in itself is not surprising. However, the same classifier occurs with non-animal low-status referents in 8/24 tokens (5 CHILD (/PARENT) and 3 MISC LOW; 25%).

One may wonder why *ukud* would be used at all with animate referents that are not animals (which includes personified animals, as discussed below). For the five tokens where *ukud* classifies CHILD (/PARENT) referents, some extralinguistic commentary on Balinese culture must be considered here. For example, virtually all animals are considered to be separate from and inferior to humans in Balinese society. This manifests itself in ritual activities and prohibitions that ensure the separation of these two types of animates, such as the prohibition for babies to crawl “like animals” and the various religious rites of passage that rids humans of animal-like characteristics, such as tooth-filing (see Eiseman 1990 for a concise discussion on these cultural considerations). In general, children in Balinese society are traditionally viewed as not fully human when they are first born. As the

child ages, they gradually attain “human” status, which is marked by the religious rites of passage mentioned above. Thus, this cultural explanation would serve as one motivation for the possibility of classifying “children” with the *ukud* classifier, i.e. “children” are animate referents, but are not completely “human” from the perspective of Balinese culture and society; thus, by default, they may occur with *ukud*. Thus, this suggests that referents with *ukud* are generally of low social status, since both animals and children are traditionally viewed as occupying a lower status level than human adults in Balinese culture.

For the three MISC LOW tokens, *dagang nasi* ‘(cooked) rice vendor’ is the referent for one token, while *Menaru* (a witch) is the referent for the other two. Two of these are shown below in (14) and (15):

- (14) Ada **dagang nasi** **a-ukud**
 exist vendor cooked.rice NAS:one-CL:ANIMAL

m-engkeb ma-dagang.
 MA-hide MA-sell

Lantas **I** **Cupak** ngojog
 then TITLE1 C. N-go.towards

dagang nasi-ne tur ma-takon,
 vendor cooked.rice-DEF and MA-ask

“There was **a rice vendor** doing her business in secret. Then **Cupak** went towards the rice vendor and asked her...” (I **Cupak** teken I **Grantang**)

- (15) "Bantas **Menaru a-ukud**
 around M. NAS:one-CL:ANIMAL

elah baan kola ng-itungang"
 easy by 1 N-count-APPL

“I can easily reckon with **one Menaru**.” (I **Cupak** teken I **Grantang**)

In (14), the rice vendor is mentioned in conjunction with Cupak, one of the main characters of this particular story. At first glance, it is rather difficult to see why the vendor would occur with *ukud* since there is no obvious status differential between Cupak and the rice vendor. On the other hand, some versions of this story clarify some difference of status: Cupak and his fraternal twin brother Grantang were fathered by the Hindu gods Brahma and Vishnu, respectively (cf. Spies and de Zoete 1938[2002]:143-149). With this additional consideration, a clear distinction in social status is now apparent: the rice vendor can be shown to occupy a lower status than Cupak. In (15), the referent is the witch Menaru, which easily suggests a non-human classification. To sum up the distribution of referents with respect to *ukud*, the majority of the referents (23/24: 95.8%) are of low social status. Furthermore, there is no instance where *ukud* is used with a referent that has explicit high status.

4.2 Distribution of *diri*

The classifier *diri* occurs with human referents, as shown in (16) and (17) below. However, unlike *ukud*, *diri* is only attested with human referents in the data:

- (16) I Raksasa ngelah **juru ijeng** dadua.
TITLE1 R. have guard RED:two

Ne **a-diri** **buta**, ane lenan bongol.
this NAS:one-CL:PERSON blind REL other deaf

“Raksasa had two **guards**. One was **blind [person]**, the other was deaf.” (I Ketimun Mas)

- (17) Ida Sang Prabu Daha ma-due putra ketiga,
TITLE1 TITLE2 P. D. MA-have child RED:three

lanang kekalih **istri a-diri**.
male RED:two female NAS:one-CL:PERSON

“The King of Daha had three children, two boys and **one girl**. (I Dempu Awang)

At this point, one may want to hypothesize that since *ukud* appears with animate referents that have low status, any sort of truly human referent may be classified with *diri*. This appears not to be case, as seen in (18) and (19):

- (18) **Ida Sang Prabu Daha [0]** ma-due putra ketiga,
TITLE1 TITLE2 P. D. MA-have child RED:three

lanang kekalih **istri a-diri**.
male RED:two female NAS:one-CL:PERSON

“**The King of Daha [0]** had three children, two boys and **one girl**. (I Dempu Awang)

- (19) **Anak luh balu [0]**
person female widow 0

ngelah **pianak luh a-diri**.
have child female NAS:one-CL:PERSON

Adan-in-a I Ketimun Mas.
name-APPL-3 TITLE1 K. M.

Ia mumah di tanggu-n desa-ne,
3 live LOC tip-LNK village-DEF

desa Dauh Yeh, paek teken alas.
village D. Y. near with forest

“*[There was] a widow [0] who had one girl [CL]. [She] was named Ketimun Mas. They lived in the outskirts of the village, the village of Dauh Yeh, near by the forest.*” (I Ketimun Mas)

As is the case for *ukud*, the use of *diri* is optional. Furthermore, it seems that the types of referents that occur with *diri* are similar to those that occur with *ukud* (except for the fact that *diri* does not occur with animals), as illustrated in **Error! Reference source not found.**:

Table 3: *Token Distribution of Referent Relations Classified by diri.*

Type of Relationship	No. Tokens
ANIMAL (/HUMAN)	0 (0%)
CHILD (/PARENT)	7 (43%)
SUBJECT (/SOVEREIGN)	6 (38%)
MISC LOW	0 (0%)
INDETERMINATE	3 (19%)
TOTAL	16 (100%)

As the above figure shows, the majority of the referents with *diri* are either from the CHILD (/PARENT) (7/16: 43%) or SUBJECT (/SOVEREIGN) referent type (6/16: 38%). Therefore, the majority of these referents explicitly hold lower social status.

For the three indeterminate tokens, it is much more difficult to determine the social status of their associated referent (*widiadari* ‘celestial nymphs’) since these are non-human, and yet are “heavenly” (as opposed to demonic or malevolent) non-humans, as shown in (20):

(20) kaget ada tingal-in-a **anak luh**
suddenly exist see-APPL-3 person female

bajang-bajang pitung diri
maiden-RED NAS:seven CL:PERSON

[SEVEN CLAUSES OMITTED]

Uli di pengkeban I Rajapala ng-lingling
from LOC hiding.place TITLE1 R. N-look.at

saparipolah anak-e luh-luh ento.
all.at.once person-DEF female-RED that

Anake luh-luh ento jati-n-ne *widiadari*.
person-DEF female-RED that true-LNK-3:POSS celestial.nymph

[25 CLAUSES OMITTED]

Ane **a-diri** ka-tinggal-an ditu
 REL NAS:one-CL:PERSON ADVERS-leave-ADVERS there

kebarat-kebirit ng-alih-alih-in klambi-n idane.
 look.wildly N-take-RED-APPL dress-LNK 3(H):POSS

“Suddenly there he [Rajapala] saw **seven maidens**. [...] From his hiding place, Rajapala looked at all the women at once. The women turned out to be **widiadari** [celestial nymphs]. [...] There was **one [nymph]** who was left there, looking frantically for her dress.” (I Durma)

These tokens with *widiadari* ‘celestial nymph’ may seem like counterexamples, in that these can be argued to be of a higher status than humans, even though they are expressed with *diri*. However, another thing to consider is that in this story, one of the nymphs ends up marrying a mortal, which brings her closer to “human” status. At that point, her social status relative to her future husband, I Rajapala, and other humans gradually becomes more ambiguous, which makes her status truly “indeterminate”.

To sum up the distribution of referents with respect to *diri*, the majority of the referents (13/16 tokens; 81.3%) are either CHILD (/PARENT) or SUBJECT (/SOVEREIGN), i.e. they are referents of low social status. Again, like *ukud*, this figure shows that most referents occurring with *diri* occupy low, not high, social status.

In general, both classifiers appear to occur most frequently with referents that are explicitly of low status (33/40 tokens; 82.5%), as shown in and Figure 1 below:

Table 4: Token Distribution of Referent Relations Classified by *ukud* and *diri*.

Type of Relationship	<i>ukud</i>	<i>diri</i>	TOTAL
ANIMAL (/HUMAN)	15	0	15
CHILD (/PARENT)	5	7	12
SUBJECT (/SOVEREIGN)	0	6	6
MISC LOW	3	0	3
INDETERMINATE	1	3	4
TOTAL	24	16	40

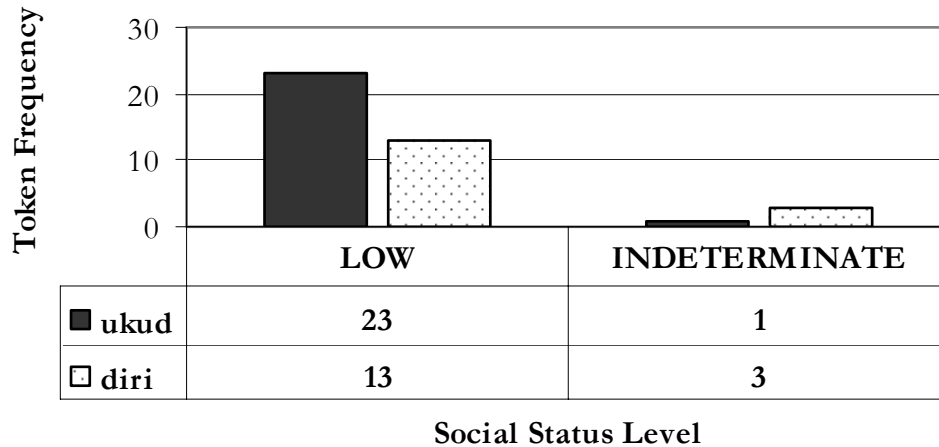


Figure 1: *Distribution of Referents with **ukud** and **diri** according to Social Status.*

5 Why Would Classifiers Index Low Status Referents?

At this point, one may want to pose the following question: why would Balinese animate classifiers be used to index characteristics such as low social status onto their associated referents? Firstly, it is important to reiterate that numeral classifier constructions are *not obligatory devices for quantifying referents*, as shown below in (21):

- (21) Ida Sang Prabu Daha ma-due *putra ketiga*,
 TITLE1 TITLE2 P. D. MA-have child(H) RED:three(H)

lanang kekalih istri a-diri.
 male(H) RED:two(H) female(H) NAS:one-CL:PERSON

“*The King of Daha had three children, two boys and one girl. (I Dempu Awang)*”

In this case, three referents are being quantified (*putra* ‘child’, *lanang* ‘male’, and *istri* ‘female’), and yet only one of these referents occurs with a numeral classifier construction; the other two referents are mentioned with the Balinese reduplicated numerals.

Secondly, as noted above, Balinese is known for its multi-layered socially sensitive lexicon (i.e. speech styles). In the same example above, there are many overt markers of the high speech style, not only from the referents expressed here (which are all high speech style forms), but also with the reduplicated numerals *kekalih* ‘two’ and *tetiga* ‘three’. Thirdly, referents that explicitly have higher status are introduced into a stretch of narrative discourse by other means, such as names and kin terms. This is illustrated in (22)-(23) below:

- (22) Ka-crita jani **Ida Raden Mantri Koripan**,
3-tell.story now TITLE1 R. M. K.

nuju peteng **ida** ma-linggih
N:take.place afternoon 3(H) MA-sit(H)

di bale-kambang-e di taman,
LOC hall-floating-DEF LOC garden

“Now the story is told about **Raden Mantri of Koripan**; during the afternoon, **he** was sitting in the floating hall in the garden” (I Dempu Awang)

- (23) Ada tutur-tuturan satua **Men Cubling**.
exist story tale mother.of C.

Ane muani m-adan **Pan Cubling**.
REL male MA-name father.of C.

Panak-ne m-adan kone I Cubling.
child-3:POSS MA-name it.is.said TITLE1 C.

“There is a story about **Men Cubling**. [Her] husband was named **Pan Cubling**. [Her] child was named I Cubling. (Men Cubling)

In these cases, the names are preceded by either a caste title, a royal title, or by a teknonym, which clearly indicate their higher social status, i.e. SOVEREIGN and PARENT, respectively.

Thus, these three factors, i.e. non-obligatory usage, explicit indications of social status elsewhere in the grammar, and referent introduction via names/kin terms, in conjunction with the discourse-based frequency presented above, appear to greatly influence the occurrence of numeral classifier constructions in Balinese narrative discourse.

6 Concluding Remarks

In this study, it was shown that the two animate numeral classifiers and their associated constructions in Balinese, *ukud* and *diri*, occur most frequently with referents that occupy a lower status relative to other referents within the same stretch of discourse, even though these classifiers are not specialized to do so. In relating these distributional facts with other factors, such as the non-obligatory usage of these constructions, the occurrence of status-sensitive speech styles, and the introduction of referents of higher social status referents through other means, it appears that these Balinese classifiers are not merely counting animate referents, but are indexing low social status simply by being used in a stretch of discourse. Thus, this study has validated the following points: 1) the occurrence of linguistic forms can be used to serve functions other than its “traditional/conventional” usage, e.g. indexing social status, even if these are not made explicit, and 2) these implicit functions are apparent only when discourse-based data are considered.

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KHMER FINAL PARTICLES *phɔɔŋ* & *dae*

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1 Introduction

In Khmer, there are a number of words occurring at the end of sentences, clauses, or phrases which add meanings such as “question” or “emphasis”. Huffman(1967) and Ueda(2002) refer to these words as “final sentence particles”, Jacob(1968) calls them “final phrase particles”. Because it is difficult to identify the exact locus of occurrence of these words, I will call them “final particles” collectively in this paper. This paper deals with two “final particles”, *phɔɔŋ* and *dae*, which occur with an apparently similar meaning “too, also”.

- (1) msəl məŋ kɲom riən nən pannaalaj *phɔɔŋ*
yesterday I study at library
riən nən ptɛəh *phɔɔŋ*
study at home FP

“Yesterday I studied at library, and studied at home, too”

- (2) msəl məŋ kɲom riən nən pannaalaj
yesterday I study at library
haəj nən ptɛəh kɔɔ kɲom riən *dae*
and at home I study FP

“Yesterday I studied at the library. I also studied at home, too”

There also exist usages of *phɔɔŋ* and *dae* which cannot be translated into “too” or “also”.

- (3) cŋaŋ *phɔɔŋ* !
delicious FP
“It is unexpectedly delicious!”

- (4) - cŋaŋ tɛə - “Is it delicious?”
delicious (question)
- cŋaŋ *dae* - “It is not so delicious.”
delicious FP

Table 1 shows the range of meanings assigned to *phɔɔŋ* and *dae* in three previous studies.

Table 1: Previous studies

	<i>phɔɔŋ</i>	<i>dae</i>
Huffman (1967:196)	“too, also”	“as well”
Jacob (1968:102)	“too, as well”	“too, also, even so”
Ueda (2002:46)	“to emphasize the clauses”	“to express that a sentence shares the same predicate as the other sentence”

Huffman(1967) notes that *phɔɔŋ* means “too, also” and *dae* means “as well”. Jacob(1968) states that *phɔɔŋ* means “too, as well” and *dae* means “too, also, even so”. Ueda (2002) observes that *phɔɔŋ* is used “to emphasize the clauses” and that *dae* is used “to express that a sentence shares the same predicate as the other sentence”.

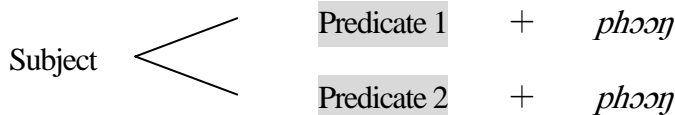
Previous studies seem to have left it unclear what the differences are between these two particles. This paper is intended to identify the function of each particle and the differences.

2 Analysis

In this section, based on my elicitation results, I will show how *phɔɔŋ* and *dae* are used. It should be noted that the range within a syntactic unit (e.g. phrase, clause, sentence) where a final particles operates is referred to as its “scope”, which is somewhat different from the general usage of this term. Each “scope” is indicated by a gray square.

2.1 *phɔɔŋ*

The scope of *phɔɔŋ* is one predicate and its function is to parallel different predicates in a sentence as in Figure 1.

Figure 1:

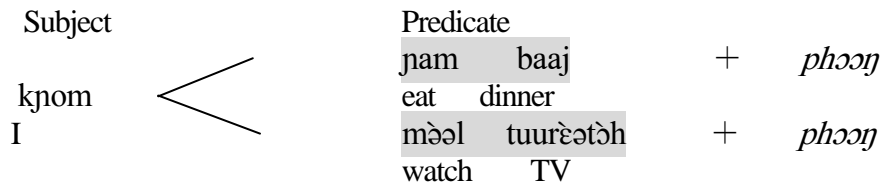
2.1.1 Basic usage

First, consider example (5).

- (5) jòp mən kɲom ɲam baaj *phɔɔŋ*
 last night I eat dinner FP
 mə̀əl tuurɛ̀ətə̀h *phɔɔŋ*
 watch TV FP
 “I ate dinner, watched TV, too”

As in Figure 2, two different predicates, *ɲam baaj* “ate dinner” and *mə̀əl tuurɛ̀ətə̀h* “watched TV”, are both followed by *phɔɔŋ* in a sentence.

Figure 2:



Scope : ate dinner

Parallel Predicate : watched TV

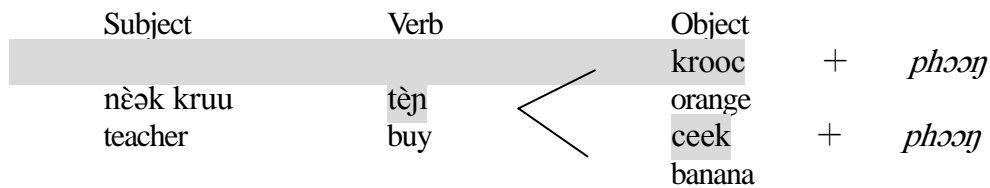
Example (5) shows that these two activities occurred at the same time.

(6a) is an example where only the objects of the predicates occur in parallel.

(6a) nèək kruu tɛŋ krooc phɔɔŋ ceek phɔɔŋ
 teacher buy orange FP banana FP
 “The teacher bought orange, and banana, too”

Figure 3 shows how just the objects, “orange” and “banana”, are arranged in parallel.

Figure 3:



(6a) indicates that the teacher bought both the orange and the banana at the same time. We can in fact repeat the verb twice as in (6b) and have two parallel predicates.

(6b) nèək kruu tɛŋ krooc phɔɔŋ tɛŋ ceek phɔɔŋ
 teacher buy orange FP buy banana FP
 “The teacher bought orange, and bought banana, too”

Scope : bought orange

Parallel Predicate : bought banana

So it is safe to say that, even in (6a), two predicates (not only objects) are paralleled.

It is not acceptable to repeat the subject twice as in (6c).

(6c) *nèək kruu tɛŋ krooc phɔɔŋ
 teacher buy orange FP
 nèək kruu tɛŋ ceek phɔɔŋ
 teacher buy banana FP

The observation that the scope of *phɔɔŋ* is one predicate, thus holds true.

Let's move to (7a), where only adjuncts are arranged in parallel.

(7a)	msəl məŋ	kɲom	riən	nəv	pannaalaj	phɔɔŋ
	yesterday	I	study	at	library	FP
	nəv	ptɛəh	phɔɔŋ	(= 1)		
	at	home	FP			

“Yesterday I studied at library, and at home, too”

Figure 4 shows how the two adjuncts are paralleled and that “T” studied both at library and at home.

Figure 4:

Subject	Verb	Adjunct		
kɲom	riən	nəv pannaalaj	+	phɔɔŋ
I	study	at library		
		nəv ptɛəh	+	phɔɔŋ
		at home		

As in (6b), we can repeat the verb twice as in (7b).

(7b)	msəl məŋ	kɲom	riən	nəv	pannaalaj	phɔɔŋ
	yesterday	I	study	at	library	FP
	riən	nəv	ptɛəh	phɔɔŋ		
	study	at	home	FP		

“Yesterday I studied at library, and studied at home, too”

Scope : studied at library

Parallel Predicate : studied at home

2.1.2 When parallel predicates are contextually recoverable

When parallel predicates are not expressed explicitly, they need to be presupposed in the context. (8) is an utterance of surprise by the speaker at his friend's ability to speak Chinese.

(8)	ʔaɛŋ	niʔjɛəj	phɛəsaa cən	phɔɔŋ
	you	speak	Chinese	FP

“You speak Chinese, too!?”

Scope : speak Chinese

Parallel Predicates : speak Khmer, speak English, etc...

In (8), there must be one or more languages that the person can speak. For example, the person may be able to speak Khmer and English besides Chinese.

2.1.3 When parallel predicates are not contextually recoverable

Unlike examples shown above, there exist some examples of *phɔɔŋ* in which parallel predicates are not contextually recoverable.

- (9) cɲaŋ *phɔɔŋ* (= 3)
delicious FP
‘‘It is unexpectedly delicious!’’

Scope : delicious
Parallel Predicates : the other states that it has

(9) is an utterance where one finds something delicious unexpectedly. According to the function of *phɔɔŋ* discussed so far, it may be presupposed that the parallel predicates encode the other states that the food could be in (e.g. be good looking). The choice of the state of being delicious, among all the other possible states may lead to the nuance of emphasis.

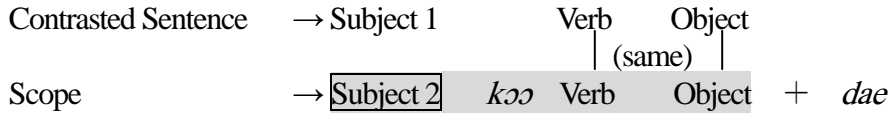
2.2 dae

Next, we move to the analysis of *dae*. The scope of *dae* is the whole of one sentence. *Dae* effects its function ‘‘by placing focus on a subject, an object or an adjunct to show that the verb in the scope expresses the same behavior/state as that in another contrasted sentence’’. In the examples of *dae*, focused elements are followed by *kɔɔ* and placed at the beginning of the sentences. Each focused element is referred to as the ‘‘focus’’ in this paper, which again may be different from the general usage of this term and is indicated in a gray square. Fukuda (1980) notes that *kɔɔ* has a variety of meanings, but I won’t discuss these in detail here.

2.1.1 Basic usage

First, consider the examples of *dae* in which the subjects are focused.

Figure 5:



- (10) bɔɔbɔɔ cɲaŋ haəj
rice porridge delicious and
kɔɔjɲeəv *kɔɔ* cɲaŋ *dae*
rice noodles delicious FP
‘‘Rice porridge is delicious and rice noodles are also delicious’’

Focus : rice noodles
Contrasted Subject : rice porridge

In (10), the sentence in the scope of *dae* ‘‘rice noodle is delicious’’ is followed by *dae* and indicates that the subject ‘‘rice noodle’’ is as delicious as the subject of the contrasted sentence i.e. ‘‘rice porridge’’. The two sentences have same verb ‘‘delicious’’.

- (11) A sʔaat cəmnaek
 beautiful other
 B *kɔɔ* lʔɔɔ mɔ̀əl *dae*
 good look FP
 “A is beautiful. On the other hand, B is good-looking, too”

Focus : Ms. A

Contrasted Subject : Ms. B

In (11), the verb of the sentence in the scope of *dae* “beautiful” and that of the contrasted sentence “good-looking” are not completely identical. But both of them are similar in that they encode attractive appearance. Therefore, it does not matter whether *dae* has scope over a verb which is identical to that of contrasted sentence or not. What is important is that the verb of the sentence in *dae*’s scope and that of the contrasted sentence indicate the states which the speaker considers to be the same or similar in meaning.

Next is an example of *dae* with object focus. As in Figure 6, the focused object is placed at the beginning of the sentence.

Figure 6:

Contrasted Sentence	→	Subject	Verb	Object 1			
			(same)				
Scope	→	Object 2	<i>kɔɔ</i>	Subject	Verb	+	<i>dae</i>

- (12) kɲom niʔjɛəj phɛəsaa capon
 I speak Japanese
 phɛəsaa ʔɔŋklɛɛ *kɔɔ* kɲom niʔjɛəj *dae*
 English I speak FP
 “I speak Japanese. I also speak English”

Focus : English

Contrasted Object : Japanese

In (12), following the contrasted sentence “I speak Japanese”, the scope of *dae* indicates that “I also speak English”. In (12), the object “English” is the focused element, and is placed at the beginning of the sentence with *kɔɔ*.

- (13) msəl mən kɲom riən nɔ̀v pannaalaj
 yesterday I study at library
 haəj nɔ̀v pʔɛəh *kɔɔ* kɲom riən *dae* (= 2)
 and at home I study FP
 “Yesterday I studied at the library. I also studied at home, too”

Focus : at home

Contrasted Adjunct : at library

In (13), following the contrasted sentence “I studied at library”, the scope sentence indicates that “I studied at home, too”. In (13), the adjunct “at home” is focused, and is placed at the beginning of the sentence with *kɔɔ*.

2.2.2 Where the contrasted sentence is contextually recoverable

The sentence contrasted with the sentence in the scope of *dae* does not necessarily need to be expressed overtly.

(14)	nèəŋ	<i>kɔɔ</i>	<i>srɔɔlaŋ</i>	<i>cav cət</i>	<i>cèə klaŋ</i>	<i>dae</i>
	she		love	(name)	very much	FP
	“She also loves Chav Chat very much”					(KLP)

Focus : she
 Contrasted Subject : Chav Chat

In (14), the contrast sentence is not expressed overtly. Because the information that Chav Chat has loved her for a long time has already been contextually available, it is clear that the subject contrasted with the focus “she” is “Chat.”

2.2.3 Where the focus is not overtly expressed

Unlike the examples of *dae* discussed so far there also exist examples of *dae* where focus is not present.

(15)	- <i>cŋaŋ</i>	<i>tèe</i> ?	- “Is it delicious?”
	delicious	(question)	
	- cŋaŋ	<i>dae</i>	- “It is not so delicious.”
	delicious	FP	(=4)
	(literally “it is also delicious”)		

In (15), in answering the question “Is it delicious, or not?” *dae* is used. *cŋaŋ dae* here means “It is not so delicious.” Here, the meaning of “delicious” seems to be weakened, if not canceled. Taking into account the function of *dae* shown in 2.2., we can explain the usage of *dae* in (15) as follows. In (15), it is presupposed that other foods are delicious. What (15) indicates is that the particular food questioned in (15) is as delicious as the other foods, though the context never specifies what the other foods in the background contrast set actually are/might be. The pragmatically induced meaning of the sentence is therefore that the food being discussed is felt to be more delicious than certain other contextually presupposed foods. Thus, when the focus relating to *dae* is not overtly expressed, the “contrast sentence” can be pragmatically inferred, and the result is a weakened meaning of *dae*.

3 Conclusion

I have given a description of the usages of *phɔɔŋ* and *dae*. Although both of them have a meaning of “too, also” in common, their functions are different, as follows:

Function of *phɔɔŋ* → To parallel different predicates

Function of *dae* → By placing focus on a subject, an object or an adjunct using *dae* indicates that the verb in its scope expresses the same behavior/state as that in another contrasted sentence

To have a better understanding of their usages, it is important to consider the elements paralleled/contrasted by *phɔɔŋ* and *dae*, even when these elements are not overtly expressed or available from the context.

Notes

This study was supported in part by the Tohoku University 21st Century Center of Excellence (COE) Program (Humanities; Ministry of Education, Culture, Sports, Science and Technology). My thanks go to Professors Kaoru Horie, Wataru Nakamura, Kei Yoshimoto, Shigeru Sato, and fellow graduate students in the department of Cross-Cultural Education at the Graduate School of International Cultural Studies, Tohoku University.

The romanization follows Sakamoto (1988). Example (14) is quoted from “A rose in Pailin (1960) by Nhok, Thaem” abbreviated as “KLP”. The other examples were elicited from the informant directly. I appreciate the cooperation of Ms. Kep Sokunthearath.

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A HISTORICAL STUDY OF THE FACTORS CONTRIBUTING TO LANGUAGE SHIFT AMONG THE THAI CHINESE

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1 Introduction

The Chinese have always played an important role in Siamese society. In as early as the reign of King Thai Sa (1709-1733), the Phraklang (head of the ministry of finance and foreign affairs) was Chinese and the Phraklang ministry was dominated by the Chinese at all levels. King Taksin, who reigned from 1768 to 1782, was the son of a Chinese father and Siamese mother. Even the founder of the Chakri dynasty, Rama I or King Ramathibodi (r. 1782-1809), was half-Chinese. There was from the beginning an extensive Chinese strain in the Chakri royal family, one which, through reinforcement, continues strong to the present.

The Chinese people have also made a significant contribution to the country. It was they who built the modern sector of the economy of Siam. They dug the canals, constructed the railways and erected the government offices, buildings and bridges of Bangkok. Both independently and as employees of Western firms, they developed the network of institutions and services necessary for the rice-export economy: the banks, warehouses, rice mills and barge lines that brought the rice to Bangkok. They even acted as brokers who travelled around the countryside buying up farmers' surplus rice for export to Hong Kong, Calcutta or Singapore.

If it is indeed true that 91% of the population of Thailand today speak as a native language one or more varieties of Thai, how did the country become the way it is when 20% of its people have some Chinese ancestry (as do 35% of Bangkokians) (Smalley, 1994:3)?

It is obvious even to the most casual observer that the Thai Chinese have experienced and are still experiencing language shift from Chinese to Thai. The Chinese varieties spoken in Thailand include Teochiu, Mandarin, Hakka, Cantonese, Hainanese, Hokkien and Taiwanese. 60% of the Sino-Thai population are of Teochiu ancestry; less than 1% of Mandarin ancestry; 8% Hakka; another 8% Cantonese; 11% Hainanese; 4% Hokkien; and 1% of Taiwanese ancestry (Smalley, 1994:212-213). This paper explores some of the main factors which have contributed to this shift during the first half of the twentieth century. The reason why the writer has chosen to focus on this particular time frame is because the period in question is possibly the most tumultuous for the Thai Chinese in Thai history and many of the factors which continue to cause the shift today first became influential during that time. Some of the legislation introduced then have also had far-reaching and lasting effects.

According to Amyot (1972), it is relatively easy to integrate into Thai society. There are few in-group barriers and social groupings tend to be open. There is the typical resentment against the Chinese for economic domination but this negative feeling is di-

rected towards the group rather than the individual, towards a way of life rather than an ethnic group, and it does not run very deep.

As the reader makes his way through the paper, it will become obvious to him that the shift is largely the result of assimilation, i.e. of the Chinese becoming part of Thai society and being accepted by its members. It has been said that although there are more Chinese in Thailand than in any other country outside of China, the degree of assimilation into Thai society is among the highest in Southeast Asia (Amyot, 1972). When asked what 'being Thai' consists of, virtually all Thais would answer that they are Thai as citizens of Thailand, as subjects of the Thai King. If pressed, they may add that 'being Thai' means to be a speaker of the Thai language and a participant in Thai culture. Language is clearly an important component of the Thai identity. When the Chinese assume Thainess, they also take on the Thai language as part of their new identity.

To many Thais and some Westerners, there is nothing worth commenting about the unquestioned place of one single language as the language of a country. To the people of many Asian countries, however, the fact that the one language of Thailand is Thai seems strange. For them, the coexistence of several to many languages is the norm. The case of Thai is unusual for its surrounding area.

Thai is the unrivalled language of education, the language of the mass media and the language of prestige. Standard Thai is the official language, the legally appropriate language for all political and cultural purposes. All internal government affairs are expected to be conducted in Standard Thai. Formal activities such as public speaking and writing are normally carried out in Standard Thai.

In addition to being the official language of Thailand, Standard Thai is also the national language, a symbol of identification for the Thai nation. Next to the King and along with Buddhism, Standard Thai is the strongest such symbol.

Before we turn to the factors which have brought about language shift, we need to examine why the Siamese government encouraged assimilation.

2 The Rationale behind Pro-assimilation Policies

The Siamese government had a number of interrelated reasons for pursuing pro-assimilation policies, including slowed assimilation of the Chinese from the beginning of the twentieth century; the rise of Siamese and Chinese nationalism; Chinese dominance over the Siamese economy; the threat of Communism; the strengthening of ties between the Chinese in Thailand and China; and remittances to China.

Throughout the nineteenth century, the rate at which the Chinese assimilated into Siamese society was high. Most of the Chinese immigrants were single young men and many took Siamese wives. This was mainly because women almost never emigrated from China prior to 1893. The children of these Sino-Siamese couples grew up with Siamese as their first language and assimilation was easy. Local Chinese culture also underwent changes in the direction of Siamese culture, which closed the gap between the different ways of life and facilitated assimilation.

Assimilation slowed from the turn of the twentieth century, due to increased numbers of female immigrants from China; the growth of Chinese education; and interest in and identification with China and Chinese politics. As more Chinese women immigrated into Siam and married Chinese men, assimilation was retarded. Their children were Chinese, not Siamese. The practice of bringing wives from China also steadily became more

common. Before 1905, only some of the wealthy merchants brought their wives, and most of the other female immigrants were prostitutes. The immigration of respectable women reached significant proportions only after 1906. At the same time, intermarriage with local Siamese women became less common, at least in Bangkok and other centres of Chinese population.

Nationalism, both on the part of the Siamese and on the part of the Chinese, drove a wedge between the two communities. The Siamese developed a spirit of nationalism during the first two decades of the twentieth century. Throughout the reign of King Chulalongkorn (1868-1910), young members of the Siamese elite were educated in Western schools and in Europe. They learnt not only about modern nationalism, but also its close relation in Western countries with racism. In Europe, they came to appreciate the political dimensions of ethnocentrism and encountered anti-Semitism. Above all, they were exposed in Siam to the European's unfavourable attitude towards the Chinese. King Vajiravudh (r. 1910-1925) was in many ways typical of the nationalists. He is the alleged author of *The Jews of the East*, published in 1914. The essay is an elaborate comparison of the Chinese with an anti-Semite's caricature of the Jews, as well as a statement of the Siamese case against the Chinese in Siam. The Chinese were often seen as mercenary and uncouth.

By the 1930s, the Chinese constituted 85% of the commercial class and held in their hands 90% of Siam's commerce and trade (Kanchananaga, 1941:82; Landon, 1941:144; also quoted in Skinner, 1957:220). Pro-assimilation policies made sense in the face of such dominance over the Siamese economy. The Chinese's firm grip on the economy was mostly the result of economic specialisation along ethnic lines during the nineteenth and twentieth centuries. The Siamese consistently preferred agriculture and government service while the Chinese chose commercial activities, industry and finance.

Chinese economic control became the focus of attention as Siamese nationalism rose. King Vajiravudh espoused ideas of economic nationalism, i.e. curbing Chinese economic domination. In *The Jews of the East*, he urged the Siamese to take a more active role in their own economy.

The rise of Chinese nationalism was equally, if not more, detrimental to Sino-Siamese relationships. The Siamese government was often inconvenienced by Chinese nationalism in Siam. The Chinese were swept by the tide of nationalism after China's defeat by Japan in 1895, and that flared when the Sino-Japanese War began in 1937. The increase in Chinese political activity alarmed the Siamese government. Political developments included the organisation of an underground party; organised movements aimed at the British; the introduction of the hypernationalist and anti-Western doctrines of Sun Yat-sen into Chinese schools; demonstrations and near riots; and anti-Japanese trade boycotts. The boycotts particularly harmed the Siamese economy, and Siamese foreign relations were also affected. Everyone was inconvenienced by the accompanying lawlessness and unrest.

Growing politicisation in the Chinese community included Communism, although Chinese Communism in Thailand was relatively weak and mostly orientated towards China. The Thai government nonetheless feared Communist subversion. The growing strength of leftist elements and the influx of Communists from China all had to be dealt with. There had been Communist versus Kuomintang struggles but by the late 1930s, the Chinese were shifting towards the Communists, evident in labour unions, Chinese schools, Chinese newspapers and community organisations.

There had been a strengthening of ties between the Chinese in Siam and China since the advent of Chinese nationalism in Siam, and that intensified with Communist vic-

tories. From the spring of 1948 to the summer of 1950, the prestige and local power of Communists among the Chinese in Thailand steadily increased. As the People's Liberation Army won repeated victories against the nationalists and gained control of the entire mainland, patriotism soared. With the establishment of the central government in Beijing on 1st October 1949, Communist organisers in Thailand appealed to the Chinese for the first time in terms of loyalty and nationalism. The Chinese Communist Party of Thailand, which had been operating since 1946, became a major political force in the Chinese community.

The issue of remittances to China was another sore point with the Siamese government. The government began to be seriously concerned in the 1930s. Remittances had been sent regularly to China since long before the turn of the twentieth century, but full recognition of their possible effects on the Siamese economy came only with the advent of depression and the coming to power of the nationalist government. There was a growing awareness of the large amounts of money sent by the Chinese in Siam to their relatives in China. However, fears about the remittances draining the economy were largely unfounded. The total Chinese contribution to government revenue must have at least equalled, if not exceeded, their remittances. The Siamese government had a very substantial income from the opium monopoly, and most of the den operators and smokers were Chinese. There was also the alien registration fee as well as other fees and taxes the Chinese had to pay. In all probability, the greater part of the income of the Chinese remained in Siam. The remittances cannot be said to have been a serious drain on the economy (Skinner, 1957).

3 The Factors Which Contributed to the Shift

3.1 Education

The decline of Chinese schools and education was possibly the single most important factor that caused the Thai Chinese to shift from Chinese to Thai. The lines between the Thai and Chinese education systems were initially sharply defined. Thai schools used the Thai language as the medium of instruction and prepared students for life in a Thai cultural milieu. In Chinese schools, a Chinese variety was the medium of instruction and Chinese culture and values were emphasised. Chinese schools were the most effective institutions beyond the family for imparting Chinese values to the next generation. As a result of the controls imposed on Chinese schools, the lines between the two education systems have been blurred: Chinese schools have increasingly become Thai schools where special, but minor, attention is given to Chinese instruction.

It is beyond doubt that assimilation was the major conscious motive behind the Siamese government's education policies. After the 1932 revolution which overthrew the absolute monarchy, Thai nationalism was encouraged as a means of unifying the people. Chinese schools which appeared to perpetuate minority differences and to extol an alien way of life were a divisive force. The new government also pledged to promote education and literacy in the Thai language, and Chinese schools emphasised the learning of an alien language rather than Thai.

The first legislation to affect Chinese education was the Private Schools Act promulgated in January 1919. One of the stipulations of the Act was that the Thai language must be taught at least three hours a week. This was followed by the Compulsory Education Act of 1921, which required all children aged seven to fourteen to attend primary school for at

least four years. Children had to go to government schools or private schools which followed the regular Thai course of study to meet the requirement.

After the 1932 revolution, the new government decided that all children must receive a Thai education to become useful citizens of the country. To this end, the Educational Policy promulgated in March 1933 emphasised national values.

In order to conform to the law, Chinese schools could either accept only students outside the compulsory education age limits and operate according to the provisions of the Private Schools Act, or they could comply with the restrictions of the Compulsory Education Act and operate as ordinary primary schools. Most schools did both to maintain their student body, and in the process tried to evade the letter of the law at every turn. Between March 1933 and August 1935, seventy-nine Chinese schools were closed for infractions of the law (Chen, 1935:438; also quoted in Skinner, 1957:229), many being the only Chinese school in their respective town or community. The number of Chinese schools and students fell sharply between 1933 and 1934. In 1933/1934, there were 271 schools with over 8 000 students (*Thailand Statistical Year Book 1933/1934-1934/1935*(number 18):418). That decreased to 193 schools with 4,742 students in 1934/1935 (Hsieh, 1949:299; also quoted in Skinner, 1957:230).

In April 1939, the Ministry of Education announced that students in the compulsory education age limits could study the Chinese language for only two hours a week and that all other subjects must be taught in Thai. Twenty-five Chinese schools were shut for disobeying the law from April to July of the same year (Landon, 1941:277; also quoted in Skinner, 1957:266).

In June 1940, Prime Minister Luang Phibunsongkhram (Phibun), leader of the right wing of the People's Party and exponent of hypernationalism, issued the ninth Ratthaniyom (Cultural Mandate of the State). It required all Thai nationals to know and use the Thai language. It was aimed specifically at local-born Chinese and Malays, who had never learnt or did not habitually use Thai. The ninth Ratthaniyom was the signal for a mass closure of Chinese schools throughout the country. No Chinese school was in operation outside Bangkok by the end of 1940. In the capital, the number was reduced to two by 1941 (*Thailand Statistical Year Book 1937/1938-1944*(number 21):127; also quoted in Skinner, 1957:269).

There was also a severe shortage of secondary education in Chinese. Since May 1948, Chinese secondary education had been limited to elective courses in one or two Thai middle schools and a handful of Chinese evening schools in Bangkok (Skinner, 1957:366).

Thirty Chinese schools were closed for infringements of rules between 1948 and 1950 (*Bangkok Post* 10th April 1950; also quoted in Skinner, 1957:368). In February 1951, Chinese schools were ordered to follow the grade system consistently by having students at any given grade study both Chinese and Thai at the same level. This was to ensure that all students possess a knowledge of Thai at least on a par with their knowledge of Chinese.

The Ministry of Education's policies caused the total number of Chinese schools in Thailand to fall from over 430 to about 195 between 1948 and 1956 (Skinner, 1957:370). Over the same period, the number of students decreased from over 175,000 to less than 50,000 (Skinner, 1957:371).

The decline appears even more drastic when one takes into account the quality of education offered by Chinese schools. Apart from the best schools in Bangkok and in a few larger towns, only a fraction of those who completed four years of education at a Chinese school acquired fluency in Mandarin, much less a command of written Chinese. Students

of Chinese schools read, wrote and understood Thai far better than Chinese. They learnt practically nothing of Chinese culture, history or geography.

The educational facilities of Thai schools had, since World War II, grown more rapidly than the ethnic Thai population. As a result, more and more Chinese parents sent their children to Thai primary schools, where tuition was free or lower than in Chinese schools.

Although the government's onslaught on Chinese education fluctuated during the first half of the twentieth century, Chinese education was moribund by the middle of the century. It is deeply doubtful that Chinese education can ever be revived.

3.2 *Pro-Thai Enactments*

In order to transfer control over the Thai economy from Chinese to Thai hands, the government launched a series of economic Thai-ification campaigns. The objective was to force Chinese (and other foreigners) from certain commercial fields, thereby creating employment for Thai nationals and, possibly of greater importance, permitting the immediate nationalisation of profit-making industries. Most of the economic restrictions on aliens were on the basis of nationality, not race. The Chinese therefore came under tremendous pressure to assimilate and naturalise.

The first round of Thai-ification measures came in December 1938, when Phibun became Prime Minister. In the same month, the new administration formed the Thai Rice Company by buying out several Chinese mills in Bangkok. A law which reserved bird's nest concessions for governmental development was promulgated in the following month. The concessions were previously given to Chinese firms. A further spate of legislation aimed at economically disabling the Chinese came in March and April 1939. The Salt Act established firm government control over the production of salt and levied a heavy tax on the commodity. The Tobacco Act established similar controls and excise duties on tobacco production and manufacture. The Act for the Slaughter of Animals for Food aimed specifically at the replacement of the Chinese by Thais as pig slaughterers and pork wholesalers. Other moves in the campaign targetted Chinese taxi drivers, fishing and trading vessel owners, fishermen, participants in the petroleum industry and miners.

Another wave of restrictions came in June 1942, when by royal decree the government reserved for Thai nationals twenty-seven occupations and professions. The Occupational and Professional Assistance Act passed in the same year stated that factories could be required to employ a minimum percentage of Thai citizens by royal decree. In February 1949, the Occupation Restriction Act barred aliens from ten occupations. Six more were added in August 1951.

The list given above gives the reader an idea of the touch-and-go atmosphere surrounding the livelihood of Chinese aliens during those times. No Chinese alien could be sure that his means of livelihood would not be threatened.

In addition to being banned from numerous occupations and professions, the Chinese faced heavier taxes and fees. The Revenue Code passed by the Assembly on 29th March 1939 was intended to bring about a 40% increase in government income, mostly by taxing the commercial (i.e. Chinese) class more heavily. In March 1939, the alien registration fee was introduced and set at four baht per annum. It was raised to eight baht in 1946 and then to twenty baht in 1949. In January 1952, the fee hit four hundred baht.

The passage of a bill in 1943 effectively prohibited Chinese nationals from buying land in Thailand. The Land Pertaining to Aliens Act denied aliens not protected by special treaties the right to purchase immovable property.

The Chinese suffered substantial financial loss and hardship when, on defence grounds, 'prohibited areas' policies came into existence. Aliens were forbidden from entering these areas and those already residing in them were forced to leave with short notice. The Chinese typically had to dispose of their business and property at a fraction of their value due to the lack of time. On 23rd May 1941, Lopburi jangwat (province), Prajinburi jangwat and the district of Sattahip were named as prohibited areas. The three amphoe (districts) which included the municipalities of Khorat, Ubon and Warinchamrap were added to the list on 19th September 1941. In late January 1943, six more jangwat were named. Selected areas of amphoe Betong and Sadao also became prohibited areas in 1954.

Although many of the restrictions mentioned in this section no longer hold, the pressure to assimilate remains and appears to be longer-lasting than the restrictions themselves.

3.3 Attitudes

There were several different dimensions of the attitudes of the Thai Chinese which pointed towards assimilation and language shift.

The Chinese elite, i.e. those who held high positions in the Siamese government and the leading businessmen, had the most at stake in Siam. Many of them recognised the fact that the pathway to greater prestige, status, power and wealth pointed towards identification with the Siamese upper crust. The government's practice of conferring Siamese noble titles on members of the Chinese elite facilitated the process of assimilation in the upper strata. Because of their origin, a display of complete identification on the part of the Chinese was advantageous. It is natural for individuals attempting a new group identification to overcompensate for their background by emphasising the values and prejudices of the new group. The fact that many of the most anti-Chinese government officials were of Chinese extraction (for example, Pridi Phanomyong, Lui Phanomyong, Phraya Phahon Phalaphayu and Luang Wijiit Wathakan) attests to the validity of the preceding statement.

Often, ethnocentric superiority on the part of China-born male relatives antagonised the Siam-born Chinese. Many China-born Chinese regarded Chinese and half-Chinese born overseas as 'barbarians'. It is worth quoting Lin Hsi-ch'un at some length to illustrate the point:

'Because of the old moral teaching, those who remained in China often looked down upon those who left their ancestors' tombs behind for, as it were, a "mess of pottage." Their offspring were often regarded as "wild seeds," or as "barbarous sons." So when overseas Chinese in their old age did bring their families back, they often were ill-treated and abused. ... As a result of this, unless they were well educated, they usually returned to the land of their birth with an ingrained hatred for the China-born Chinese.'

(Lin, 1936:9; also quoted in Skinner, 1957:246-247)

The next quotation is a story told to the author of *The Jews of the East* by a Sino-Siamese who hated the Chinese:

‘He told me how, when he was still quite young, he had gone to China with his father, who was Chinese. One day a Chinese nobleman came to call upon his father at his home. The nobleman said to his father: “Now that you have amassed a considerable fortune in Thailand, why don’t you return to China to live?” His father replied that he stayed on in Thailand because he had a family there. The nobleman then said: “Well, what of that? Do you have to be considerate of a wife who is nothing but a barbarian? Bring her along and let her be the slave of your Chinese wife. Your barbarian children will make handy house servants.” These words of the Chinese nobleman were spoken in front of my friend, who was favored with not so much a glance. It certainly is not strange that, after having heard them, he determined in his heart that from that day forward he would be a Thai and a true one.’
(Landon, 1941:38; also quoted in Skinner, 1957:247)

It appeared that because many Siam-born Chinese and Sino-Siamese were not accepted by the China-born Chinese and therefore could not integrate into Chinese society, they turned instead to Siam and set their hearts on becoming Siamese.

Bearing in mind the pro-Thai enactments discussed in section 3.2, it is understandable that many were encouraged to hasten the assimilation process and escape the impact of anti-Chinese virulence and government policy.

With regard to Chinese education, a favourable attitude towards Thai education prompted some parents to send their children to Thai schools. In the 1950s, Chinese parents realised that Thai education was crucial to their children’s future in Thailand (Coughlin, 1960). Fluency in Thai and skill in negotiating in a Thai environment were perceived as important in business. Children who were sent overseas for a Chinese education returned to Thailand as cultural misfits, unable to speak or write Thai with the fluency required for business and burdened with alien values and knowledge. In short, they were greatly handicapped in their efforts to make a living in Thailand. This aided the shift to the Thai language.

More recently, it was found that some young Chinese were uninterested in Chinese. This is not surprising since Chinese varieties have long lost their importance in Thailand. To these young people, learning English or Japanese would be more worthwhile than learning Chinese (Amyot, 1972; Boonsanong, 1971).

4 Conclusion

In the present situation, the Thai Chinese’s shift from Chinese to Thai seems unlikely to be reversed. Chinese education remains weak and attitudes towards the Thai language are very positive. The assimilation of the Chinese is almost complete, if not complete. Both Chinese and Thai, regardless of ancestry, are one people and one nation. The Chinese are hardly discriminated against, nor is their ethnicity an issue. The Thai language is no doubt a powerful means of achieving and maintaining this unity.

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CREATIVE FORCES IN KHMER

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1 An important characteristic of Khmer (*leakkhana' piseh*)

The forces of erosion run rampant in spoken Khmer with unexampled viciousness. In casual registers (or perhaps routinely in the speech of younger speakers) the unstressed initial syllable CVN- or CrV- is typically reduced to Cə, C, or zero (cf. Huffman 1970, *passim*).

Speaker N.	Speaker P.	
<i>kawndaal</i>	<i>kədaa</i>	“middle”
<i>krawdaah</i>	<i>kədaa</i>	“paper”
<i>bawnthaem</i>	<i>(p)thaem</i>	“add”
<i>bawntaaw</i>	<i>taaw</i>	“continue(transitive)”
<i>bawbaaw</i>	<i>baaw</i>	“rice gruel, porridge”

For speaker P., All consonant clusters are simplified in at least the following ways:

- [h] is lost after affricates
- stops are elided before stops and nasals
- affricates are simplified to fricatives before obstruents
- [r] is elided after stops

Speaker N.	Speaker P.	
<i>chiem</i>	<i>ciəm</i>	“blood”
<i>pteah</i>	<i>tea</i>	“house”
<i>knjom</i>	<i>njom</i>	“I”
<i>kmuej</i>	<i>muej</i>	“nephew”
<i>ckae</i>	<i>skae</i>	“dog”
<i>cngawl</i>	<i>sngawl</i>	“wonder”
<i>cmooh</i>	<i>smue</i>	“name”
<i>kawntraj</i>	<i>kətaj</i>	“scissors”
<i>trawlapp</i>	<i>tawlapp</i>	“return”

(Change (c) is perhaps a Vietnamese-influenced dialect: all the other changes are general.)

In all dialects, final [r] survives only in the orthography; final written [s] in all but the most formal speaking styles is lenited to [h]; final [h] is often entirely elided; and final stops /p/, /t/, /k/, all unreleased, are approaching near acoustic identity with each other and with the glottal stop.

Written	Spoken	
<i>kmaer</i>	<i>kmae</i>	“Khmer”
<i>psaar</i>	<i>psaa</i>	“market”
<i>cas</i>	<i>cah</i>	“old”
<i>nih</i>	<i>ni</i>	“this”
<i>kawmsawt</i>	<i>kawmsaw</i> ’	“wretched”
<i>peek</i>	<i>pee</i> ’	“too (much)”
<i>kooraup</i>	<i>koorau</i> ’	“salute”

In a small number of common words, final consonants are optionally elided in the conservative pronunciation of speaker N. and are no longer part of the word at all for speaker P.

Speaker N.	Speaker P,	
<i>jaau(k)</i>	<i>jaau</i>	“get, take”
<i>meeu(l)</i>	<i>meeu</i>	“look”
<i>maau(k)</i>	<i>maau</i>	“come”

Channeled as it is, the Principle of Least Effort in Khmer is not only alive, but well on the way towards reducing the canonical structure of the sesquisyllabic word from CVN+C(r)VC to an open monosyllable CV(‘).

As Bloomfield (1933:370 et passim) among others clearly recognized, an enormous number of sound changes that have been attested are compatible with the Principle of Least Effort. Indeed, the method of reconstruction using the principle of *lectio difficilior* as our best bet for the ancestral form (the PLE in reverse, as it were) silently encourages the assumption that most changes are of this type, which is one reason why our reconstructions of PIE look so unpronounceable. Part of the reason why the PLE of Zipf and phoneticians like Passy is nevertheless not more generally recognized as a linguistically significant tendency is that no language has yet been reduced to anything like silence. But the true reason for the fact that languages continue to be vocal, we suggest, is not that the PLE is invalid, nor that sound change is inhibited or reversed in all but the most extreme cases (Bloomfield, 395-6; Bolinger 1975: 438) but that there exist creative forces which are forever building up phonetic structure at the same time that sound change is wearing it down. Although these forces are less systematic than those of sound change and analogy, they must be active, or Khmer speakers at least would soon find themselves saying very little. And we believe that in Khmer, some of these forces are very much in the open.

2 Another characteristic feature of Khmer: infixation

One of these changes, John argued in an earlier report, is analogy itself. The productive nominalizing infix -Vm(n)- ~ -VN-, attested in nouns like *c-awm-rieng* “song” (< *crieng* “sing”). *c-awm-hang* “(monk’s) food” (< *chang* “(monk) eat”) may be the result of a kind of backformation. Given alternating pronunciations [C(VN)CVC] for the same etymon, the elided syllable coda of the unstressed syllable may have been reinterpreted as a meaningful morpheme, and then inserted into words where it had no etymological pedigree (Haiman

1998). This process may have played a considerable part in preserving the sesquisyllabic word in Khmer, as opposed to its loss in related Mon-Khmer languages like Vietnamese.

Another closely related change, however, may be that of purely DECORATIVE infixation. While in the majority of cases, the infix -Vm(n)- ~ -VN- can indeed be analyzed as a derivational morpheme of some kind, there exist a number of other cases where this infix seems to have little cognitive meaning, or perhaps none whatsoever. In another paper, we have called these cases of “syntactic backsliding” inasmuch as what looks to be a “deverbal noun” is in fact syntactically acting exactly like the verb from which it is presumably “derived” (Haiman & Ourn 2003). But it may be that cases of this sort are not as perverse as the label “backsliding” may suggest, if the infixation has no cognitive function to begin with. Noeurng’s intuitions about the meanings of the infixes in examples such as these are practically ineffable. They may mean SOMETHING but whatever that something is, it cannot be characterized either syntactically (as a nominalizing morpheme, for example) or semantically:

kmaoc bejsaac *k-awmn-aac*
ghost spirit vicious-ness
“vicious ghosts and evil spirits”

neak c-um-ngww
person sick-ness
“sick person; a patient”

koo nji *s-awm-kaaum*
cow female skinny-ness
“skinny female cow”

ktaaum *l-um-haau* *muej*
hut empti-ness one
“a hut without walls”

knong ptej *s-awm-ηam* *nej* *rietrej*
in surface silence of night
“in the silent surface of the night”

We hesitate to say that infixation in these cases is purely decorative, partly because unsystematic differences of meaning are often associated with infixation, and partly because Noeurng does not feel it to be *sawmnuən vauhaa* “elegant style”, which *bawnthaem Ibaoj* “adds flavor”, an institutionalized and hence recognizable Khmer stylistic category on which speakers agree.

3 A third characteristic feature of Khmer: Symmetrical Compounds

But we will now present other cases which can be explicitly labelled in this way. In particular, these are cases of decorative REPETITION. We have suggested (Ourn & Haiman 2000, Haiman & Ourn 2002) that Khmer is a language which “likes to say

everything (at least) twice”. In those earlier articles, we focussed on two kinds of such at least partially decorative repetition:

- a) genuine compound forms (*samah*): these are synonym pairs like “cease and desist”: e.g. *lwen rauhah* “quick fast”;
- b) fake compound forms: these are typically alliterated twin forms like “spic ‘n’ span” which consist of at most one meaningful root and a meaningless “servant word” (*bo’ri’waa sap*) :e.g. *rauneej raunooj* “dangle”, whose first member is meaningless.

Both real and fake compounds exhibit both type and token frequency. A typical page of literary Khmer will have four or five genuine compound forms. Fake compounds do not seem to occur so often in texts, but are well-represented in the total lexicon. In a card index file that John has been keeping since we began working together, 24 out of the 202 entries beginning with [rau..], 8 out of 168 entries beginning with [caw..], and 12 out of 191 entries beginning with [tr..] are servant word compounds. Nor are combinations of both real and fake compounds excluded: triplets like *lwen rauhah rauhuen* “quick fast schmast” are not too unusual.

While the explicit motivation for some of these {A+B} compounds may have been partly that of elegance, there is always the (sometimes remote?) possibility that the pairing actually meant something. For example, perhaps in genuine compounds, A and B are not totally synonymous: in that case, their conjunction C may therefore mean something new. Or, in the case of the alliterative twin forms, perhaps neither A nor B by themselves mean anything (any more?), and meaning then arises only from their conjunction. Either way, the conjunction is motivated by factors other than the purely aesthetic.

4 Compounds which “add flavor”

We would like to present a third series of A+B forms where there is no trace of any semantic difference between A and B, which are judged to be purely synonymous, and in which the repetition quite explicitly has none of the iconic functions (marking plurality or iterativity or emphasis) that repetition typically has not only in Khmer but in languages generally. The general formula for these pairs (which seem not to have a specific label in the Khmer grammatical tradition) is this: a verb is paired with a light-verb version of its cognate accusative construction: **have a dream+dream**, and so forth. (Curiously, although genuine cognate accusative constructions do exist, we have not yet encountered cases like **dream a dream+dream**.) Among the most frequent examples of this construction are conjuncts like:

<i>baoh c-um-hien chien</i>	“take a step step”
<i>baek k-umn-wt kwt</i>	“open thought think”
<i>miən c-awmn- eh ceh</i>	“have knowledge know”
<i>ciə awmn-aoj aoj</i>	“be a gift give”
<i>cie c-umn-uum cuun</i>	“be offering offer”
<i>awh s-awmn- aəuc saeuc</i>	“exhaust laughter laugh”

It will be noted that the nominalization is characteristically formed by the infix -Vm(n)-, described earlier. Although there are some variations on this pattern it is remarkable that the order of conjuncts is largely fixed as above. The morphologically elaborated cognate accusative conjunct precedes the monolexemic equivalent, in a stubborn and consistent violation of a presumable typological universal, the law of increasing members (Behaghel 1932, Malkiel 1959). But the most remarkable thing about these compounds is that they seem not to mean anything qua compounds, and are (in Noeung's opinion) interchangeable with the monolexemic root from which they are derived. In support of this claim we will do more than list some of the examples we have noted, and present them instead embedded in part of the context where we encountered them in written Khmer.

tok naa {ciə s-awmn-aen saen} pnoo
 while be offering offer grave
 “while making an offering at the grave..”

coh kmae jeeuŋ {mien p-um-nie pie} kam 'wej kaaw baan cie wetuniə
 maybe Khmer we have bad deed do ill action some ? cause misfortune
 “perhaps we Khmer have committed some evil action to cause this misfortune..”

klaaj {cie c-um-looh clooh} prawkaek knie
 become be conflict fight argue each other
 “.. came to be in conflict..” (Note the additional genuine synonym compound here.)

kumnaau {miən k-awm-poh kpoh} dawl mleh
 pile have height high until so much
 “the pile was high up to this level.”

pkaaj preuk {bawnjceenj p-aun-lww plww} ceunjcaej laeuŋ leeu meek
 star morning emit illumination illumine bright up on sky
 “the morning star was bright up in the sky..”
 (Again, note the additional genuine compound)

jeeuŋ dael {mien c-um-nwe cwə } ceak neuŋ kooraup preah put
 we who have belief believe clear and salute Lord Buddha
 “we who believe and salute the Buddha..” (Again, a possible synonym compound)

knjom pum dael kheej koet {awh s-awmn-aeuc saeuc}
 I never see him exhaust laughter laugh
 “I never see him’, (he) laughed...”

{mien c-awmn-ah cah} cieng knjom 2 rww 3 cnam
 have age old than me 2 or 3 Years
 “..was two or three years older than me..”

Variations on this pattern occur:

dael {mien deuj d-awmn-eung} 'wəj plaek klah tee
 which have know knowledge any different other at all
 “.. (is there) any news at all out of the ordinary....” (B occurs in the middle of A)

{mien tae troem t-um-roem} dawl tii daw
 have only watchful watchfulness till destination
 “..be watchful till we reach our destination..” (B occurs in the middle of A)

(t-awmn-aaw taaw} teuw jeeuj neung chup laeng praeu
 continuation continue go we will stop quit use
 “..continue on till we stop using ...” (No light verb with A)

daoj nwej hawt nəŋ {d-awmn-aeu t-m-aeu} ceeung
 through tired exhausted with traveling traveler foot
 “through exhaustion from having walked..” (No light verb with A, B also nominalized)

In some cases (very few that we have noticed so far) the construction has become partially opaque through sound change, and so is no longer perceived as a repetition at all. We are currently unable to offer a detailed synchronic parsing of examples like the following:

mien teevaudaa teep - {rak reaksaa} vaut
 exist angel angel - guardian take-care temple
 “there is a guardian angel watching over the temple..”

(Here, the orthography still reveals that [rak] “guardian” derives from and was presumably at one point identical with the following word [reaksaa].)

{Ibej rauntww lww} soh saaj
 famous thunder hear bright expand
 “(his) shining reputation grew..”

(Here, Noeurng is confident that [Ibej], which is pronounced [Ibww] in some dialects, is a nominalization of [lww].)

Examples of this sort may provide a preview of the next plausible stage in the development of compounds of this sort. If they do, Khmer may offer an example of a kind of evolution which is well attested — indeed may be standard — in biology (Mayr 2002:38). The most common and harmless mutations (whether of genes or of larger structures) are replications, $A > AA$. By a later possible development $AA > Aa$. The novel (paralogous) form “a” is free to deviate not only in form, but in function from the original (orthologous) form “A” of which it was once a clone.

5 Discussion.

Sometimes, languages seem to include morphological material which seems to function for no other reason than to provide bulk. Consider the following paradigm from French:

en janvier
 en fevrier
 en mars
 en avril
 ...
 Au mois d'aout (not en aout)

This seems to be quite well attested particularly in SE Asian languages (Matisoff 1978, passim; 1982:74-76 et passim; Anderson & Zide 2002), but may not be restricted to them. It may be that Benveniste's famous "enlargements" of the PIE root, most of which are still unglissable (Benveniste 1935:chapter 9), or the final consonant of the trilateral root in Semitic postulated by Diamond 1959, are akin to the etymologically illegitimate tacked-on bits and pieces which Anderson & Zide have postulated as required to satisfy a "bimoraic root constraint" in Mon~Khmer. In presenting the data that we have here, we are conscious of simply confirming Karlgren's hypothesis for compounding in Mandarin (Karlgren 1923 [1962]) with data from an unrelated language of the same linguistic alliance. Our difference is one of functional motivation. We suggest that in Khmer at least compounding is not motivated primarily by the need to restore phonological bulk, but by a more aesthetic or playful drive for elegance—what Miller 1973 has called "galumphing". That galumphing produces extra structure and that this extra structure may serve to reduce ambiguity, may be unintended consequences of a drive whose origins have nothing to do with cognition and much to do with art.

It is very unlikely, however, that these bits and pieces whether they are added by speakers who are driven to be understood, or speakers who just want to have fun, came from nowhere. In presenting the data we have considered here, we are suggesting merely two more possible sources (exaptation of elided sounds, and decorative repetition) for such material in a language which needs all the bits and pieces it can get.

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Note: Khmer specialists will be outraged by the transcription, a practical orthography which we have been developing over the last several years. They will, however, also be able to translate it back into Huffman's system without too much trouble.

For non-specialists:

- a) word-initial glottal stop is transcribed only before another consonant. (e.g. {aoj} = [ʔaoj] "give")
- b) The graph {e} after the graphs {i,o,u, e, w} is schwa (e.g. {moen} = [moən])
- c) The graph {e} before {a} is epsilon (e.g. {neak} = [neak] "person")
- d) The graph {a} after the graph {e} is schwa (see above)
- e) Elsewhere the sound schwa is represented by {eu} (e.g. {peut} = [pət] "true")
- f) The graph {w} is a high back unrounded vowel when it appears right after a consonant (e.g. {kwt} = [kit] "think")
- g) The graph {aw} is the default vowel in the first register (e.g. {bawt} = [bat] "form")
- h) The graph {au} is the default vowel in the second register (e.g. {raut} = [rət] "run")
- i) {eeu} is long schwa (e.g. {meeul} = [mɛ:l] "look")
- j) {aaw} and {aau} are the long default vowels (e.g. {baawng} = [ba:ŋ] "older sibling")
- k) In all other cases, length is represented by doubling (e.g. {baan} = {ban] "get")
- l) {ng} is the velar nasal [ŋ]
- m) {nj} is the palatal nasal (e.g. {knjom} = [kɲom] "1sg.")
- n) {v} is a bilabial approximant with phonetic values [w] or [v] (e.g. {vie} = [wiə] "third person non-respectful").

TOPICALITY OF OBJECT AND GROUNDING IN BALINESE NARRATIVE DISCOURSE

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1 Introduction

In this paper, I will discuss how the topicality of O(bject) relates to grounded information (see also Hopper 1979; Myhill 1992:59-80; Cumming 1991: 175--186). There are three questions which need to be asked here. First, does a highly topical O correlate with foregrounded information, while a non topical one correlates with backgrounded information? Second, if it does, then why should there be such a correlation? Third, is grounding an independent factor which influences voice selection or is any correlation between grounding and voice selection a consequence of the typical characteristics of the arguments found in Foregrounding (FG) and Backgrounding (BG)?

2 The Concept of Grounding Information and Topicality

2.1 Grounding Information

The definition of 'grounding' is adopted from Hopper's (1979:213-214) framework. According to Hopper, narrative texts can be divided into two major components i.e. 'the language of the actual story line and the language of supportive material which does not itself narrate the main events'. His examples from Swahili show that the difference between clauses conveying main events (which he terms 'foregrounded events') and clauses in non-main events (which he terms 'backgrounded events') has something to do with sequentiality: the main events mostly occur sequentially (i.e. one event succeeds another on time line) while the non-main events are not in sequence with the main events but amplify them.

2.2 Topicality

According to Givón (1994:9), topicality of nominal referents has two components which are both 'cognitively significant' and 'methodologically measurable':

- (a) "Anaphoric accessibility: Whether the current referent has prior text antecedence, and if so how far back and how cognitively accessible that antecedence is."
- (b) "Cataphoric persistence: Whether the current referent recurs in the following text, and if so how frequently, and thus presumably how thematically important or attentionally activated it is."

To measure topicality, Givón (1979, 1983, 1984) proposes three types of quantitative measurements. Those types are (i) referential distance ('look back'), (ii) potential interference ('ambiguity') and (iii) persistence ('decay'). In my study, only R(eferential) D(istance) and T(opik) P(ersistence) are applied because these two methods 'are based on an assumption that more topical (thematically important) referents tend to be both more anaphorically accessible ('continuous') and more cataphorically persistent ('recurrent') (Givón 1994:10). These are also easier to measure than 'potential interference.'

Shoichi Iwasaki, Andrew Simpson, Karen Adams & Paul Sidwell, eds. *SEALSXIII: papers from the 13th meeting of the Southeast Asian Linguistics Society* (2003). Canberra, Pacific Linguistics, 2007, pp.165-177.

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3 A Sketch of the Balinese Voice System

I will use the terms A, O and S, which were introduced by Dixon (1972) to refer to the ‘universal syntactic-semantic primitives’. For Dixon (1972, 1979 and 1994), S=‘intransitive subject’, A=‘transitive subject’ and O=‘transitive object’. I will follow Andrews’ (1985) more formal definitions of these notions.

The term ‘voice’ is used here to refer to different ways of linking arguments to A, S and O functions. These linkings of arguments in Balinese are represented by three different constructions: two transitive voices (e.g. N(asal) T(ransitive) and Z(ero) T(ransitive) as well as a passive voice (e.g. the intransitive *ka-* passive). These three voices are illustrated in examples (1), (2) and (3):

(1) Nglaut ia ngojog dagang bebek (BLG 33)
 then³ NT-approach seller duck
Then he (= Belog) approaches a duck seller.

(2) Nglaut dagang bebek ojog-a.
 Then seller duck ZT approach-3Agt
Then he (= Belog) approaches a duck seller (then a duck seller, he approaches).

(3) Nglaut dagang bebek-e ka-ojog (baan ia)
 Then seller duck-DEF PSV-approach by 3
Then the duck seller is approached by him.

Artawa (1994), Roberts (1995) and Artawa and Blake (1997) show that these three voices differ in which argument is assigned to the ‘pivot’ role. A syntactic pivot of a construction is defined by van Valin (1993:56) as a privileged syntactic function with respect to that construction. Balinese has clear syntactic pivots with respect to which NP can be raised, relativised, etc. For a summary, see Roberts (1995:204-208).

The Nasal Transitive is a transitive construction which is morphologically marked by a nasal prefix and has A as pivot, as in example (1). Zero Transitive, on the other hand, is a transitive construction which is morphologically unmarked and has O as pivot, as in example (2). The *ka-* passive has the prefix *ka-* to mark the passive construction, as in example (3). In the *ka-* passive, the pivot is S as it is the only core argument. My use of the term ‘pivot’ here is equivalent to Arka’s (1998:9-10) ‘grammatical function subject.’

4 Topicality of O and Grounding

In this section, I present data concerning the correlation between grounding and topicality and the interaction of grounding, topicality and voice. A correlation between a highly topical O and FG is proven by the statistics presented in Table 1.

Table 1: Overall frequency of combinations of topicality and grounding

Topicality	FG	BG	Total
Topical O	273 (64%)	152 (33%)	425 (48%)
Non-topical O	154 (36%)	302 (67%)	456 (52%)
Total	427 (100%)	454 (100%)	881 (100%)

Table 2 below shows that a topical O usually occurs with FG, while a non-topical O usually occurs with BG. Hopper (1979: 215-227) has observed that FG clauses typically have a few, usually highly topical, participants (see also Myhill, 1992:59). In BG, on the other hand, there is a greater likelihood of having non-topical participants because new mentions are introduced and described in BG clauses. O participants in FG are usually topical because FG clauses usually maintain the same participants for a while before new participants are introduced in BG clauses. On the other hand, BG clauses carry descriptions, amplifications, expansions and collateral information, and are therefore likely to contain a good deal of new information. This means that BG clauses are more likely to get non-topical participants. From the data I have seen so far, it would appear that A must still usually be topical in BG clauses while O is more likely to be non-topical.

Now that I have established the correlation between grounding and the topicality of O, I can turn to the question of the interaction of grounding, topicality and voice. Specifically, is the high frequency of ZT with FG simply an automatic consequence of the fact that O is usually topical in FG? Or is FG an independent factor, enhancing the already strong tendency of ZT to be used when O is highly topical and perhaps reducing the tendency of BG being used when O is not highly topical? Some relevant statistics are given in Table 2.

Table 2: Overall frequency of topicality of O, grounding and voice

Transitive Clause Types	Topical O		Non-topical O	
	FG	BG	FG	BG
ZT	255 (93%)	99 (65%)	57 (37%)	36 (12%)
NT	18 (7%)	53 (35%)	97 (63%)	266 (88%)
Total	273 (100%)	152 (100%)	154 (100%)	302 (100%)

It is clear from Table 2 that if grounding does play a role in voice selection, it is much less important than the topicality of O. Rather than grounding, topicality is the more important factor in determining voice selection because there is strong statistical evidence that ZT is usually chosen if O is highly topical, whether in FG or BG. NT is normally selected if O is not topical in either in FG or BG.

However, Table 2 also shows clearly that the combination of topicality and grounding is a strong predictor of voice selection. In particular, the combination of FG with a highly topical O almost guarantees ZT while the combination of BG with an O having non-topicality is a very good predictor of NT.

Example (4) below shows how the ZT clauses in (b), (c) and (d) are used to convey foregrounded events. Only the ZT clause in (c) has a highly topical O in two dimensions, while the ZT clause in (b) has a highly topical O in terms of TP, but not RD. The ZT clause in (d) has a highly topical O in RD. (The N(oun) P(hrase) *padi* ‘rice (in its husk)’ is mentioned before in the fourth preceding clause but the NP *pepetan* ‘husks’ is first mentioned in (b) below.

- (4)a. Kenten satuan I Dedari Sang Sungpraba
that story ART. angel Sang Sungpraba
- b. raris kenten pepetan padi-n-e
then that husks rice (in its husk)-LIG-DEF
- nika kaat-a
that ZT cut off-3Agt
- c. \emptyset jang-a samping jineng-e
(husks) ZT put-3Agt side paddy’s store-DEF
- d. nika tunjel-a pepetan-n-e nika
that ZT burn-3Agt husks-LIG-DEF that
- e. sampun ia ma-tunjel
after 3 MAI-burn
- f. andus-ne nika nika kenten saluk-a
smoke-3POSS’R that that like that ZT put on-3Agt
baju-n ipun-e
dress-LIG 3-DEF
- g. lantas ipun nutut-ang andus menek
then 3 NT-follow-APPL smoke upward

(The referent ‘paddy husks’ is not mentioned in any of the ten clauses following in (g)) That is the word of the Angel Sang Sungpraba. Then, that ... She cuts off those rice husks. She puts (them) next to the paddy’s store. She burns those husks. She puts on her dress after the husks are burnt. Then, she follows the smoke upward.

(GBN 425-432)

In (4b), the O participant, the full NP *pepetan padi-n-e nika* is highly topical in terms of TP. In (4c), the O participant, Zero Anaphora ‘rice husks’ is highly topical in both dimensions (RD and TP); and in (4d), the O participant, the reintroduced full NP *pepetan-n-e nika* ‘that paddy’s husks’ is highly topical in respect of RD with some topicality in TP. The use of ZT in (4d) relates to an associative anaphoric referent and sequential events. In this clause, the referent ‘her dress’ is associated with ‘the smoke of the husks.’ Here the story is that the Angel can only fly to heaven, if she wears her own dress while being cov-

ered by the smoke of rice husks which is rising to the sky. Both the dress and the husks smoke function as tools to fly and a Balinese audience would be expected to know this. The non-topicality of O in ZT here goes against the usual pattern. This will be discussed later.

The definite full NP *andus-ne nika* ‘that smoke’, the NP in (4f) is not part of the ZT clause here. Neither it is part of an independent clause. The definite full NP *andus-ne nika* ‘that smoke’ is mentioned by accident by the narrator and he corrects it with the ZT clause ... *saluk-a bajun ipune* ‘She puts on her dress.’ Since the NP *andusne nika* ‘that smoke’ in (4f) is an accidental expression which is not part of the clause or not an independent clause, it can only be considered as an associative anaphoric referent of the indefinite NP *andus* ‘smoke’ in (4g). Here the O of NT is treated as non-topical because no value of RD or value of TP is given to the NP. So, the non-topicality of O follows the expected pattern.

BG clauses with non-topical O’s seem to strongly select NT clauses rather than ZT clauses. Out of 302 non-topical O’s used in BG, 266 (88%) examples occur in NT clauses, and only 36 (12%) examples are in ZT clauses. Examples (5b) and (5c) show O participants of NT which are not topical in either dimension.

- (5)a. Sajan laut buin akejepne sajan teka
 true then again moment true arrive
- lantas ni Bawang
 then ART. Bawang
- b. Ø ngancul-ancul maberentengan ngaba pepantingan
 stalkingly fully NT-carry washed clothes
- c. Ø tur ia nyuwun _____ jun misi yeh.
 and 3 NT carry (on head) clay pot contain water

(In the complete episode of my text, the referents ‘washed clothes’ and ‘clay pot’ are single mentions)

In a moment, Bawang really comes. (While she comes), she brings lots of washed clothes and she carries (on the head) a clay pot which contains water. (CK 184-190)

The NT clauses in (5b) and (5c) above are BG and both have a non-topical O. Those NT clauses are backgrounded because they provide extra information about the foregrounded clause ‘*Bawang comes*’ in (5a). The NT clause *ngancul-ancul maberentengan ngaba pepantingan* ‘she (comes while) ... bringing washed clothes’ in (5b) and the NT clause *tur ia nyuwun jun misi yeh* ‘(and she comes) while she is carrying (on the head) a clay pot which contains water’ (5c) are used to amplify or comment on the main-event line in (5a). Neither the O participant *pepantingan* ‘washed clothes’ of the NT clause in (5b) nor the O participant *jun* ‘a clay pot’ in (5c) is topical since both are only mentioned once.

The NT clauses in (5b) and (5c) are used to demonstrate that the O participants are new mentions which are not topical and they amplify a main event line which is in the immediately preceding clause. If these NT clauses were replaced with the corresponding ZT clauses, then the O participant becomes a focus of contrast or in other words, is an unexpected topic. However, the corresponding ZT clauses would still denote a backgrounded

rather than of a foregrounded event. This is because what is expressed in (6b) and (5c) explains or amplifies the main event in (6a) (cf. Hopper 1979:223; Cooreman 1994: 69). It is therefore clear that it is the nature of the O rather than backgrounding *per se* that determines voice.

5 The Residue

The general tendencies just established are that a ZT clause is more likely to be chosen when there is a combination of FG with a highly topical O, while a NT clause is selected when there is a combination of BG with a non-topical O. Exceptions which go counter to this general tendency are distinguished into two types: (i) FG, highly topical O and NT, and (ii) BG, non-topical O and ZT. We do not expect FG with a highly topical O and NT, since FG favours ZT with a topical or accessible O. We do not expect BG with a non-topical O and ZT, since BG favours NT with a non-topical O.

5.1 FG, Highly Topical O and NT

Out of 273 transitive clause types which have the combination of a highly topical O and FG which were presented in Table 2, only 18 (7%) are NT, while 255 (93%) are ZT. Of the 18 NT clauses, 3 have an O which is highly topical in two dimensions, 14 examples have an O which is topical in TP alone, and 1 has an O which is topical in RD only. Most A's are overtly expressed in these NT clauses in order to focus on the actions of the Agent.

The typical use of the NT in the above combination is to signal 'here are the actions of the Agent.' The NT in this case is usually used at the beginning of an event sequence. The examples below illustrate how the narrator would want to give A more prominence, while O is still topical in this situation.

- (6)a. "Ih jero dagang bebek, niki jinah,"
 hi you seller duck this money
- b. "Ø icen tiang bebekkekalih!"
 ZT give I duck two
- c. Ditu Pan Belog ngenju-in i dagang bebek
 there Pan Belog NT-give-APPL ART. seller duck
 ringgit a keteng
 ringgit one Quantifier.
- d. nanging ke Pan Belog tusing nawang
 but EMPH Pan Belog not NI-know
 yan ento madan ringgit.
 if that MAI-call ringgit
- e. I dagang bebek ngon ia teken
 ART. seller duck amazed 3 with
 tingkah anak-e ma-blanja buka keto,
 act person-DEF MAI-buy like that
- (The referent 'duck seller' is highly persistent in the following clauses)

“Hi, you, duck seller, this is the money. Give me two ducks.” There, Pan Belog gives the duck seller one Ringgit. However, Pan Belog does not know that is called Ringgit. The duck seller is amazed by the act of the person who is shopping like that. (BLG 40-46)

The NT verbs *ngenjuin* ‘give’ in (6c) denotes foregrounded event. Here, an NT is selected instead of a ZT because the clause is about the action of A. But the O participant, namely the full NP *i dagang bebek* ‘the duck seller’ in (6c), is also topical because it is part of a small number of participants that are major protagonists in the story as a whole and in this episode in particular. The major generalization that can be drawn about this examples is that although O is highly topical, A is even more topical in ways which are not captured by our simple measurement. It is arguable that A has more prominence in the speaker’s mind in these examples, making NT a possibility.

It is less usual for the combination of topical O, NT and FG not to have an overt A. The reason why A is not expressed overtly might be that O is inanimate hence there is no real confusion about who is doing what. There are only 3 examples of this type. One of them is presented below.

- (7) Ka-crita jani I Belenjo
PSV-tell now ART. Belenjo

nresded bangun uli di pedeman-e,
hurry ZI get up from at bed-DEF

laut Ø ngintip Ø uli di bolongan sombah-e,
then NT-peep at from at hole wall hole-DEF

lantas ajinang-a pratingkahan-ne
then ZT teach-3Agt character-3POSSR

I Nyoman Jater
ART. Nyoman Jater

(Here I tell you the story) that Belenjo gets up quickly from her bed. She peeps (at Jater) from the wall hole. Jater shows off his ability (because he knows that he is being peeped at). (JT 148-151)

Nearly all the examples of NT clauses in FG with highly topical O involve an O which is topical in terms of TP. This fits with the idea that the typical use of NT in FG is at the beginning of an episode. In this situation, O is not topical in RD because the episode is a new one and so it has not yet been introduced, although it becomes topical once it is introduced. In all these examples, although O is topical, A is often more topical.

5.2 BG, Non-topical O and ZT

Table 2 showed that there are 36 ZT clauses (12%) out of 302 transitive clause types which have a non-topical O and occur in backgrounding. Non-topical O participants of ZT clause which are backgrounded are usually of three sorts: a non-specific O, an O which is a focus of contrast, or an O which occurs as the non-specific head of a relative clause. These ZT

clauses are usually used to comment on events which have been mentioned in a previous episode. They can be placed in the middle of an episode or in a concluding paragraph.

Table 3. *Factors involved in BG, non-topical O and ZT*

BG, non-topical O and ZT		
1. non-specific O	12	39%
2. focus of contrast	11	25%
3. the non-specific head of a relative clause	13	36%
Total	36	100%

(i) non-specific O

The quantifier *makejang/onya* ‘all, everything’ and the question word or the indefinite pronoun *apa* ‘what, anything’ do not usually refer to any specific referents in the texts. These non-specific NPs are usually used in clauses which describe habitual situations.

We will look first at the use of the quantifier *makejang*. A quantifier is usually used to modify the head of its NP, but the quantifier itself can also occur independently without any modified NP. When it occurs like this it functions as a core argument of a sentence.

In Balinese, if these quantifiers are used as a modified NP, they can be floated far away from the modified NP. Arka (1998:69-79) notes that the quantifier can appear in different positions: sentence-initially, next to on either side of the head noun or sentence-finally. The quantifier *makejang* in (8a) below (which is taken from my corpus) precedes the head noun. The quantifier could also either directly follow the head noun (8b) or be in sentence final position (8c). It can also occur in sentence initial position, far away from the NP (8d).

- (8)a. ... makejang payuk-ne balihin-a
 all clay pot-3Agt ZT scrutiny-3Agt
- b. payuk-ne makejang balihin-a
 clay pot-3POSS'R all ZT scrutiny-3Agt
- c. payuk-ne balihin-a makejang
 clay pot-3POSS'R ZT-scrutiny-3Agt all
- d. makejang balihin-a payuk-ne
 all ZT scrutiny-3Agt clay-3POSS'R
 ... *she* (= *Belenjo*) *scrutinises all her clay pots.* (JT 94)

The quantifier *makejang* ‘all’ in example (8) is used as a modifier of the head of its NP *payuk-ne* ‘her clay pot.’ Here the quantifier floats to different positions. This quantifier can also be used independently, without any other head noun.

In (9b), the quantifier *makejang* ‘all, everything’ functions independently as O of a ZT clause. This quantifier does not refer to a specific referent but relates to the negative

characteristics of *Kesuna* which have been mentioned somewhere earlier. Thus, the clause here is used to describe *Kesuna*'s characteristics, and for this reason it is a BG clause.

- (9)a. ... demen tekening pagelan anak
 glad with possession person
- b. Peh *makejang* suba aban-a tekening
 wow all Particle ZT bring-3Agt by
 ni Kesuna.
 ART. Kesuna
- c. Nah mapan keto ya laksanakan-ne
 so because like that EMPHASIS conduct-3POSS'R
- d. pamuput mati tepuhin-a,
 finally death ZT find-3Agt
 ... *she* (= *Kesuna*) *likes other person's possession. Wow, she brings all (bad) things. Because her conduct is just like that, finally she finds death.* (CK 693-694)

The NP *apa* 'what, anything' in (10c) functions as a questioned O in ZT. This NP does not refer to a specific referent in the text. The NP *apa* in (10c) seems to be a question word which refers to the O of a ZT. Because questions are a focus construction, ZT is always used if O is questioned.

- (10)a. Ngidih pis ia sing taen
 NT-ask for money 3 not ever
- b. wak sing bisa nekang pis
 person not can NT-produce money
- c. *apa* ya belanja-ang-a
 what EMPH ZT spend-APPL-3Agt
- d. akhirne jeg dengeng-ang-a
 finally EMPH ZT look at-APPL-3Agt
 She (= *Sang Sungpraba*) *never asks for money, she does not make money. What does she spend. Finally, he looks at (her).* (GBN 306-309)

It is possible for the construction in (9b) or (10c) to be replaced by NT but this clause would signal a shift in action. In this kind of situation, I did not find any occurrence of the non-specific O *makejang* or *apa* with NT in my corpus.

(ii) contrastive topic

The second type of ZT which is used in combination of BG with a non-topical O is a ZT with a contrastive topic. Chafe (1976:34) suggests three factors which are involved in a

‘focus of contrast’: ‘awareness’ (the consciousness which is shared by the speaker and the addressee), ‘the set of possible candidates’ (in one or more possible candidates, the speaker ‘contradicts a belief of the addressee’) and ‘assertion of which candidate is the correct one’.

A contrastive topic in Balinese is usually marked by the particle (*a*)*nak* or *nget* or *jeg* which precedes the pivot (i.e. O in ZT, or A in NT). A contrastive topic can also be used in a sentence without any of the particles. In this case the sentence simply contrasts the proposition of the preceding sentence, as in (11b). ZT is used in these examples even though O is not topical because O is emphasised as contrastive. If NT is used here, on the other hand, then A is given more focus than O. The contrastive topic in BG is usually used to comment on a preceding event.

(11)a. Awake *nagih meli bebek maisi,*
I NI-want NT-buy duck MAI-contain

b. *nget bulu dogen awake adep-in-a.*
EMPH feathers just I ZT sell-APPL-3Agt
(In the complete episode of my text, the referent ‘feathers’ is a single mention)
I request (to buy) a solid duck, (but it is only) feathers which I was sold.
(BLG 69-71)

In (11), the contrast between the two sentences is that a person requests a duck, but he gets feathers. As a contrastive topic, the writer uses the NP *bulu* ‘feathers’ as the centre of communicative interest. Here the writer contradicts a listener’s belief which, might have predicted that the protagonist would receive a duck rather than the feathers s/he ended up with.

(iii) the non-specific head of a relative clause

A non-specific head of relative clause usually uses the non-specific NPs *asing-asing* ‘whatever’ or *apa* ‘what, whatever’ as its head as in examples (12a) and (13a). Such relative clauses can have the role of O.

(12)a. [*Asing-asing ane tagih-a*]
whatever which ZT request-3Agt

tuukin-a dogen
ZT fulfil-3Agt always

b. *tur apa ja pesadun-pesadu-n-ne*
and whatever EMPH complain-LIG-3POSS’R
misuna-ang ia ni Bawang.
NT-slander-APPL she ART. Bawang

Whatever she requests, (her parents) always fulfil it. And, whatever her complaint (which she uses) to slander her, Bawang. (CK 7-9)

(13)a. [*apa je tagih-a*] kal baang tiyang
whatever EMPH ZT ask for-3Agt will ZT give I

- b. jeg ten ba ada tagih-a
 EMPH not Particle exist ZT ask for-3Agt
Whatever he asks for, I will fulfil it. Nothing does he ask for. (GBN 249-254)

The relative clause *ane tagih-a* ‘which she requests’ in (12a) and the relative clause (without a relative pronoun) *je tagih-a* ‘which he requests’ in (13a) have respectively the non-specific heads *asing-asing* ‘whatever’ and *apa* ‘whatever, anything’. These non-specific NP’s do not refer to a specific referent. The whole ZT clause in (12a) refers to a habitual activity which is used to comment on Kesuna’s characteristics, while the one in (13a) is an irrealis proposition which is shown by the use of the future particle *kal* ‘will.’ Although NT would be grammatical, it seems not to be favoured because the context expects a clause with the focus on O.

6 Conclusion

Although the combination of topicality of O and the grounding type is a better predictor of voice than is the topicality of O on its own, a closer examination of the examples which run counter to the normal tendencies suggests that the nature of O is important in voice selection in a way which goes beyond topicality as measured by RD and TP. It appears that it is the nature of O which is the most important determinant of when ZT will be used, and that topicality as measured by RD and TP, although a very good predictor of voice selection, does not take into account all the characteristics of O which are involved in the decision to use ZT.

We also found that the ‘unexpected’ NT clauses which have a combination of highly topical O and FG fall into a small number of clearly identifiable types. Again, the nature of O is important. In the case of NT, it is not always the nature of O, but the wish to emphasise A that is decisive. NT is likely to be used at the beginning of an event sequence to focus on the actions of A, even though O may be topical because it is persistent through the episode. A may even be more topical than O.

It appears, then, that FG and BG *per se* do not play a significant role in voice selection, if we mean by this that ZT will be favoured when the clause advances the story line and NT will be favoured when it does not. However, FG and BG tend to correlate with other factors; for example, we have seen that there is a correlation between topical O and FG. If certain types of O’s which are not topical according to the parameters used here to measure topicality (RD and TP) but which can be considered topical in some other sense are more characteristic of FG clauses than of BG, this will increase the number of FG clauses which have ZT and so create the impression that FG favours ZT. Finally, in the majority of FG sentences with topical O, the topicality of O is not in conflict with any other factors which would go against the usual tendency to use ZT when O is topical (such as the existence of an A which needs to be emphasised particularly for some reason). In this way the combination of FG and topicality of O becomes a very strong predictor of voice.

Notes

This paper is a modified version of one chapter of my Ph.D thesis entitled 'Voice Selection in Balinese Narrative Discourse' at the Australian National University. I would like to thank Nikolaus Himmelmann for his willingness to proof-read the final draft of my paper.

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COMPARING TRANSITIVE CONSTRUCTIONS IN BALINESE AND PENDAU

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1 Introduction

This paper will begin by examining the prototypical transitive patterns of two distinct transitive clause types that can be contrasted in both Balinese and Pendau (Tomini-Tolitoli group in Central Sulawesi; both distantly related Western Austronesian languages).¹ These will be referred to as Active Voice and Inverse Voice constructions (see examples 1 and 2—note that the pivot² is marked in the English translation by capital letters). Since it is difficult if not impossible to determine one transitive clause type as basic (as well as other morpho-syntactic evidence and quantitative evidence from topic continuity), we will refer to this voice contrast as a symmetrical voice system in both languages (see Himmelmann 2002, Ross 2002a, 2002b). For example, both Balinese and Pendau can form ditransitive constructions via applicative and causative morphology in either active or inverse voice constructions. The fact that ditransitives in these languages are syntactic constructions with three core arguments, necessitates *a priori* that there exists a transitive construction in each of these voice constructions with two core arguments.

We will begin by following Andrews (1985) definition of prototypical transitive constructions, or “primary transitive verbs” and present a brief background of these struc-

¹ Pendau is a Western Austronesian language group of about 4500 speakers found in Central Sulawesi, Indonesia. See Himmelmann 2001 for discussion of the Tomini-Tolitoli languages, and for Pendau in particular see Quick 1999 and 2003. For Balinese see Arka 1998, Artawa 1994, Beratha 1992, Clynes 1995, and Pastika 1999. Interlinear abbreviations used in this paper are: 1SG first singular person, 3P third person, 3PL third plural person, AB absolute case, AGNZ agentive nominalizer, APPL applicative, AV active voice, CN common noun, CONT continuative aspect, DEF definite, DY dynamic verb class, GE genitive case, LOC locative, IM intransitive marker, IR irrealis, IV inverse voice, NEG negative, NT nasal marked transitive verb class, PN proper noun, PT primary transitive verb class, RE realis modality, RED reduplicated, SF augmented stem former, ST stative verb class, and ZT zero marked transitive verb class.

² The identification of subject is based on a methodological procedure which requires identifying the pivot first in two clauses of the same sentence (for the mechanics of this procedure see Quick 2003). The use of the term ‘pivot’ in this paper reflects this preliminary procedure when it is used before identifying the grammatical subject in Pendau. For purposes of understanding this paper the terms ‘pivot’ and ‘grammatical subject’ may be understood to mean the same thing. This however does not mean they are the same thing, since the pivot could be understood to reflect the etic reality and the grammatical subject to reflect the emic reality.

Shoichi Iwasaki, Andrew Simpson, Karen Adams & Paul Sidwell, eds. *SEALSXIII: papers from the 13th meeting of the Southeast Asian Linguistics Society* (2003). Canberra, Pacific Linguistics, 2007, pp.179-191.

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tures for Balinese and Pendau.³ Then for Balinese we will proceed to compare constructions which have a low transitivity, based on four of the ten parameters in Hopper and Thompson (1980), which we will refer to as ‘false transitives.’ These are constructions with an incorporated object in Balinese, or for Pendau an incorporated-like object. We will then compare these ‘false transitives’ with the primary transitive constructions. We will then discuss middle voice and reflexive constructions and how they compare to the primary transitive verb constructions as relevant to Balinese and Pendau. For Balinese, the middle voice has verbs that commonly occur with ‘grooming’ or ‘body’ actions (e.g. as described in Kemmer 1993). Pendau has a different type of productive middle voice which is based primarily on the stative verb construction and adds an effector adjunct; however, transitive roots can be ‘detransitivized’ with this same construction. Balinese reflexive constructions can be derived from middle verbs, but they must become a transitive verb inflected in either active or inverse voice. Pendau has a marginal reflexive construction, but it does have productive reflexive intensifiers.

2 Active Voice and Inverse Voice

Transitive verbs can be inflected in either active voice or inverse voice without a change in transitivity.⁴ Examples (1) and (2) contrast the Active Voice and the Inverse Voice constructions respectively in Balinese and Pendau. Figure 1 contrasts the affixation used for Balinese and Pendau. Compare examples (1)-(2) with figure 2 which clearly shows inverse voice results from the realignment of the macro roles. (capital letters in the English translation indicate the grammatical subject or pivot).

(1) ACTIVE VOICE

a. BALINESE

<i>Nglaut ia</i>	<i>ngojog</i>	<i>dagang</i>	<i>bebek.</i>
<i>nglaut ta</i>	<i>N-ojog</i>	<i>dagang</i>	<i>bebek</i>
then 3P	NT-approach	seller	duck

Pivot=A **non-pivot=P**

‘Then HE (=Belog) approaches a duck seller.’

b. PENDAU

<i>Siamau'u</i>	<i>nonuju</i>	<i>siina'u.</i>
<i>si=ama='u</i>	<i>N-pong-tuju</i>	<i>si=ina='u</i>
PN/AB=father=1SG/GE	RE-SF/PT-send	PN/AB=mother=1SG/GE

Pivot=A

non-pivot=P

‘MY FATHER sent my mother.’

³ See Ross (2002:26-30) for a good discussion of ‘semantic transitivity’ and ‘morpho-syntactic transitivity’ in the context of Austronesian linguistics.

⁴ See Quick 1997, 1999, and 2003 for the background and basis for the pragmatic inverse voice construction and the analysis for which the Pendau data is based upon. We assume that similar evidence used for Pendau is also applicable to Balinese.

(2) INVERSE VOICE

a. BALINESE

Nglaut dagang bebek ojog-a
nglaut dagang bebek Ø-ojog-a
then seller duck ZT-approach-3SG

Pivot=A non-pivot=P

‘Then he (=Belog) approaches A DUCK SELLER.’

b. PENDAU

Siamā’u nituju niina’u.
si=ama=’u ni-tuju ni=ina=’u
 PN/AB=father=1SG/GE IV/RE-send PN/GE=mother=1SG/GE

Pivot=P non-pivot=A

‘My mother sent MY FATHER.’

Active Voice		Inverse Voice	
Balinese	Pendau	Balinese	Pendau
N-	mong- nong-	Ø-	ro- ni-

Figure 1: Comparison of Active Voice and Inverse Voice Prefixes in Balinese and Pendau

Active Voice	Subject/pivot <i>actor role</i>	V	Object/non-pivot <i>undergoer role</i>
Inverse Voice	Subject/pivot <i>undergoer role</i>	V	Object/non-pivot <i>actor role</i>

Figure 2: Macro Role Realignment in Balinese and Pendau

3 False Transitive (Incorporated Object)

In this section we discuss constructions which appear to be syntactically transitive, but that we will call ‘false transitives’ (following Donohue 2001). We assume that the syntactic pattern follows the prototypical primary transitive clause due to internal language pressure as suggested by Andrews (1985:68-69). This pressure appears to produce skewing between morpho-syntactic transitivity and semantic transitivity, and can therefore be analyzed as a ‘false transitive’.

3.1 Balinese False Transitive

The ‘false transitive’ has a very low degree of transitivity in terms of Hopper and Thompson’s parameters (1980). There are four (out of ten) parameters that can show the degree of transitivity: (i) punctuality, (ii) aspectuality, (iii) agency, (iv) affectedness of Object and

(v) individuated Object. With the punctuality and aspectuality and agency parameters, the false transitivity exhibits the nuance of habitual activity, while with the parameter of agency the Agent seems to be low in potency and the activity is not completed. If we look at the parameter of affected Object, then the Object is not fully affected by the action since there is incomplete transferring of action from the Agent to the Patient. In terms of the individuated Object, the false transitive construction can only have an indefinite object; it is not possible with a definite Object. In the data below, we select some verbs that are formed by *ma-*. This prefix is originally an intransitive marker (IM). Only small numbers of the *ma-* verbs can occur with an incorporated Object.

- (3) a. *I meme medaar nasi.*
i meme ma-daar nasi
 PN mother IM-eats rice
 ‘Mother eats rice.’

*b. *I meme medaar nasi-ne.*

- (4) a. *Timpale mekena bubu di carik.*
timpale ma-kena bubu di carik
 friend IM-sets fish.trap LOC ricefield
 ‘The friend sets a fish trap in the ricefield.’

*b. *Timpale mekena bubu-ne di carik.*

- (5) a. *Imbok medagang kucit di peken.*
imbok ma-dagang kucit di peken
 younger.sibling IM-sell piglet LOC market
 ‘Younger sibling sells piglets in the market.’

*b. *Imbok medagang kucit-e di peken.*

The real transitives are presented below. The plus value of the five parameters that show the high degree of transitivity can be applied to the real transitive construction. For this degree, the verb must be turned into the Nasal Transitive (NT). The use of the Nasal Prefix⁵ makes the action volitionally transferred by the Agent to the Patient. In this real transitive construction, the Agent is the initiator or the controller of the action. The Object of the Nasal Transitive can be definite or indefinite, while in the False Transitive, the definite noun phrase Object is not allowed.

- (6) a. *I meme naar nasi.*
i meme N-daar nasi
 PN mother NT-eat rice
 ‘Mother eats rice.’

⁵ The phonological form of the Nasal Prefix is /N-/. This nasal then assimilates the initial consonant of the verb.

- b. *I meme naar nasi-ne.*
i meme N-daar nasi-ne
 PN mother NT-eat rice-DEF
 ‘Mother eats the rice.’
- (7) a. *Timpale ngenaang bubu di carik.*
timpale N-kena-ang bubu di carik
 friend NT-set-APPL trap LOC ricefield
 ‘The friend sets a fish trap in the ricefield.’
- b. *Timpale ngenaang bubu-ne di carik.*
timpale N-kena-ang bubu-ne di carik
 friend NT-set-APPL trap-DEF LOC ricefield
 ‘The friend sets the fish trap on the ricefield.’
- (8) a. *Imbok ngadepkucit di peken.*
Imbok N-kadep kucit di peken
 younger.sibling NT-sell piglet LOC market
 ‘The younger sibling sells piglets in the market.’
- b. *Imbok ngadepkucit-e di peken.*
imbok N-kadep kucit-ne di peken
 younger.sibling NT-sell piglet-DEF LOC market
 ‘The younger sibling sells the piglet in the market.’

The ‘false transitive/incorporated object’ is semantically an antipassive construction, but if we follow Dixon’s parameter on antipassive, an antipassive construction should have a patient in the form of an oblique (Dixon 1994:146-152). In Balinese, there are a small number of constructions that can be treated as antipassive. The small number of antipassives can be distinguished by verbs that take *N-* and those that take *ma-* depending on the base form in the lexicon. If the lexical form is morphologically dependent but semantically a verb, it takes the prefix *N-*. On the other hand, if the base form is a noun, it takes the intransitive marker *ma-*. Both of these verb types can be interpreted as having a semantic antipassive since they do not have a specific morphological marker, although they do have a patient in the oblique form. It is semantically antipassive since the patient is not fully affected by the action that is initiated by the agent.

The other difference between the incorporated object construction and the active voice construction is that the latter can be alternatively formed in the inverse voice while the former construction cannot be formed in the inverse voice. By applying Hopper and Thomson’s parameters (1980) on transitivity, we can treat the real transitive construction as an event transitive while the incorporated object is a stative transitive since the former construction semantically or syntactically carries a high degree of transitivity while the latter is absolutely in a low degree of transitivity.

3.2 False Transitive in Pendau (Incorporated-like object)

The *M-/N- pe-* prefix seems to behave similarly to the Indonesian *ber-* prefix, and to have a similar range of meanings (although there is not a one-to-one correlation in Pendau). The base may be certain verbs or certain nouns (see Quick 2003 for a representative list). Normally it is used in an intransitive clause where the single argument is an actor (contrast this with stative verbs where the single argument is an undergoer).

The meanings of dynamic verbs which are often denominal-like include:

- wear something, e.g. *me-salana* ‘wear pants’ from *salana* ‘pants’, *me-baju* ‘wear a shirt’ from *baju* ‘shirt’
- own something, e.g. *me-junjung* ‘own house’ from *junjung* ‘house’
- activity X is done by the agent [S=A], e.g. *me-intolu* ‘lay eggs’ from *intolu* ‘egg(s)’, *me-raa* ‘to bleed’ from *raa* ‘blood’, *me-gayo* ‘use a dip net’ from *gayo* ‘dip net’, *ne-gempang* ‘to walk’ from *gempang* ‘walk’, *me-ngkani* ‘eat’ from *ngkani* ‘eat’

3.3 Incorporation-like behavior with dynamic verbs

Dynamic verbs are a verb class in Pendau which has mixed transitivity. Some verbs like *lolo* ‘search’ require two arguments and requires the use of the dynamic verb prefix *pe-*. Some dynamic verbs seem to incorporate the noun which follows the verb into the verb phrase (albeit syntactically and not morphologically). In examples (9)-(10) “ocean-bathing” and “fresh-water-bathing” are clearly focused on the different kinds of activities and not the different locations. Example (11) shows that the location is designated with the use of an oblique phrase. Some of the corresponding functions of the dynamic prefix *pe-* is found with the Indonesian prefix *ber-*. Wolff et. al. (1982:282) describes the functions of *ber-*:

However, this word or phrase that complements the verb with *ber-* is not the recipient, the thing affected by the action (as the English translation might lead you to view it), but rather it tells what type of action it is: it qualifies the action. Thus *berbahasa Inggris* or *berbicara Inggris*, “to speak English” are phrases consisting of a verb with *ber-* meaning “speak” and the word *Inggris* which tells what type of studying one is doing.

- (9) *Diang moje too ndau neriing dagat.*
diang moje too ndau N-pe-riing dagat
 EXIS again person NEG RE-SF/DY-bathe ocean
 ‘There was again a person who wasn’t ocean-bathing.’
 [tanjong.pin 031-2]

- (10) *Jimo neriing ogo.*
jimo N-pe-riing ogo
 3PL/AB DY/RE-bathe water
 ‘They fresh-water bathed.’ [EN98-003.54]

- (11) *Jimo neriing ridagat.*
jimo N-pe-riing ri=dagat
 3PL/AB RE-SF/DY-bathe LOC=ocean
 ‘They bathed in the ocean.’ [EN98-003.54]

Also a few words, such as *riing* ‘bathe’ can be contrasted between active voice constructions and dynamic verb constructions. In these cases there is a clear contrast in the direction of the activity (12).

- (12) *Tagu’u noriing unganyo.*
tagu=’u N-pong-riing unga=nyo
 friend=1SG/GE RE-SF/PT-bathe child=3SG/GE
 ‘My friend bathed his/her child.’ [EN97-002.46]

4 Middle Voice vs. Reflexive Construction

Kemmer (1994:179), who quotes from Lyons (1965), states that the middle voice is used to express events in which the action or state affects the subject of the verb or its interest. She has successfully formulated how middle construction and reflexive constructions have a similar semantic valency but differ in the syntactic one. In terms of the semantic valency, both constructions carry only a single participant that functions as the ‘Initiator’ and at the same time this single participant is also the ‘Endpoint’ of the event. In the syntactic valency, on the other hand, the middle voice occurs with a single core argument that functions as Subject, while the reflexive construction occurs with two core arguments: the Agent and the reflexive Object.

Middle construction and reflexive construction are two types of construction which express events and the events affect the subject for its interest (cf. Lyons, 1968:373; cf. Kemmer 1994:179). Semantically the subject of the clause acts for himself so that the actor is affected by its action. In the morphosyntax, the middle construction differs from the reflexive construction in the way that the middle is a one core argument construction or an intransitive clause while its counterpart is a transitive construction because it has two core arguments. The object argument here must be a reflexive pronoun.

4.1 Middle Voice in Balinese

Kemmer (1994:195) claims that there are cross-linguistic facts that show verbs of middle voice construction commonly occur with the verb of ‘grooming’ or ‘body’ actions. This typical verb class include verbs such as ‘wash’, ‘shave’, ‘dress’, ‘undress’, etc. The Balinese examples also support her claim. The base form of the Balinese Middle is a noun. The noun here is commonly a thing used or applied to the body (parts). To make it middle construction, the noun must be attached with the intransitive marker *ma-*, as shown in figure 3.

Semantically Balinese is a language with a two-form middle system. The first type is the body action verb which is possible only with one participant as exemplified in figure 3 and this verb takes an intransitive marker. The second type is a verb taking a reflexive pronoun where this verb is a syntactically transitive construction and the two core arguments of the reflexive construction refer to the same referent as exemplified in figures 5-6.

If we follow Kemmer (1994:209) on the ‘degree of distinguishability of partici-

pants' in relation with Hopper and Thompson's parameters of transitivity, then the middle construction will be one level higher than the canonic intransitive, while the syntactic reflexive construction will occur one level higher than the middle construction. The semantic relation of these situation types can be distinguished in figure 4.

Middle Voice	Parse and Gloss	translation
ma-pupur	MA-powder make up	'to do powder make up'
ma-kuris	MA-beard	'to beard', 'to shave (only....part)'
ma-payas	MA-make up	'to get dressed up (with make up)'
ma-kemuh	MA-rinse the mouth	'to rinse the mouth'

Figure 3: *Examples of Balinese Middle Voice*

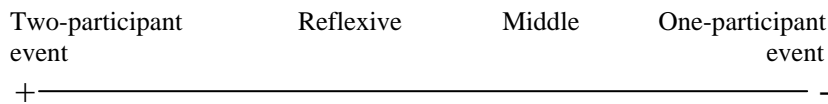


Figure 4: *Degree of Distinguishability of Participants*

Since the middle construction is syntactically an intransitive construction which carries only one single argument, but semantically this intransitive type differs from a reflexive construction which canonically can be categorised as a transitive type. With the former type the subject acts for its benefits, i.e. the actor and undergoer role refer to the same subject Noun Phrase while the subject of the non-middle intransitive has either actor subject or undergoer subject. Thus following Kemmer (1994:210), the subject of the middle exhibits the single case of experiencer in the sense that the initiating is not different from the endpoint entity. This is also true for the reflexive construction (i.e. the canonic transitive). However, as mentioned before, if we take Hopper and Thompson's parameter and Kemmer's parameter, then the reflexive construction has a higher degree of distinguishability of participant than the middle construction. This is because the reflexive is a construction with 'multiple-entity participants' as mentioned by Kemmer (1994:193):

In reflexive situations, it might be noted, the Initiator participant can consist of more than one entity, as in the event expressed by the sentence *the boys saw themselves*. In general, multiple-entity participants take part in the same type of Initiator-Endpoint relations as single entity Initiator participants, with the added complication that the situation described might be construed as one in which each individual entity is in a seeing relation with itself, or the group as a whole is in a seeing relation with itself.

Examples of reflexive constructions for active voice are given in figure 5. Here the NP Agent and the pronominal reflexive Object must refer to the same referent.

{
mupurin
ngurisin
mayasin
ngemuhin
}

{
powders
beards
makes up
goggles
}

Pengigele	ibane pedidi
The dancer	himself/herself

Figure 5: *Examples of Reflexive Constructions in Active Voice*

Examples of reflexive constructions for inverse voice are given in figure 6. Here the third person *-a* binds to the NP subject. In other words, the NP Subject is coreferential with the third person *-a*.

ibane pedidi	{	pupurina kurisina payasina kemuhina	}	
He/she	{	powders beards makes up gargles	}	himself/herself

Figure 6: *Examples of Reflexive Constructions in Inverse Voice*

4.2 Middle Voice in Pendau

Stative verb constructions with a P core argument and an A adjunct argument are rather problematic to describe. In Quick (2003) stative verb constructions are described in which stative clauses sometimes appear with an additional A adjunct. One explanation is that these are constructed by analogy to the detransitivized transitive roots (and can be considered to be a middle voice), and the ‘agent’ is an adjunct agent which is an ‘effector’. Statives derived from transitive roots are also described in Quick (2003). These are described below as detransitivized verbs. However, because the root is transitive the stative construction allows an agent adjunct to occur (a similar construction to inverse constructions, see Quick 2003).

Verb roots affixed with the stative prefix *mo-/no-* occasionally appear with an adjunct which is marked in precisely the same way as A arguments are marked for inverse clause constructions. It appears that statives can marginally increase their transitivity by adding a genitive agent as a syntactic adjunct, i.e. it is an ‘effector’ of the stative verb which results in an affect, as in (13). Example (14) shows that the P argument of a stative verb is not required overtly, whereas the genitive agent may appear in the same clause (both the P argument and the adjunct genitive agent may be omitted as well).

- (13) *Aniong notou' nijimo.*
aniong no-tou' nijimo
 rice ST/RE-finish 3PL/GE
 'The rice was finished by them.' [EN97-002.28]
- (14) *Notou' nijimo.*
no-tou' nijimo
 ST/RE-finish 3PL/GE
 'It (something) was finished by them.' [EN97-002.28]
- Further examples of stative clause constructions that have an adjunct agent appear as in (15)-(20). Statives without agents could be considered to be passive-like and stative constructions with agents can be considered to be middle voice (see Quick 2003).
- (15) *A'u ndaupo maate miu.*
a'u ndau=po mo-ate miu
 1SG/AB NEG=CONT ST/IR-die 2PL/GE
 'I was not killed (lit. die) by/via you all.' [miracle1.pin 126]
- (16) *Junjung narava nijimo.*
junjung no-rava nijimo
 house ST/RE-clean 3PL/GE
 'The house was cleaned by/via them.' [bulagon.pin 011]
- (17) *Odo noonda' nuapi.*
odo no-onda' nu=api
 monkey ST/RE-hot CN/GE=fire
 'The monkey was warmed by/via the fire.' [EN97-003.15]
- (18) *Piso moo mountul nutopomintis.*
piso moo mo-untul nu=topomintis
 machete this ST/IR-sharp CN/GE=blacksmith
 'This machete is being sharpened by/via the blacksmith.'
- (19) *Sapatu moo mebe'as niamanyo.*
sapatu moo mo-be'as ni=ama=nyo
 shoe this ST/IR-open PN/GE=father=3SG/GE
 'This shoe was removed by/via his/her father.'

There are a few transitive roots which may take either the stative verb construction or the *ni-* verb construction without intermediary derivations. These roots include *alap* 'get, take, find', and *gansing* 'damage'. For the first contrast, in (20)-(21), note that in the Indonesian translation my language helper used two different words to convey the difference in meaning: *dapat* 'find, get' for the stative verb, and *ambil* 'take, carry' for the inverse verb. A third contrast with the root *alap* can be formed with the prefix *me-/ne-* pre-

ceding the non-volitional aspect formative *te-*, as in example (22). Stative verb constructions are readily translated into English as passives, and inverse voice constructions are usually translated as active voice constructions. In order to distinguish active voice and inverse voice constructions capital letters in the English translations below indicate the pivot or grammatical subject in Pendau.

- (20) *Bau uo naalaponyo.*
bau 'uo no-alap=nyo
 fish yonder ST/RE-get=3SG/GE
 'THAT FISH was found by/via him.'
 [Indonesian: 'Ikan itu dia dapat.' = fish that he got]
- (21) *Bau uo nialaponyo.*
bau 'uo ni-alap=nyo
 fish yonder IV/RE-get=3SG/GE
 'He took THAT FISH.'
 [Indonesian: 'Ikan itu dia ambil.' = fish that he took]
- (22) *Bau uo netealaponyo.*
bau 'uo ne-te-alap=nyo
 fish yonder AV/RE-NV-get=3SG/GE
 'The fish was (able to be) taken at once when he/she got it.' [EN97-002.24]

Examples (23)-(24) are a similar minimal pair. The Pendau language assistant suggested the stative verb construction denoted an unintentional act (23) whereas the inverse verb construction referred to an intentional one (24). Although the semantic meaning of the verb in the inverse voice is semantically the same as in the active voice counterpart (and both are syntactically transitive—see Quick 2003), pragmatically the degree of topicality of the P argument is equal to or higher than the A argument of the same clause.⁶

- (23) *Motor'u nagansingonyo.*
motor='u no-gansing=nyo
 motorcycle=1SG/GE ST/RE-damage=3SG/GE
 'MY MOTORCYCLE was damaged by/via him.'
- (24) *Motoro'u nigansingonyo.*
motor='u ni-gansing=nyo
 motorcycle=1SG/GE IV/RE-damage=3SG/GE
 'He damaged MY MOTORCYCLE'

In addition to the minimal pairs presented above, there are some near minimal pairs that suggests that the stative verb really is intransitive, as in (25)-(26). The applicative di-

⁶ As expressed by Givón (1994:8) and discussed in detail in Quick 2003, the A>P in active voice constructions, and the P>A in inverse voice constructions. Also see Quick (1997, 1999).

rectional suffix *-i* cannot be used on stative verbs such as in (25), however it is mandatory on some verb roots such as in (26) when affixed in the inverse voice (see Quick 2003).

(25) *Oto'u narampung nutoo.*
oto='u no-rampung nu=too
 car=1SG/GE ST/RE-burn CN/GE=person
 'MY CAR was burned by/via a person (or: by someone).'

(26) *Oto'u nirampuni nutoo.*
oto='u ni-rampung-i nu=too
 car=1SG/GE IV/RE-burn-DIR CN/GE=person
 'Someone burned my CAR.'

5 Conclusion

We find that all of these constructions lend additional support to our preliminary analysis of both Balinese and Pendau as indeed having symmetrical voice systems (or at least highlighting it). This suggests that allowing for the obvious differences between these two languages, a typological similarity in voice constructions persists and the symmetrical voice constructions are fundamental to understanding other syntactic constructions in both languages respectively.

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A PRELIMINARY PHONOLOGICAL SKETCH OF PYEN, WITH COMPARISON TO BISU

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1 Introduction

The first mention of the Pyen (Sino–Tibetan, Tibeto–Burman, Burmese–Yiphoish/Loloish,¹Yiphoish/Loloish, Southern Yiphoish/Loloish, Bisoid) in western literature is quite indirect. In his *A Thousand Miles on an Elephant in the Shan States* (1890), British railway engineer Holt S. Hallet noted an 1876 encounter with a “Loloish” group outside Mae Sui District, Chiang Rai Province, Thailand. Local Northern Thai referred to these people as “Lawa,” a designation which Hallet correctly deduced to be incorrect, inasmuch as the language bore no genetic relation whatsoever to Lawa as spoken in the Chiang Mai (“Siand he,” to Hallet) region. Inasmuch as these people reported that they regularly hosted visiting relatives from the area of Keng Tung, Burma, Hallet dubbed the group “Keng Tung Lawa”.

The “Keng Tung Lawa” Hallet encountered were, in fact, Bisu. This can be deduced from location (just south of the current Bisu area), lexicon (four words listed, all corresponding directly to contemporary Bisu), and, oddly enough, perhaps even anatomy (“better developed noses” than the Northern Thai; contemporary Bisu boast of their larger nose bridges).

The relatives said to live in the Keng Tung region are doubtless those now identified as the Pyen. Validation of this stems from two sources: Scott and Hardiman’s 1902 *Gazetteer of Upper Burma*, which contains a list of 250 words from the “‘Pyen’ or ‘Pin’ of Southern Shan State,” and the memories of Bisu elders, who tell of visits from the “Pin” as recently as fifty years ago.²

Additional linguistic, cultural, or historical information about the Pyen has not been forthcoming, causing some to speculate that the group may have become extinct. In late 2002, however, contact between the Bisu of Thailand and the Pyen of Myanmar was briefly reestablished, yielding additional information on this minority group.

Contemporary Pyen refer to themselves as “Bisu”. Their exonym is said to stem from a partial exodus, generations ago, from Laos to Burma. Fleeing their former Lao masters, these people took refuge with the Plang tribe. In return for protection, they agreed to be adopted as the “younger siblings” of the Plang. As such, they were not allowed to intermarry with the Plang (a ban which still stands), and were also compelled to exchange their traditional clothing for Plang clothing. Thus, when the pursuing Laos arrived at the Plang village, they were informed that no Bisu were present, only Pyen (*p^hen* and its vari-

¹ The term “Loloish” has been applied to this branch for many years, but has fallen out of favor recently because the word itself is Chinese in origin and has derogatory connotations. Yiphoish is a more acceptable alternative (Hale 1998).

² While Scott and Hardiman provided basic ethnographic information on a number of the minority groups they encountered, their coverage of Pyen was limited to a wordlist.

Shoichi Iwasaki, Andrew Simpson, Karen Adams & Paul Sidwell, eds. *SEALSXIII: papers from the 13th meeting of the Southeast Asian Linguistics Society* (2003). Canberra, Pacific Linguistics, 2007, pp.193-201.

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ants meaning ‘to change clothes’ in a variety of Asian languages).³ Those who remained in Laos, the story claims, became known as *p^hu noi* ‘little people’; they did not escape with the rest of the group, because the *pu noi* ‘little crabs’ they were boiling for dinner were not done in time.

The Pyen⁴ currently live in two villages near Mong Yang, Shan State (north of Keng Tung), with a combined population of 700. Language vitality is high; most women are monolingual in Pyen, while most men also speak Lahu and Shan. Despite some dialect differences, Pyen and Bisu are mostly mutually intelligible—although the Pyen say the Bisu have been overly influenced by Thai, while the Bisu charge the Pyen with having borrowed heavily from Lahu.⁵

2 Syllable structure

Both native Bisu and native Pyen syllables (as opposed to Daic loan words) have the canonical form C1 (C2) V T (C3), where C1 represents an obligatory initial consonant, C2 an optional second element in a consonant cluster, V an obligatory vowel, T an obligatory tone, and C3 an optional final consonant. The following words illustrate these syllable types in Pyen:

Pyen (Phonemic transcription)	English gloss	Pyen (Phonemic transcription)	English gloss
và	pig	k ^h əmp ^h u	owl
nan	you (sg)	p ^h æhəŋ	bag
t ^h áŋ	sword	jampaj	grasshopper

3 Consonants

3.1 Initial consonants

Pyen has 23 initial consonants, while Bisu has 29 initial consonants. The chief difference stems from Pyen’s merger of what Bradley termed “partially voiced” nasals /*hm*, /*hn*, /*hp*, /*hŋ*/ with their respective fully-voiced counterparts, a phenomenon also observed among some younger Bisu speakers. Oddly enough, the Bisu lateral /*hl*/ has been maintained in Pyen. In addition, Bisu’s alveolar affricates /*ts^h*/ and /*ts*/ merge with /*tʃ^h*/ and /*c*/, respectively, in Pyen. Similarly, Bisu’s velar /*w*/ becomes /*v*/ in Pyen.

³ I am indebted to Graham Thurgood for pointing out the permutations of “pyen” in Chinese, Thai, and a number of other languages, differing in pronunciation but identical in meaning.

⁴ For purposes of this paper, the word “Pyen” will be used to designate the Burmese Bisu, and “Bisu” to designate Thai Bisu.

⁵ Other close relatives of Pyen and Bisu include the Lao Mian and Lao Pin of China (Shixuan, 2001), the Phu Noi/Singsalii of Laos (Wright, 2003), and the Coong of Vietnam (Edmondson, 2001).

		Labial	Alveol.	Palatal	Velar	Glottal
stops	Vl	p	t	c	k	ʔ
	VlAsp	p ^h	t ^h		k ^h	
	Vd	b	d		g	
fricatives	Vl		s	ʃ		h
affricates	Vl		ts			
	VlAsp		ts ^h	tʃ ^h		
laterals	Vd			l		
	Vl			hl		
nasals	Vd	m	n	ɲ	ŋ	
	Vl	hm	hn	hɲ	hŋ	
approx.	Vd	v		j	w	
	Vl					

Figure 1. Initial consonants in Bisu and Pyen. (Lightly shaded elements are present in Bisu but absent in Pyen; darkly shaded elements are present in Pyen but absent in Bisu.)

The following words illustrate each of the initial consonants of Bisu and Pyen, respectively:

Initial Cons.	Bisu (phonemic transcription)	Pyen (phonemic transcription)	English Gloss
p	pəŋ hna	pəŋ na	water buffalo
t	tələ	tələ	butterfly
c	cikù	cikù	thorn
k	kiba	kába	road, path
ʔ	ʔù hlòŋ	ʔi hlòŋ	pot
p ^h	p ^h æ̀lòŋ	p ^h ehòŋ	bag
t ^h	t ^h àŋ	t ^h áŋ	sword
tʃ ^h	tʃ ^h ɔhmasə̀	tʃ ^h ala	B yawn/P tiger
k ^h	k ^h àlaw	k ^h àlaw	shirt
b	bæ̀	bæ̀	to know
d	dèjà	dèjà	ghost
g	ga	gaʔ	1ps
ts	tsà	ca	to eat
ts ^h	ts ^h alà	tʃ ^h ala	tiger
m	mækà	mekà	face
n	naŋ	nan	2ps
ɲ	ɲàmpàj	ɲi	B grasshopper/P two

ŋ	ŋè	ŋè	B to be struck by a falling tree/P leech
hm	hmja	mja	knife
hn	hnàw	naw	mucus
hɲ	hɲaŋ	ɲa	fishing pole
hŋ	hŋè	ŋè	leech
s	sot ^h à	sot ^h aʔ	morning
j	jàbì	jabi	young woman
h	hɔ̀tàm	hɔ̀tàm	rat
ʃ	ʃi	ʃi	blood
w/v	wà	và	pig
l	lɔ̀ba	lɔ̀ba	stone
hl	ʔù hlòŋ	ʔi hlòŋ	pot

3.2 Final Consonants

Both Bisu and Pyen feature six final consonants: /*p, t, k, m, n, ŋ*/. The presence of these final consonants is notable; many other languages of the Southern Yiphoish/Loloish branch no longer have final consonants.

The following words illustrate each of the final consonants of Bisu and Pyen, respectively:

Final Cons.	Bisu (phonemic transcription)	Pyen (phonemic transcription)	English Gloss
p	hmùŋ blàp	bɲ blap	lightning
t	suŋ nat	nat	gun
k	k ^h lək	k ^h lók	to be broken
m	hɔ̀tàm	hɔ̀tàm	rat
n	haŋ man	hɔ̀ mán	wind
ŋ	t ^h àŋ	t ^h áŋ	sword

3.3 Consonant clusters

Various researchers have come to different conclusions as to the exact number of consonant clusters in Bisu. The Bisu orthography currently recognizes fifteen, eleven of which are also found in Pyen, as shown in figure 2.⁶

⁶ Nishida and Beaudouin describe some of these as labialized or palatalized sounds, while Nuamkaew terms them clusters. In terms of the Bisu orthography (which utilizes Thai script), all are interpreted as clusters.

C1 \ C2	l	j	w/v
p	x	x	
p ^h	x	x	
b	x	x	
k	x	x	x
k ^h	x	x	x
hm/m	x	x	
h		x	

Figure 2: Consonant clusters in Bisu and Pyen.
(Lightly shaded elements are present in Bisu but absent in Pyen)

Consonant clusters only occur in syllable initial position. The following words illustrate each of the consonant clusters:

Cons. cluster	Bisu (phonemic transcription)	Pyen (phonemic transcription)	English Gloss
pl	nàmplaʔ	NA	round cucumber
pj	pjà	pjà	bee
p ^h l	p ^h lu	→p ^h ú	silver, money
p ^h j	p ^h ja	p ^h ja	to tear down
bl	blà	blà	arrow
bj	bjá	bjá	to clear a field
kl	kla	kla	to fall
kj	kjàŋ	kjaŋ	to hear
kw/v	kwà	kva	to hunt
k ^h l	k ^h lək	k ^h lək	to be broken
k ^h j	ʔùu k ^h jà	k ^h ja	field crab
k ^h w	k ^h wát	NA	water channel
hml	hmlàaŋ	NA	long time
hmj/mj	lɔŋ hmja	→lɔŋ mjáŋ	shrimp
hj	hjá	hjá	hill field

4 Vowels and diphthongs

Bisu and Pyen both have nine phonemic vowels, as shown in figure 3. Phonetic vowel length differences are present, but not contrastive, in both.

	Front	Central	Back
High	i	ɪ	u
Mid	e	ə	o
Low	æ	a	ɔ

Figure 3: *Bisu and Pyen vowels.*

Two diphthongs, /aw/ and /aj/, occur frequently in both Bisu and Pyen.⁷ The following words illustrate each of the vowels and diphthongs:

Vowel	Bisu (phonemic transcription)	Pyen (phonemic transcription)	English Gloss
i	ʃi	ʃi	blood
e	ŋèe	nen	to be struck by a falling tree
æ	bæ	bæ	to know
ɪ	nàʃɪŋ	lasɪŋ	ear
ə	tsàkəŋ	cakəŋ	dish eaten with rice
a	naŋ	nan	you (sg)
u	cɪkù	cɪkù	thorn
o	joʔ	hon	yonder (intermediate distance)
ɔ	tɔlɔ	tɔlɔ	butterfly
aw	hnàw	naw	mucus
aj	ŋàmpàj	campaj	grasshopper

Although Bisu and Pyen embrace identical vocalic inventories, some vocalic variation occurs, as shown in the following words:

Variation	Bisu (phonemic transcription)	Pyen (phonemic transcription)	English Gloss
i→a	kiba	kába	road, path
æ→e	mækà	mekà	face
	p ^h æ̀lòŋ	p ^h ehòŋ	bag
a→ɔ	kasəj	kəsəj	monkey

⁷ Additional Bisu diphthongs are mentioned by Beaudouin in STEDT (Namkung 1996). These would seem to be very rare, sometimes the result of borrowing. Only two diphthongs are recognized in the current Bisu orthography. No additional diphthongs were detected in Pyen.

a→u	ʔawam	ʔuwám	bear
u→o	ʔù hong	ʔo hòŋ	turtle
	ʔù kɪ	ʔo kɪ	star
u→i	ʔù hlòŋ	ʔi hlòŋ	pot
ɔ→o	sot ^h à	sot ^h aʔ	morning
	ʔù hlòŋ	ʔi hlòŋ	pot
	tòŋŋĩ	tòŋmĩ	tail

Nonetheless, counter examples can be found for the changes cited above, indicating that further analysis is required.

5 Tone

Pyen and Bisu have three contrastive tones, low, mid, and high, as illustrated in the following words (Vacharee 1987: 110):

Bisu (phonemic transcription)	Pyen (phonemic transcription)	English Gloss
hjá	hjá	hill field
hja	hja	chicken
hjà	hjà	to itch

Vacharee's analysis of 1,512 major syllables in Bisu found 422 low-tone syllables, 1,008 mid-tone syllables, and a mere 82 high-tone syllables (1987:115). This dramatic distribution curve accounts for the dearth of examples of three-way tonal contrast in the native lexicons of both Bisu and Pyen.⁸

6 Conclusion

This paper has provided a preliminary analysis of the phonology of Pyen, with comparison to the more widely known Bisu. Although the data is limited to a 400 token word list, some general conclusions may be drawn.

It is found that, while Pyen and Bisu are very closely related, certain systematic changes have occurred in Pyen that have either not yet occurred, or are just beginning to occur, in Bisu. As such, Bisu's reputation, mentioned by Matisoff (1976) and Bradley (1979), as one of the most phonologically conservative languages of its branch remains intact.

The phonological features which divide Pyen and Bisu include Pyen's loss of "partially voiced" nasals, as well as Pyen's use of /v/ where Bisu utilizes /w/. Because of these changes, Bisu has a larger inventory of consonants and consonant clusters than Pyen. Some vocalic variation is evident, but rarely dramatic. Recent loan words negatively impact

⁸ Bisu authors typically have a very difficult time determining whether a given word should be written as a mid or low tone.

communication more than phonology: Pyen borrows from Shan and Lahu, while Bisu makes use of Northern Thai, Thai, and, increasingly, English (via Thai loans).⁹

Nonetheless, the high percentage of cognates, as well as the fact that Pyen and Bisu speakers can understand one another relatively easily, indicate that they should be viewed as varieties of the same language, members of a dialect chain that includes the Lao Mian and Lao Pin of China, as well as some varieties of Phu Noi in Laos.

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⁹ Older Daic loans, particularly those related to rice cultivation, are identical in both varieties.

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RIDDLES OF DEATH: THE STRUCTURE OF THE TANGKE-TANGKE RIDDLE GAME USED AT PENDAU MEMORIAL SERVICES

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Introduction

This paper describes the structure of the *tangke-tangke* riddle game that is commonly practised during memorial services in the Pendau community. Pendau is a Western Austronesian language in the Tomini-Tolitoli group in Central Sulawesi, Indonesia (see Himmelmann 2001 and Quick 2003).¹ This description is based mainly on eleven riddles recorded in 1997 in two different villages and a description of Pendau riddles by my main language helper Josep Piri (1997). Compare this with the 300 riddles elicited and collected by Stokhof (1982) for Woisika (a Papuan language in the Alor archipelago in Indonesia). However, the interest of this paper is the whole riddle game and not just the riddle and solution, and thus the process of recording and transcribing these eleven riddles has revealed invaluable information. This paper does not address the structure or formation of a riddle in Pendau², as this may be premature with only eleven riddles. This description does address a special morpho-syntactic construction rarely found outside of the riddle game genre and first discovered in this set of riddles. This highlights the importance of documenting various kinds of speech play and verbal art which often are not dealt with in reference grammars.

Riddles in Pendau are a specialized form of repartee (dialogue or conversation) which involves a series of exchanges similar to the game of ‘twenty questions.’ In fact Pendau riddles could be thought of as a highly specialized language game. Longacre (1983:73-74) discusses and analyzes normal repartee as a game, so to consider riddles as a kind of elaborate game with its own rules and moves fits rather well with his model of ‘repartee as a game’. The Pendau riddle game was vaguely familiar to me as a riddle game as it resembles the ‘I spy’ English language riddle game, or the version I played when I was a boy with my mother and four siblings that begins as, “fiddle-lee-dee, fiddle-lee-daa, I see something that you don’t see, and the color of it is...”.

Riddles have been an intimate part of Pendau culture as they have long been asso-

1. Abbreviations used in the interlinearized example are listed here: 1SG first singular, 1PL first plural, 3SG third singular, AB absolute case, AV active voice, CN common noun, COM comitative case, COP copula, DE Denominal, DIR directional, DY dynamic, EQTV equative, EXIS existential, FA factive, GE genitive case, HSY hearsay, INC inclusive, IR irrealis, IV inverse voice, LOC locative, ONE numeral one prefix, NEG negative, NV non-volitional, RE realis, RED reduplication, RM relative marker, SF stem former, TWO numeral two prefix, TZ transitive.

2. Other references have focused on the structure that riddles take, see for example E. Maranda 1971, Pepicello and Green 1984, and Stokhof 1982.

Soichi Iwasaki, Andrew Simpaon, Karen Adams & Paul Sidwell, eds. *SEALSXIII: papers from the 13th meeting of the Southeast Asian Linguistics Society* (2003). Canberra, Pacific Linguistics, 2007, pp.203-212.

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ciated with funerals and memorial services (these are held the first day³ of a person's death, the third night and the fortieth night after a person's death). Riddles have a very ordered structure that is unique when compared to other genres in Pendau. At some time during the service (which may last all night long) there is often a time organized to tell riddles. The objective of telling riddles seems to be to provide the bereaving family with encouragement, sympathy and moral support from relatives, friends and the wider community. This idea of entertainment or providing a distraction coincides with extensive research carried out in the Philippines as noted by Eugenio (compiler and editor, 1994:xv): "At present, riddling in the Philippines is done mainly for entertainment." Both the *tangke-tangke* 'riddle' game and the ritualized *lelesan* 'string game' are only known to be performed at these post-burial wake-like services.⁴ Stokhof (1982:4) mentions that only adolescents actively participate in this in Woisika, and is an occasion for flirting and courtship. This may be similarly true for Pendau, as Piri (1997) mentions that many *unga-unga logas o randaa* 'young men and women' would gather together from dusk until dawn and would especially play the *lelesan* 'string games' and tell *tangke-tangke* 'riddles'. In the event that someone would fall asleep Piri states that they would mark their forehead with black charcoal. However in all of the riddle games that I have witnessed there were various ages that participated in the riddle games.

Stokhof (1982:4) mentions that the Bolaang Mongondow language in North Sulawesi, Indonesia restricts riddle-telling in a similar manner as practised by the Pendau:

(They) are allowed to play the riddle-game only during the night vigils over the dead before burial.

In a recent book Sherzer examines riddles (2002:61-63) as a kind of 'speech play'. Although he may be aware of the kind of riddle game I am about to discuss he doesn't mention it. He does mention one kind of riddle told on St. Vincent in the West Indies during 'all-night wakes' (2002:62). See also Eugenio (1994:xv) for the use of Philippino riddles also used at "wakes and death anniversaries".

1 *Tangke-tangke* Riddle Game Structure

Any person who has a riddle can tell a riddle, and is referred to as the *toponabu* 'the one who drops, the dropper'. The riddle is given and then a chance for guesses can be made by anyone participating (called *topelolo* 'searcher(s)'), and sometimes several people may be talking at once.

As with other genres the structure of the riddle exchange is composed of a beginning (opening), a middle (body), and the end (closure), as elaborated in (1).

-
3. The 'first day' or actually 'first evening' after a person's death is contingent on what time of day the person died. The main point is that the funeral is held within 24 hours of the person's death, so if a person died in the evening of one day, the funeral would probably be held the next day.
 4. The string is obtained by removing it from the edge of the white burial cloth and forming a loop. These are not random string designs. This is a sequence of twelve different "string pictures", which apparently represents each month of the year. Each picture has its own name. After each picture, the partner is supposed to make the next month in the sequence by removing the string from the partner's hands and immediately making the next picture.

(1) Outline of riddle genre:

Opening: The riddle as a puzzle to be solved is stated.

Body: Guesses and clues are exchanged between the riddler and the guessers.

Closure: The answer to the riddle is given (either by a ‘searcher’ (guesser) or by the ‘dropper’ (riddler) in the event it is unsolved).

Sometimes the object of the riddle’s puzzle is referred to metaphorically as *nabi* ‘the prophet’ or at least in one riddle *siina* ‘mother’ (Lewonu Riddle #4). In (2), Josep Piri gives a formulaic opening to his riddle, in which *nabi* is used as the parent of the object.

(2)	<i>Diang jea unga nunabi.</i>	<i>Ono io</i>		
	<i>diang jea unga nu=nabi</i>	<i>ono io</i>		
	EXIS HSY child CN/GE=prophet	if	3SG/AB	
	<i>mebura,</i>	<i>sombura</i>	<i>majari</i>	<i>dusunang,</i>
	<i>M-pe-bura</i>	<i>so-ng-bura</i>	<i>ma-jari</i>	<i>dusunang</i>
	IR-SF/DY=speak	ONE-LIG=word	COP/IR-become	village
	<i>ono ruombura</i>	<i>majari</i>	<i>pakakas</i>	<i>torapake.</i>
	<i>ono ruo-ng-bura</i>	<i>ma-jari</i>	<i>pakakas</i>	<i>to=ro-pake</i>
	if TWO-LIG=word	COP/IR-become	tool	RM=IV/IR-use
	<i>Uo toroboto</i>	<i>sapa uo?</i>		
	<i>'uo to=ro-boto</i>	<i>sapa 'uo</i>		
	yonder RM=IV/IR-guess	what yonder		

‘There was it’s said a child of the prophet. If he/she spoke, one word would become a village, if there were two words then there would be a tool that could be used. That is what should be guessed, what is it?’ [Answer: The capital of Central Sulawesi is *Palu*, the reduplicated form is *palu-palu* ‘hammer’. This answer is complicated by the fact that *palu* is the Indonesian word for hammer, but in order to distinguish these two the reduplicated form is commonly used (although the capital *Palu* is probably an indigenous Kaili word for a tree species).] [jptext2.jdb 037-40]

As often as not the question or statement that outlines the puzzle is simply stated or asked without the formulaic preface. Example (3) is a typical riddle told as one sentence. Some riddles may need more than one sentence to explain them. Difficult riddles may be repeated on request by the guessers (usually early in the body after one or two guesses have been made).

(3)	<i>Noribu-ribu</i>	<i>botonyo</i>	<i>sura</i>
	<i>N-po₁-ribu-ribu</i>	<i>boto=nyo</i>	<i>sura</i>
	RE-SF/DE-RED-thousand	trunk=3SG/GE only	

soung roongonyo.
soung roong=nyo
 one leaf=3SG/GE

‘It has thousands of trunks, but yet it only has one leaf.’
 [answer: the ocean (lit. *dagat* ‘ocean’) is the leaf, and the trunks are rivers
 (lit. *ogo* ‘fresh water’) [Lewonu Riddle #1]

Although the body of the riddle is conversation-like in nature, the give and take of the riddler and the guessers have a basic structure to how the questions can lead to the answers, and how the riddler responds to make it easier or more difficult to guess the answer. The body of the riddle usually begins with a binary question that helps the guessers delimit the domain to search in (see Quick 2003 for discussion of polar questions). This is done by asking if the object is typically found in *alam togoge* ‘big nature (outside a house)’ or if it is in *alam todeide* ‘little nature (inside a house)’, as in (4).

- (4) *Lingidimo, rialam togoge ape rialam todeide*
lingid-i=mo ri=alam togoge ape ri=alam todeide?
 hint-DIR=COMP LOC=nature large or LOC=nature little
 ‘Give us another hint, is it in big nature or in little nature?’
 [Sibayu Riddle #2]

In older times, in the event that someone fell asleep they would be marked with charcoal. If someone knew the answer right away they were not supposed to give the answer straight away. The riddler often camouflages the answer to his/her clues to the riddle by using metaphorical language. When an answer is close the riddler may say *ponopeong*, which means the guesser’s guess is closest to the riddle’s object. Note that *ponopeong* is built off of the word *tope* ‘name’ with the combination of a stem former prefix and the locative nominalizing suffix (*pong-tope-ong*).

Another interesting morphosyntactic feature that is used to provide hints is the special equative *gu-* prefix (for more about its morphosyntactic nature see §2). The *gu-* construction seems to be preserved and maintained almost solely within the riddle genre. Example (5) illustrates the use of *gu-*. The riddle’s answer is *nyava* ‘air’, and the riddler virtually gives away the answer within this response, and even uses the *nyava* ‘air, breathe’ four times in his response to the guessers. Even after this good hint the guessers were still stumped for quite a while.

- (5) *Ha’u batuanyo pakenyo*
a’u batua=nyo pake=nyo
 1SG/AB meaning=3SG/GE use=3SG/GE
- nipogupakenyo, kedonyo*
ni-po₁-gu-pake=nyo kedo=nyo
 IV/RE-SF-EQTV-use=3SG/GE move=3SG/GE

<i>nipogukedonyo,</i> <i>ni-po₁-gu-kedo=nyo</i> IV/RE-SF-EQTV-move=3SG/GE		<i>nyavanyo</i> <i>nyava=nyo</i> air=3SG/GE		
<i>nipogunyavanyo.</i> <i>ni-po₁-gu-nyava=nyo</i> IV/RE-SF-EQTV-air=3SG/GE		<i>Ndau</i> <i>ndau</i> NEG	<i>diang</i> <i>diang</i> EXIS	
<i>batuanyo</i> <i>batua=nyo</i> meaning=3SG/GE	<i>toninyavai</i> <i>to=ni-nyava-i</i> RM=IV/RE-air-DIR	<i>nu'ito</i> <i>nu='ito</i> CN/GE=1PL.INC/AB		
<i>manusia.</i> <i>manusia</i> human	<i>Io</i> <i>io</i> 3SG/AB	<i>batuanyo</i> <i>batua=nyo</i> meaning=3SG/GE	<i>nipogutu</i> <i>ni-po-gutu</i> IV/RE-SF/FA-make	
<i>nuSiopu</i> <i>nu=Siopu</i> CN/GE=Lord	<i>Alata'ala,</i> <i>Alata'ala</i> God	<i>paey</i> <i>paey</i> and.then	<i>nenyava.</i> <i>N-pe-nyava</i> RE-SF/DY-air	<i>Alea'</i> <i>alea'</i> let
<i>batuanyo</i> <i>batua=nyo</i> meaning=3SG/GE	<i>unimpisa'</i> <i>'u-nimpis-a'</i> 1SG.IV/IR-thin-TZ	<i>sono</i> <i>sono</i> COM	<i>ito.</i> <i>'ito</i> 1PL.INC/AB	

'I mean, its use is its own use, its moves are its own moves, its breath is its own breath. There is no meaning without us humans breathing it. The Lord God made it its meaning, and then it breathed. There, I have made that meaning thin enough for you.'
[Riddle #2 Sibayu]

If the riddler deems the riddle to be easy, or the additional clues given have made it very easy to guess, then the riddler will usually say it is *menimpis* 'thin', and less frequently refer to it as *manggaang* 'light'. Riddles that are deemed difficult may be referred to as *moboat* 'heavy', *ma'apal* 'thick' or *malalo* 'deep'. If the guess is clearly not close, then the riddler may say *nagaar* 'far', *netegaar* 'not far', as in (6), or *tanasi* 'wrong answer' (the latter seems to only be used in the riddle genre).

- (6) *Netegaar* *seide.*
ne-te-gaar *so-ide*
AV/RE-NV-far ONE-small
'A little far.' (or: 'A bit cold. '; context: Riddler's response to a guess.) [tangke02.doc]

2 The Equative *gu-* Prefix

The verbal *gu-* prefix has a very specialized usage (possibly emphatic) in transitive constructions which can be viewed as establishing an equative function. This equative function is analyzed here as detransitivizing even though the morphosyntax used is transitive.

Examples of *gu-* in the active voice are much more like what is expected for reflex-

ives typologically, as shown in (7)-(8). Here the A and the P argument refer to the same person. Another interesting feature is that a ligature nasal (LIG) appears between the active voice affix combination and the root base.

- (7) *A'u* *noguntope* *siMesak.*
a'u *N-po₁-gu-n-tope* *si=Mesak*
 1SG/AB RE-SF-EQTV-LIG-name CN/AB=Mesak
 'I am named Mesak.' or: 'I call myself Mesak.'

- (8) *Io* *noguntope* *siMesak*
io *N-po₁-gu-n-tope* *si=Mesak*
 3SG/AB RE-SF-EQTV-LIG-name CN/AB=Mesak
 'His name is Mesak.'

Note that these reflexive-like constructions however cannot be conveyed in the inverse verb construction, as in (9).

- (9) **Si=Mesak* *ni-po₁-gu-tope=nyo.*
 =Mesak IV/RE-SF-EQTV-name=3SG/GE

Example (10) illustrates another example of *gu-* used in the active voice construction. The only known productive verb to use *gu-* in the active voice is *tope* 'name'. Examples of *gu-* in the active voice are quite rare in the corpus. However within the riddle genre, *gu-* in the inverse voice is common.

- (10) *Sampe manu' uo* *noguntope* *manu' senge.*
sampe manu' 'uo *N-po₁-gu-n-tope* *manu' senge*
 until bird yonder RE-SF- EQTV -LIG-name bird osprey
 'So that bird became known as the osprey.'
 [ceku03.jdb 090]

However, the main use of this affix is in riddles where it is always found in the inverse verb construction. The *gu* prefix is always preceded with the stem former *po* as in *nipogu-*. In over 50 narrative and folktale texts there are only two clause constructions which have the *gu-* prefix in them. And one of these two uses seems to be largely idiomatic. My language helpers both agreed that *gu-* is most commonly used in riddles, and this is borne out in my riddle corpus. This distribution supports the notion that *gu-* is a prefix used to convey a special kind of poetical sense. In riddles it is used to identify whether the object being guessed is one and the same object. That is, when *gu-* is used in the inverse voice construction the A (actor) and the P (undergoer) are in an equative relationship (as contrasted with for example partitive reflexives, see Geniušienė 1987:80). The equative prefix is normally only used on inherent noun bases. The exceptions seem to be largely idiomatic.

In example (11) the riddler uses this type of construction to provide a hint or clue to the identity of the riddle's solution. In this riddle the riddler says if humans are buried in the dirt, then what is the dirt buried with? After a few questions and answers are given

then the equative construction in (11) is given as a further clue.⁵

- (11) *Nao botonyo nipogubotonyo,*
nao boto=nyo ni-po_I-gu-boto=nyo
 that trunk=3SG/GE IV/RE-SF-EQTV-trunk=3SG/GE
- roongonyo nipoguroongonyo.*
roong=nyo ni-po_I-gu-roong=nyo
 leaf=3SG/GE IV/RE-SF-EQTV-leaf=3SG/GE
 ‘Its trunk is its own trunk, and its leaves are its own leaves.’
 [tangke01.doc riddle #3]

The construction is different from the active voice forms because the same root is used both in the verb and in the noun of the P argument. In addition to this the A argument must agree with the genitive possessor of the P argument. All of the examples with the *gu-* formed in this way are in the inverse construction. These clauses demonstrate that these clauses are syntactically transitive, but semantically intransitive since both the A and the P argument refer to the same entity.

Example (12) contrasts with (11) in that in the former the *gu-* prefix is absent and a different semantic effect occurs. The subscript letters in the free translation indicate that although there may be some ambiguity, in this construction there is a process or change from one entity to another (or from one part to another part of the same entity).⁶ So what makes these constructions without the *gu-* distinct from those with *gu-* are that the former are true transitives, i.e. those without the *gu-* formative have two syntactic arguments.

- (12) *Roongonyo niporoongonyo.*
roong=nyo ni-po_I-roong=nyo
 leaf=3SG/GE IV/RE-SF-leaf=3SG/GE
 ‘Their leaves_i become its leaves_j.’

Example (13) shows that removal of the *po* stem former creates an ungrammatical clause.

5. In essence the riddler is stating something pertinent about the entity (i.e. the solution) without saying what it is. After a few more questions and answers the riddler repeats the riddle, ‘if humans are buried in the earth, then what is the earth buried with?’. This process goes on for a while, until the audience gives up, although they know it has something to do with bones. The solution is given with an example. The brain is buried with the bones, but what does the brain become? It becomes dirt. So the solution to the riddle is: the dirt is buried in the bones. Now we can see that the equative construction in (11) is camouflaging the word *bu’u* ‘bones’ in both clauses.

6. The Indonesian translation of (11) and (12) are different (and note that the syntactic construction is not at all parallel between Indonesian and Pendau). The second clause in (11) is translated into Indonesian as *daunnya tetap daunnya* ‘its leaves remain its leaves’, and the similar clause without the *gu* prefix in (12) is translated as *daunnya jadi daunnya* ‘its leaves become its leaves’.

- (13) **Roong=onyo ni-roong=onyo.*
leaf=3SG/GE IV/RE-leaf=3SG/GE

The clauses in (14)-(15) shows that the riddle object can also be referred to by extension in the first person. It is very common in Pendau riddles to refer to an inanimate object anthropomorphically.

- (14) *Roongo'u nipoguroongo'u.*
roong='u ni-po₁-gu-roong='u
leaf=1SG/GE IV/R-SF-EQTV-leaf=1SG/GE
'My leaf is my own leaf.'

- (15) *Baju'u upogubaju.*
baju='u 'u-po₁-gu-baju
shirt=1SG/GE 1SG.IV/IR-SF-EQTV-shirt
'The shirt I wear is my own shirt.'

Examples (16)-(17) are examples which contrast two similar clauses. (16) is a clause without the *gu-*, and (17) uses the *gu-* prefix. Both of these clauses occur in the same riddle. In (16) the entity of the riddle (i.e. something that can move) may be part of something else, such as a tree branch which can move, but the tree itself does not move, so the two parts/entities may be connected but have to be in a part-whole relationship. In contrast to this, in (17) the entities are entirely the same. Whatever the object is, if any one part moves the whole part moves, i.e. it is an inseparable whole. In this riddle the answer is *the air* (which of course can be used for either of these examples).⁷

- (16) *Kedonyo nipokedonyo.*
kedo=nyo ni-po₁-kedo=nyo
move=3SG/GE IV/RE-SF-move=3SG/GE
'Its movement can move by itself.'
[Sibayu riddle #2; EN98.002.8]

- (17) *Kedonyo nipogukedonyo.*
kedo=nyo ni-po₁-gu-kedo=nyo
move=3SG/GE IV/R-SF-EQTV-move=3SG/GE
'Its movements are its own movements.'⁸
[EN98-002.9]

7. The clauses which are parallel in structure to the clauses which have the verbal equative prefix *gu-* also appear to be equative-like. However, a proper analysis of these will have to await future research and more data than is currently available.

8. The Indonesian translation given for this was given as *geraknya dia punya gerak sendiri* literally 'its movements he/she has are its own movements.'

Examples (18)-(20) illustrate other idiosyncratic uses. These also seem to show that verbs with the *gu-* prefix have emphatic properties (notably there is no use of a P argument as in the previous examples).

- (18) *Upogumate!*
'u-po₁-gu-mate
 1SG.IV/IR-SF-EQTV-die
 'I would rather die!
 [king.pin 127]
- (19) *Ndau nipogusanang.*
ndau ni-po₁-gu-sanang
 NEG IV/RE-SF-EQTV-happy
 'I myself am not happy.'
 [EN97.004.31]
- (20) *Nipogusanang.*
ni-po₁-gu-sanang
 IV/RE-SF-EQTV-happy
 'I myself am happy.'

In my search for trying to find a similar *gu-* formative in other Western Austronesian languages, D. Barr (personal communication) informs me that there is a variation of a deictic set used in some informal situations which use a *gu* formative instead of the regular locative preposition *ri*. These are listed in figure 1 as Da'a set A and Da'a set B respectively. Da'a is a Kaili language in the Kaili-Pamona group adjacent and to the south of Pendau. In addition I have found one other possible candidate in the Tboli Philippine language, *gunu* 'this place that' (Porter 1977:21). My tentative hypothesis is that a deictic form similar to that found in Da'a preceded the innovation of the equative *gu-* verbal prefix in Pendau. This would also be the expected general grammaticization direction expected cross-linguistically as suggested in Heine and Kuteva (2002). Deictics have already been noted to be a source for copula formations (Heine and Kuteva 2002:108-109). The equative *gu-* could reasonably be seen to have copula-like manifestations in that the two elements are equated referentially in a similar manner as a copula construction. This is still rather tentative, but future research as suggested by work on grammaticization in which metaphor and/or metonymy (see Hopper and Traugott 1993:77-87 for example) play a role promises to hold good prospects for research on the development of *gu-* in the riddle game genre.

Gloss	Da'a Set A	Da'a Set B
'here'	ri se'i	gu se'i/go'i
'there'	ri sa'a	gu sa'a/go'a
'there'	ri setu	gu setu
'there'	guria	gu ria

Figure 1. *Da'a deictic paradigm with and without the gu- formative*
(data from D. Barr personal communication)

3 Conclusion

In conclusion it is striking that an infrequently occurring genre can be so rich in information. Riddles are an absorbing part of Pendau life and have provided linguistic and cultural insights. These riddle games also illustrate that important parts of grammar may be infrequent but productive, and illustrate that modern descriptivists need to also describe word play and verbal art whenever encountered in a language as part of the total description. They also provide linguistic clues for testing grammaticization theories that may prove helpful in comparative and historical reconstruction work as well as typological investigations.

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WORD ORDER AND TRANSITIVE CLAUSES IN MALAGASY

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1 Introduction

Malagasy has been considered to have a Verb-Object-Subject (VOS) word order (Keenan 1976, Keenan and Ochs 1979, Randriamasimanana 2000).¹ This paper argues that a distinction between Verb-Agent-Patient (VAP) and Verb-Patient-Agent (VPA) clauses is a better characterization of the language. The scope of this study focuses on the motive behind the choice of these two types of transitive clauses.

This paper starts by addressing issues with considering Malagasy as having a VOS transitive construction. Then, in order to understand the proposed solution, it is necessary to both have a minimum grasp about transitive construction types in the language and present the methodology used for the analysis. The final parts of the paper discuss the results of topicality measurement done on a series of narrative texts.²

2 The assumption of a single transitive clause form

Considering the language as having a single transitive clause form leads to the assumption that VOS (1a) is the basic word order. From this standpoint, constructions such as (1b) are taken to be passive clauses (Rabenilaina 1991, Keenan and Ochs 1979, among others):

(1) a. n-an-shuratra ilai taratashi ilai umbiashi.
PST-EA:A-write DEF letter DEF soothsayer
'The soothsayer wrote the letter.'

b. n-u-shuratra-ana ilai umbiashi ilai taratashi.
PST-u-write-EA:P DEF soothsayer DEF letter
'The letter was written by the soothsayer.'
'The soothsayer wrote the letter.'

Claiming that (1b) is a passive clause does not take into account several facts. First, constructions like (1a) and (1b) are different in terms of word order. For (1a) the arguments' order is patient-agent, hence the word order Verb-Patient-Agent (VPA) while for (1b) the order is agent-patient, hence the word order Verb-Agent-Patient (VAP).

Furthermore, the difference of word order is accompanied by verbal morphology alteration. In (1a), the verb is structured as tense-external argument-root while in (1b) the

¹ Malagasy is an Austronesian language spoken in Madagascar.

² All clauses used in the text counting are from a series of folk tales taken from *Hafatry ny ombi-asy iray ho an'ny zanany* by Rainandriamampandry and Ranaivosoa (1900s). There were about 250 clauses in whole, of which 219 were considered for this study.

structure is tense-root-external argument. Permuting the word order without changing the verb morphology results in ungrammatical clauses:

- (2) a. *n-an-shuratra ilai umbiashi ilai taratashi.
 PST-EA:A-write DEF soothsayer DEF letter
 ‘The letter wrote the soothsayer.’
- b. *n-u-shuratra-ana ilai taratashi ilai umbiashi.
 PST-u-write-EA:P DEF letter DEF soothsayer
 ‘The letter wrote the soothsayer.’

Third, missionaries and linguists (Cousins 1897, Keenan 1976, Randriamasimanana 2000 among others), who analyzed the language, brought up the fact that, in actual spoken instances, speakers have a preference for constructions such as (1b). If this type of clause was really a passive construction, it might not be expected to have such a high frequency of occurrence.

Finally, depending on the word order, the arguments’ constituency is variable. A temporal adverb test is used in this analysis to differentiate constituency. The adverbial phrase *umali* ‘yesterday’ is used between each pair of words. For both VAP and VPA constructions, if the result produces a grammatical construction, then the words on the left and on the right of the temporal adverb do belong to two separate units. If the result is ungrammatical, then the words on the right of the temporal adverb cannot be separated from the words on the left. Hence, they belong to the same unit. With VPA construction, separating the noun phrases *ilai taratashi* ‘the letter’ and *ilai umbiashi* ‘the soothsayer’ with the temporal adverb results in a grammatical clause (3a) while separating the verb *n-an-shuratra* ‘wrote’ from the noun phrase *ilai taratashi* is not (3b). Therefore, *ilai taratashi* and *ilai umbiashi* belong to different units while *ilai taratashi* forms a unit with the verb phrase:

- (3) a. n-an-shuratra ilai taratashi umali ilai umbiashi.
 PST-EA:A-write DEF letter yesterday DEF soothsayer
 ‘The soothsayer wrote the letter yesterday.’
- b. *n-an-shuratra umali ilai taratashi ilai umbiashi.
 PST-EA:A-write yesterday DEF letter DEF soothsayer
 ‘The soothsayer wrote the letter yesterday.’

With VAP construction, inserting the temporal adverb *umali* ‘yesterday’ between the two noun phrases *ilai umbiashi* ‘the soothsayer’ and *ilai taratashi* ‘the letter’ yields a grammatical clause (4a) while putting the adverb between the verb *n-u-shuratra-ana* ‘wrote’ and *ilai umbiashi* results in an ungrammatical clause (4b). Consequently, *ilai umbiashi* and *ilai taratashi* belong to different units but *ilai umbiashi* forms a unit with the verb phrase:

- (4) a. n-u-shuratra-ana ilai umbiashi umali ilai taratashi.
 PST-u-write-EA:P DEF soothsayer yesterday DEF letter
 ‘The soothsayer wrote the letter yesterday.’
- b. *n-u-shuratra-ana umali ilai umbiashi ilai taratashi.
 PST-u-write-EA:P yesterday DEF soothsayer DEF letter
 ‘The soothsayer wrote the letter yesterday.’

Phrases forming a unit with the verb phrase (e.g. *ilai taratashi* in (3b) and *ilai umbiashi* in (4b)) are referred to here as *internal arguments* (IA) while those that can be separated from the verb phrase are referred to as *external arguments* (EA). Readers should note that the terms internal and external argument are therefore used here in a way which does *not* correspond directly to the use of the same terms in transformational grammar/Chomskyeen linguistics (where the internal argument of a verb is always its object, and the external argument its subject).

3 Transitive Clause Types

Because of the constituency distinction and because of the difference in terms of argument definiteness, Malagasy transitive clauses represent, at least, three different categories (i.e. VAP, VP_iA, and VP_dA constructions).

External arguments of transitive clauses must be definite. The use of indefinite external arguments results in ungrammatical sentences. Compare examples in (5) with those in (1):

- (5) a. *n-an-shuratra ilai taratashi \emptyset umbiashi.
 PST-EA:A-write DEF letter IDEF soothsayer
 ‘A soothsayer wrote the letter.’
- b. *n-u-shuratra-ana ilai umbiashi \emptyset taratashi.
 PST-u-write-EA:P DEF soothsayer IDEF letter
 ‘The soothsayer wrote a letter.’

For VPA constructions, the internal argument can be either definite (as in 1a) or indefinite (as in 6):

- (6) n-an-shuratra \emptyset taratashi ilai umbiashi.
 PST-EA:A-write IDEF letter DEF soothsayer
 ‘The soothsayer wrote a letter.’

Because of the difference of internal argument definiteness, VPA constructions are distinguished as VP_iA, for indefinite internal argument, and VP_dA, for definite internal argument.

For VAP constructions, this paper will not consider sentences where the internal argument is indefinite, as illustrated in (7):

- (7) ?n-u-shuratra-ana \emptyset umbiashi ilai taratashi.
 PST-u-write-EA:P IDEF soothsayer DEF letter
 ‘A soothsayer wrote the letter.’

Although clauses such as in (7) may be grammatical, I will only consider VAP constructions in which both internal and external arguments are definite, as in (1b).

4 Methodology

Coorman (1982)’s and Givón (1983)’s topicality measurement is applied throughout this analysis to establish the difference between Malagasy transitive constructions. *Topicality* is a property of a noun (or noun phrase) when it is recurring through discourse (Givón 1990). According to Thompson (1994), a topical argument is one that carries some weight of importance and predictability within a text. An argument is important when, after its current mention, it appears often within the following discourse, and it is predictable when it is mentioned at least once in a previous nearby clause.

Cooreman and Givón define *anaphoric reference* (Referential Distance in Cooreman and Givón’s terminology) as the number of clauses between the present occurrence of the referent and its last occurrence in the preceding clauses. When a referent is located in the clause immediately preceding the present occurrence, the value of 1 is assigned. If there is an occurrence in two or three clauses before the present occurrence, the value of 2 or 3 is respectively assigned. If the present occurrence is the first mention of the referent or there are no occurrence of the referent in the three preceding clauses, the value of >3 is assigned. Referents with values between 1 and 3 are said to be topical while those getting values >3 are said to be less or non-topical.

Cataphoric reference (Topic Persistence in Cooreman and Givón’s terminology) is defined as the number of times a referent is mentioned in the next 10 clauses following its present occurrence. If the referent is not mentioned at all within the next 10 clauses the value of 0 is assigned. If it is mentioned 1, 2, 3, ..., or 10 times the value of 1, 2, 3, ..., or 10 is assigned. Referents with values greater than two (i.e. >2) are said to be topical while those getting values between 0 and 2 are said to be less or non-topical.

In the series of narrative text used for this study, for each type of transitive clause, both anaphoric and cataphoric references are counted in order to determine the topicality of the arguments.

5 VP_iA-Type Clause Arguments Topicality

For anaphoric reference, the text count for VP_iA constructions shows that agent arguments are commonly present in the previous three clauses while patients are not. In table 1a, the number of agent arguments receiving a value between 1 and 3 is much higher than patients:

Table 1a: *anaphoric reference count for VP_iA constructions*

	AGT		PAT	
	N	%	N	%
1	12	40	0	0
2	10	33.3	0	0
3	2	6.7	0	0
>3	6	20	30	100
1-3	24	80	0	0
>3	6	20	30	100
Total:	30	100	30	100

Similarly, for cataphoric reference, agent arguments are more persistent than patients. Agent arguments with a value >2 occur more frequently than patients in the next ten clauses following its present occurrence:

Table 1b: *cataphoric reference count for VP_iA constructions*

	AGT		PAT	
	N	%	N	%
0	4	13.3	15	50
1	4	13.3	7	23.4
2	5	16.7	5	16.7
3	8	26.7	1	3.3
4	2	6.7	1	3.3
5	6	20		
6	1	3.3		
7			1	3.3
8				
9				
10				
0-2	13	43.3	27	90.1
>2	17	56.7	3	9.9
Total:	30	100	30	100

Results in tables 1a, b tell us that, for VP_iA constructions, agents are highly topical while patients are not topical at all.

6 VP_dA-Type Clause Arguments Topicality

For VP_dA constructions, the count for anaphoric reference points to the conclusion that agent and patient arguments are both topical to some extent. Both agents and patients receive a value between 1 and 3. However, according to table 2a, within three clauses pre-

ceding the present occurrence of the referent, agent arguments appear roughly twice more frequently than patients:

Table 2a: *anaphoric reference count for VP_dA constructions*

	AGT		PAT	
	N	%	N	%
1	27	31.4	10	11.6
2	11	12.8	7	8.1
3	8	9.3	5	5.9
>3	40	46.5	64	74.4
1-3	46	53.5	22	25.5
>3	40	46.5	64	74.5
Total:	86	100	86	100

For the same type of construction, the count for cataphoric reference correlates with the results for anaphoric reference. In table 2b, both agent and patient arguments receive a value >2 but agents occur more frequently than patients within the next ten clauses following the current occurrence of the referent:

Table 2b: *cataphoric reference count for VP_dA constructions*

	AGT		PAT	
	N	%	N	%
0	30	34.8	43	50.0
1	18	20.9	15	17.5
2	11	12.8	10	11.7
3	10	11.6	6	6.9
4	10	11.6	3	3.5
5	3	3.5	6	6.9
6	1	1.2	3	3.5
7	1	1.2		
8	1	1.2		
9	1	1.2		
10				
0-2	59	68.6	68	79.1
>2	27	31.4	18	20.9
Total:	86	100	86	100

For VP_dA constructions, although both agent and patient arguments are topical, tables 2a, b show that agents are more topical than patients.

7 VAP-Type Clause Arguments Topicality

For VAP constructions, the anaphoric reference count indicates that patient and agent arguments are both topical since they both receive a value between 1 and 3. However, according to the figures in table 3a, patient arguments occur more frequently than agent arguments:

Table 3a: *anaphoric reference count for VAP constructions*

	AGT		PAT	
	N	%	N	%
1	6	5.8	37	35.9
2	9	8.7	5	4.9
3	7	6.8	4	3.9
>3	81	78.7	57	55.3
1-3	22	21.4	46	44.7
>3	81	78.6	57	55.3
Total:	103	100	103	100

The counting for cataphoric reference of VAP constructions shows a slightly different result from the anaphoric reference count. In table 3b, there are more occurrences of agent referent with value >2 within the next ten clauses following the present occurrence of the referent than there are occurrences of patient referents. However, because the difference is very small, I consider them as equal:

Table 3b: *cataphoric reference count for VAP constructions*

	AGT		PAT	
	N	%	N	%
0	38	36.9	31	30.0
1	15	14.5	32	31.0
2	20	19.4	11	10.7
3	13	12.6	10	9.8
4	5	4.9	4	3.9
5	7	6.7	7	6.8
6	3	3.0	1	1
7	2	2.0	7	6.8
8				
9				
10				
0-2	73	70.9	74	71.9
>2	30	29.1	29	28.1
Total:	103	100	103	100

Although it is assumed that, for cataphoric reference count, the agents are as topical as patients, the results for anaphoric reference maintains the fact that patient referents are more topical than agent referents in VAP constructions.

8 Comparisons

The percentage comparison for the text count for VP_iA and VP_dA constructions tells us that they are different because, for VP_iA-type clauses, patient arguments are not topical while for VP_dA-type clauses patients may have a certain degree of topicality:

Table 4: VP_iA vs. VP_dA constructions

	Anaphoric reference (value 1-3)		Cataphoric reference (value >2)	
	AGT	PAT	AGT	PAT
	%	%	%	%
VP _i A	80	0	56.7	9.9
VP _d A	53.5	25.5	31.4	20.9

Furthermore, for VPA constructions (i.e. both VP_iA and VP_dA), agent arguments are more topical than patients. For VAP constructions, with anaphoric referent count, patients are more topical than agents while, according to the cataphoric referent count, they are assumed to be equally topical:

Table 5: VPA vs. VAP constructions

	Anaphoric reference (value 1-3)		Cataphoric reference (value >2)	
	AGT	PAT	AGT	PAT
	%	%	%	%
VPA	133.5	25.5	88.1	30.8
VAP	21.4	44.7	29.1	28.1

Finally, considering both VP_dA and VAP constructions, we can see that these two types of constructions are somewhat a mirror image of each other. For anaphoric referent count, both agent and patient referents are topical. However, with VP_dA-type clauses, the agent is more topical than the patient while with VAP-type constructions the patient is more topical than the agent. For cataphoric referent count, for VP_dA-type clauses, the agent is more topical than the patient while with VAP-type clauses, again, agent and patient are assumed to be equally topical:

Table 6: *VP_dA vs. VAP constructions*

	Anaphoric reference (value 1-3)		Cataphoric reference (value >2)	
	AGT %	PAT %	AGT %	PAT %
VP _d A	53.5	25.5	31.4	20.9
VAP	21.4	44.7	29.1	28.1

Arguments' topicality of the three types of transitive constructions is summarized in table 7:

Table 7: *degree of topicality of patient and agent referents*

<u>Construction type</u>	<u>Argument topicality</u>
VP _i A	agent >> patient
VP _d A	agent > patient
VAP	agent < patient

For VPA constructions, the agent is always more topical than the patient. However, depending on the type of VPA clause the patient may not be topical at all (i.e. for VP_iA) or carries a certain degree of topicality (i.e. for VP_dA). For VAP constructions, patient arguments are more topical than agent arguments but these latter retain a certain degree of topicality.

9 Discussion

The text count methodology applied to this analysis allowed us to determine the motive behind the different word orders in Malagasy. As argued throughout the paper, the most topical referent is located in the external argument position and both patient and agent can occupy that position. When the patient is not very topical or not topical at all, one of the VPA-type constructions is used, while when the patient has a considerable degree of topicality the language uses VAP constructions. The topicality count illustrated that VAP and VPA constructions are not just different structurally but they have different functions too.

Furthermore, from this standpoint, the issue in Malagasy is more complicated than asking if VOS is the basic word order or if VOS is a more basic word order than VSO in the language. It can be argued that the external argument has the same privileges/status as "subject" (i.e. being a topical argument in the case of the present study). If we say this, the expectation might be that the "subject" is the agent of the clause. However, as discussed throughout the paper, the external argument can in fact also be a patient. Also, like an external agent argument, this external patient argument can be topical. Therefore, considering Malagasy to have solely a VOS structure in its transitive clauses does not adequately capture the observation that the external argument can be either a patient or an agent.

By way of brief conclusion, it can be said that the VOS claim about Malagasy does not account for why there would be different argument orders in transitive clauses in Malagasy. Consequently, considering the relative topicality of arguments instead arguably leads to a better description of the variation in word order attested.

Notes

I would like to thank Doris Payne for her comments for this paper.

Abbreviations

AGT: agent
 DEF: definite
 EA: external argument
 EA:A: agent external argument
 EA:P: patient external argument
 IA: internal argument
 IDEF: indefinite
 PAT: patient
 PST: past tense
 VAP: verb-agent-patient construction
 VPA: verb-patient-agent construction
 VP_dA: verb-patient-agent construction with definite patient
 VP_iA: verb-patient-agent construction with indefinite patient

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CONTRASTIVE VOWEL LENGTH IN MIENIC: INHERITANCE OR DIFFUSION?

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1 Majority opinion

The Hmong-Mien (=Miao-Yao) family has two branches: a larger and more complex Hmongic branch, comprising the languages Hmong, Pu-Nu, A-Hmao, Hmu, Qo Xiong, Pa-Hng, and Ho Ne, among others, and a less-diversified Mienic branch, which includes the languages Mien, Mun, Biao Min and Zao Min (Niederer 1998). No language in the Hmongic branch has contrastive vowel length, nor do the Biao Min and Zao Min languages of the Mienic branch. On the basis of vowel length contrasts in dialects of the Mien and Mun languages alone, however, the majority view is that vowel length should be reconstructed for the ancestor language of the entire family, proto-Hmong-Mien (pHM). For example,

1. Purnell (1970) reconstructed both /a/ and /a:/ before /p, t, m, ŋ, i, and u/ at the proto-Mienic (pM) level, and carried the contrast up to the pHM level.
2. Downer (1982) also reconstructed the /a/-/a:/ contrast, and held out the hope that reconstructing more length contrasts could help clear up some of the difficulties in linking Mienic rimes with the severely reduced number of Hmongic rimes: “Since it is necessary to project the Yao length distinction back into [pHM] (but not [pH]) for the low vowels, a further assumption might be made: that [pHM] possessed similar length distinctions with other vowels. Such an assumption could then explain some other cases where a single Miao rime corresponds to two different Yao rimes ...” (p. 5). But careful study reveals no evidence that pHM vowel length played a role in the patterns of merger into pH: the quality of nuclear and peripheral vocalic elements alone seem to have determined the outcome of these mergers (Ratliff 2002). This does not constitute proof against pHM vowel length, but neither is there support for it here, as Downer had hoped there might be.
3. To account for their 210 rime correspondence sets (several with only one member), Wang and Mao (1995) rather artificially reconstructed vowel length in pHM whenever a word was recorded with a long vowel in any dialect. Length is reconstructed before stop and nasal codas, *i and *u (with many gaps) for all fifteen of the basic vowels in their proto-inventory (*i, *I, *e, *ɛ, *æ, *a, *A, *ɐ, *ɒ, *ɑ, *ɔ, *o, *ʊ, *u, *ə). But as they point out in the introduction (p. 15), only dialects of Mun exhibit length contrasts in vowels other than /a/.

Reconstructing vowel length is a reasonable idea, especially since Mienic typically conserves rime contrasts which have merged in Hmongic. But for Purnell, the conven-

Shoichi Iwasaki, Andrew Simpson, Karen Adams & Paul Sidwell, eds. *SEALSXIII: papers from the 13th meeting of the Southeast Asian Linguistics Society* (2003). Canberra, Pacific Linguistics, 2007, pp. 223-229.

ience of setting up pHM rimes as equivalent to pM rimes (including the length contrasts) “... is merely an attempt to organize the large number of [pHM] final correspondences in a way that would facilitate further investigation ... [i]t is “not meant to imply that [pM] has preserved the [pHM] final system ... intact” (1970:183). Nonetheless, most have proceeded under the assumption that it has.

2 Minority report

However, Theraphan L-Thongkum (1993:193) reconstructs the length contrast in [a] in Mienic as a vowel quality difference at the pM level: *ə > a, *a > a:. Taking the view that the contrast was one of quality, not length, at the pM level would clearly remove motivation for the reconstruction of length at the even earlier stage of pHM.

Although this is a different solution to the vowel length problem in HM, it is of importance that scholars working on neighboring languages in the diffusion area of Southeast Asia have come to similar conclusions about the origin of vowel length in other families. Graham Thurgood (1999) reconstructs *ə and *a as the source for /a/ and /a:/ in proto-Chamic (a mainland Austronesian group). Li Fang Kuei (1977) reconstructed quality contrasts as the source for length contrasts in proto-Tai, a branch of Tai-Kadai (his discussion of the fleeting nature of vowel length contrasts in Tai could be transplanted wholesale into an account of vowel length in Mien-Mun), and Weera Ostapirat (2000) reconstructs quality contrasts as a source for length contrasts in proto-Kra, another branch of Tai-Kadai (Gelao, Lachi, Laha, Paha, Buyang, Pubiao). Matisoff (2003) reconstructs vowel length contrasts in closed syllables for proto-Tibeto-Burman, while noting that “contrastive vowel length must have been an inherently unstable feature in TB” (p. 244).

For Chinese, on the other hand, Norman (1988:217) points out that length contrasts must have been present in proto-Yue (the subfamily to which Cantonese belongs), since length in closed syllables (giving rise to the *rù* tone) conditioned a tone split in the voiceless series. There is no clear consensus on whether or not vowel length should be reconstructed for either Middle Chinese or Old Chinese.

3 Building the case for length as a relatively recent development

3.1. Phonemic length and lexical borrowings

In the Southeast Asian linguistic area, vowel length is contrastive in closed syllables in (at a minimum) Mienic, Tai-Kadai, and languages of the Yue branch of Chinese. Today, Mien speakers in Thailand are in contact with vowel-length languages Standard and Northern Thai (Purnell 1965:3 and L-Thongkum 1993:193). In the provinces of Hunan, Yunnan, Guangdong, Guizhou, Jiangxi, and the Guangxi Zhuang Autonomous Region, Mien and Mun speakers live among Tai vowel-length language speakers (most notably Zhuang) and Chinese. On Hainan Island, Mun speakers are in a contact situation with (among others) speakers of two languages with contrastive vowel length, Hlai (Li) and Cantonese.

At all levels, as pointed out by Kosaka (2002), loanwords with long vowels seem to outnumber native words with long vowels in Mienic, whether or not they have long vowels in the source languages. This suggests that the development of vowel length in Mienic may have been facilitated by the borrowing of (1) words from languages with contrastive vowel length (where length was borrowed along with the word), (2) words from languages with “heavy syllables”, interpreted by speakers of Mienic languages as containing long

vowels, and (3) words likely to serve as syntactic heads, thus susceptible to stress and lengthening (see below).

In these loanwords, length appears sporadically across Mienic dialects. The variation is likely to be due both to different immediate loan sources, and to different prosodic systems in the borrowing dialects. For example, if a loan from Chinese has an [a:] in Mien, it does not consistently have a long vowel in Mun, even though length carries a higher functional load in Mun than in Mien. See the two tables below for contrasting patterns of length correspondence (Mien data from Downer 1973 and Mun data from Shintani and Yang 1990):

Mien long: Mun long

Chinese	gloss	Mien	Hainan Mun
<i>yāng</i>	seedling	ʔja:ŋ 1	zja:ŋ 1
<i>bēng</i>	thief, burglar	tʂa:ʔ 8	ta: 6
<i>mǎi</i>	buy	ma:i 4	ma:i 4
<i>bài</i>	be defeated	pa:i 6	ʔba:i 4
<i>kě</i>	thirsty	ga:t 7	ga:t 7
<i>gē</i>	cut, mow	ka:t 7	ka:t 7 (Liangzi)
<i>gān</i>	sweet	ka:m 1	ka:m 1
<i>sān</i>	three	fa:m 1	ta:m 1, 5
<i>yā</i>	duck	ʔa:p 7	ʔa:p 7

Mien long: Mun short

Chinese	gloss	Mien	Hainan Mun
<i>làng (fèi)</i>	waste time	la:ŋ 6	laŋ 3
<i>zhēng</i>	evaporate	tsa:ŋ 1	saŋ 1 (Liangzi)
<i>běi</i>	north	pa:ʔ 7	ʔbak 7
<i>tài</i>	too much	tha:i 5	thai 1
<i>huài</i>	go bad, spoil	wa:i 6	huai 2
<i>fá</i>	punish	pa:t 8	hɔat 8
<i>fā</i>	send out	fa:t 7	hɔat 7
<i>fǎ</i>	law, method	fa:t 7	phat [44]
<i>fàn</i>	violate	pa:m 2	phan 5
<i>nán</i>	south	na:m 2	na:m 2, nam 1
<i>là</i>	wax, candle	la:p 8	lap 8

3.2. Syllable weight and prosody

On a higher level of linguistic organization, two independent descriptions of Mien (and a note on Mun) show these two vowel length languages are characterized by a prosody that alternates short and long (or light and heavy) syllables.

For Mien, Downer (1961) writes, “The word in Highland Yao [= Mien] consists of a full syllable, which may be preceded by one or two reduced syllables. Full syllables are characterized by a system of tones, and, when preceded by reduced syllables, by relative prominence and duration. Reduced syllables have no tones, and have markedly different realizations depending on speed of utterance” (p. 532). “Reduced syllables do not occur

finally, but always precede a full syllable or another reduced syllable. They are of two kinds—regular reduced syllables, and reduced syllables in -a. The two kinds agree in having weaker stress and shorter duration than the following full syllables so that a strong iambic rhythm is imparted to disyllabic words ...”(p. 539). Purnell (1965) also classifies Mien syllable types into a major type (pre-pausal, stressed) and a minor type (those syllables which precede the major syllable). Together, strings of minor syllables and one major syllable make up the “phonemic phrase” (pp. 7 ff.) In this synchronic study, in a manner reminiscent of L-Thongkum’s later historical study, Purnell analyzes short [a] as phonologically /ə/, and long [a:] as phonologically /a/ (pp. 78 ff.).

For Mun, Shintani and Yang (1990) observe that “... in plurisyllabic words or contexts, a tonal and vowel neutralization is often observed” (p. viii). My analysis of 135 sentences in this dictionary illustrating basic syntactic types showed a strong correlation between vowel length and phrase-final position (location of the syntactic head of the phrase).

But with regard to the question of this paper—is contrastive length due to inheritance or diffusion?—the fact that Mien and Mun today are characterized by an iambic rhythm cannot constitute proof that length is a secondary development. This is a “chicken and egg” problem: the role of stress and the alternation between full and reduced syllables could as easily be seen as a consequence of the inherited feature of length as a factor in its development and a supportive environment for it.

However, some long vowels clearly seem to have developed secondarily. Given the iambic rhythm of these languages, not only must non-phrase-final syllables be light, but phrase-final syllables (syntactic heads) must maintain a certain gravity. Comparative data in Wang and Mao (1995) make it appear that compensatory lengthening—either upon loss of a medial, or upon reanalysis of a medial as syllable onset—may have developed sporadically to preserve necessary “weightiness”. Compare forms in each column below to see that vowel length and the presence of a medial glide are in complementary distribution across the Mienic languages in their sample. The absence of both length and a medial glide is another possible outcome, but crucially none of the forms below contains both a long vowel and a medial glide:

	<i>ash</i>	<i>narrow</i>	<i>armspan</i>	<i>twist</i>
Jiangdi (Mien)	<u>sai</u> 3	hep 8	<u>tsa:m</u> 2	sjet 7
Xiangnan (Mien)	swa 3	ei 8	tsaŋ 2	sje 7
Luoxiang (Mien)	ɕwai 3	hep 8	wjam 2	ɕat 7
Changping (Mien)	θwai 3	hjep 8	<u>jo:m</u> 2	θjet 7
Liangzi (Mun)	sai 3	hep 8b	jom 2	<u>sa:t</u> 7
Lanjin (Mun)	<u>sai</u> 3	<u>he:p</u> 8	jom 2	<u>sa:t</u> 7
Dongshan (Biao Min)	swai 3	hjɛn 8	jaŋ 2	--
Sunjiang (Biao Min)	ci 3	he 8	jɔn 2	--
Daping (Zao Min)	soi 3	hep 8	dzjam 2	sjet 7

3.3. Inherent length variability in [a] favors a diffusion hypothesis

Recall that while in Mun a vowel length contrast holds between several vowel pairs, in Mien the contrast only exists between /a/ and /a:/. Mien is not alone in showing a length contrast only in [a]. This is also true of Shan, Tai Luu, Wuming Zhuang (Tai-Kadai), Cantonese (Sinitic), Chamic (Austronesian), and undoubtedly other languages of the area.

(Vowel length contrasts also exist in many Himalayish and Kamarupan Tibeto-Burman languages to the west of this area. One of these languages, Gurung, also shows a length contrast in [a] alone, as does Khasi, an Austroasiatic language spoken in India and Bangladesh.) It seems reasonable to assume that there is a phonetic basis for this consistent asymmetry.

An explanation for the special status of [a] can be deduced from data in a cross-linguistic phonetic study by Matthew Gordon (2002), which pulls together much of the relevant research on the phonetics of vowel length as a manifestation of syllable weight. He observes “There is a well-documented tendency for low vowels to be crosslinguistically longer than high vowels ..., a fact typically attributed to the additional time needed for the jaw lowering involved in the production of low vowels.” (p. 73). But even more interesting for historical purposes than this observation about low vowels is the connection Gordon has discovered between the freedom of low vowels to show variation in duration and the existence of a phonemic contrast in vowel length:

In virtually all cases, languages without phonemic vowel length display greater durational differences between vowels of different qualities ... In languages with phonemic length contrasts there is less room for the intrinsically longer low vowels to enhance their inherent length by undergoing additional lengthening, because additional subphonemic lengthening would potentially lead to neutralization of phonemic length distinctions. In other words, contrasts based on vowel quality are limited in terms of the durational differences that may accompany them. (pp. 72-73)

The fact that the rise of a phonemic contrast inhibits the range of variability of an individual phoneme with respect to some distinctive feature of that phoneme is more generally true: it is reminiscent of the fact that English /k/ allophones cover a large territory—from the palatal region to the uvular region—due to lack of competition in the back of the mouth, whereas languages with both a velar series and a uvular series show correspondingly limited allophonic variation in terms of place of articulation of /k/, lest /k/ infringe on the territory of /q/. Here the issue is a trade-off between inherent vowel length as a function of vowel quality and phonemic vowel length: an [a] widely variable in length for phonetic reasons is constrained with regard to length once a phonemic length contrast arises, because, for communicative reasons, a clear and consistent distinction must be maintained between /a/ and /a:/.

We have learned from years of studying tonogenesis that a language needs both an external stimulus and internal resources to develop into a new prosodic type. In this case, external models have been established—Chinese must have had length contrasts at least back to proto-Yue, and length in Tai-Kadai languages, even if secondary, appears to be quite old. The internal subphonemic variability lying ready for exploitation must have been the natural tendency of low vowels to manifest a wider range of length differences than other vowels—but, as Gordon has demonstrated, such significant durational difference in [a] is robust *only in languages which do not already have contrastive vowel length*. I suggest that Mien and Mun were embryonic vowel-length languages in which the natural variability in the duration of [a] was enhanced as a result of the interplay of weak and strong syllables, leading to a phonologization of the length feature. Two possible developments from this point are illustrated by Mien and Mun respectively: the inventory could

have been stabilized with only the one contrasting pair, in which case the one lone long vowel would act phonologically like a simple vowel (as in Mien, see Purnell 1965), or length contrasts in non-low vowels could have developed on the model of the contrast in the low vowel (as in Mun).

Wang and Mao 1995 (and Downer 1982 as well, although less confidently) suppose that Biao Min and Zao Min have lost vowel length, and that Mien has lost length in all vowels except [a]. Under this scenario, Mun, showing at least some contrasts with all vowels, is the conservative language. I think it more likely that Biao Min and Zao Min are the conservative languages, Mien is developing vowel length, and Mun is the most “advanced” in this respect. One indication that this is right historical script is L-Thongkum’s account of the generational differences between older Mien speakers and the younger Mien speakers who have been exposed to Thai in schools and in the media. These younger speakers are using vowel length more consistently than their elders. “Regarding other pairs [other than a-a:], such as i-i:, u-u:, etc., there is no consistency; they vary a great deal among speakers, especially in the Mjuenic dialects spoken in Guangxi. During my field trips in the North of Thailand in 1987-1988, I noticed that younger speakers of the Mien dialect were quite consistent so far as vowel length was concerned. There was a tendency that vowels in some words were always long or always short. A cause of this might be language contact ...” (1993:193).

4 Conclusion

It is therefore plausible that Mien and Mun became vowel-length languages in contact with other languages of this type, in the first instance by exploiting the significant inherent length peculiar to the vowel [a] which only occurs in languages with no length contrasts.

At the very least, the identical manifestations of length in the vowel [a] in some Tai-Kadai languages, Mien, Mun, and Cantonese, among others, suggest that vowel length is another prosodic system, like tone, which is shared by languages of unrelated families in the Sinosphere. Matisoff (2001) writes “To what can we ascribe the surprising diffusibility of prosodic features? It seems to me that part of the answer lies in the perceptual salience of the rise and fall of the human voice ...” (2001:322). He is here writing about the spread of tone and register systems in Southeast Asia, but his comment could apply to vowel length as well, although it is the perceptual salience of the expansion and contraction of speech, the rhythm of speech, rather than the rise and fall of speech, that would account for the diffusibility of length. It seems reasonable to think that multilingual speakers recalibrate the rhythm of the languages known to them so that they sound more alike. Undoubtedly the details that tell the true story about vowel length will be revealed in micro-level studies of multilingual communities.

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A NEW LOOK ON DIPHTHONGS IN THAI

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1 Introduction

Thai has three phonemic diphthongs /ia/, /ua/, and /ua/. Short and long diphthongs in Thai are not phonemically distinctive (Abramson 1962 and Naksakul 1998). Previous literature noted that diphthongs are shorter in unstressed positions but longer in stressed positions, and that diphthongs are always short when followed by a final glottal stop (Naksakul, 1998). Roengpitya (2001, 2002) found that shorter diphthongs occur in closed syllables; whereas, longer diphthongs occur in open syllables.

Roengpitya (2001) measured the diphthong duration in three major components: (1) the duration of the first vocalic element, (2) the duration of the transition between the first and the second vocalic elements, and (3) the duration of the second vocalic element. I found that diphthongs in open syllables are longer than the ones in closed syllables (for 61 msec. of the duration of the first vocalic element, for 11 msec. of the transition duration, and for 112 msec. of the second vocalic duration). I concluded that the main cue to distinguish the phonetic shorter-longer diphthongs was the shorter or longer duration of the second vocalic element.

However, the previous study of diphthongs in Thai did not demarcate the offset of the first vocalic element and the onset of the second vocalic element of diphthongs. In the present paper, I have attempted to present a plausible method to mark where the first vocalic element ends and where the second vocalic element of each diphthong starts. My aim is to find out whether the duration of the second vocalic element of diphthongs is still the main cue to distinguish between shorter and longer allodiphthongs in Thai.

2 An Acoustic Study of Thai Diphthongs

2.1 Aim

The aim of this paper is to demarcate the offset of the first vocalic element and the onset of the second vocalic element of diphthongs, and to find out whether the duration of the second vocalic element of diphthongs is the main cue to distinguish shorter and longer allodiphthongs in Thai.

2.2 Tokens

The tokens, used in this study, had the structure of C1V(C2)T, where C1 was a voiceless unaspirated stop /p-/; V was /ia/, /ua/, or /ua/; C2 was a glottal stop /-ʔ/, a voiceless unreleased alveolar stop /-t/, or a dental nasal /-n/; and T was a low tone. Some tokens were meaningful but some were nonsense words. All the tokens were in citation forms.

2.3 Speakers

The speakers for this study were three native Standard-Thai speakers: three females (the author, Speaker 2, and Speaker 3). The first speaker was a lecturer, and Speakers 2 and 3

were graduate students at Chulalongkorn University, Bangkok, Thailand. All of the speakers had normal speech and hearing.

2.4. Procedure

The three speakers read all the tokens ten times. The tokens were recorded digitally in Praat sound program at a sample rate of 16 kHz. with 16 bits per sample. All the tokens were extracted for the first and the second formant values of diphthongs. All the tokens were transferred to the Matlab Program for the first two formant analysis. There were a total of 360 tokens in this study: 3 diphthongs * 4 conditions * 10 times * 3 speakers.

To measure the durations of the first and the second vocalic elements, we computed the values of the first and second derivatives of the first and second formants. We used the zero-crossings of the derivatives (positive or negative, depending on the direction of the formant movement) to demarcate where the first vocalic element of a diphthong ends and where the second vocalic element of a diphthong starts. The figures below show an example of how to mark the boundary of the first and second vocalic elements of a diphthong.

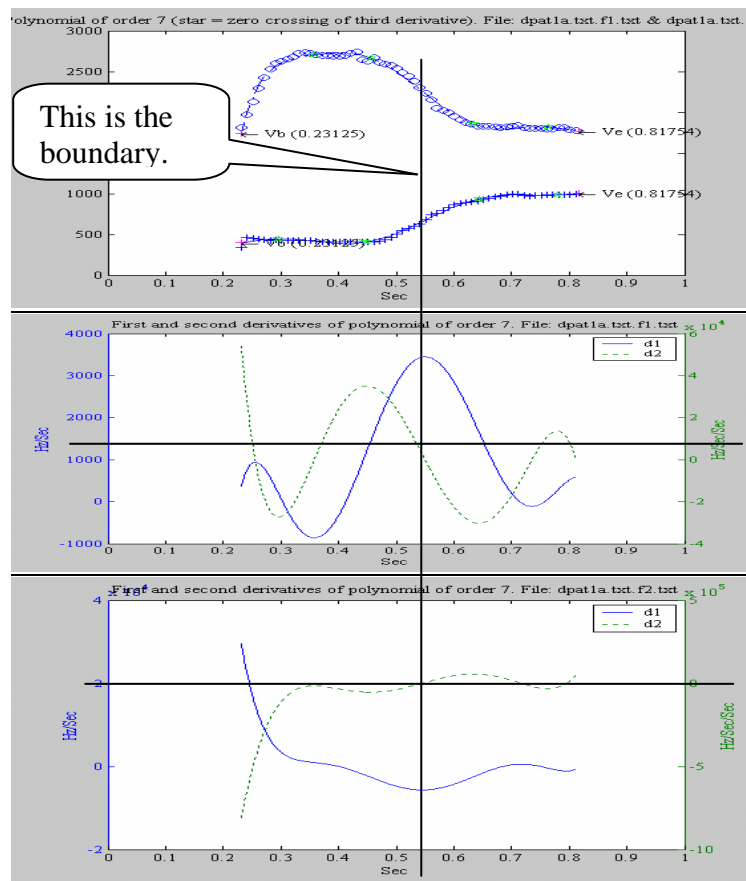


Figure 1: An example of how to mark the boundary between the first and the second vocalic element of a diphthong /ia/.

It can be noted that the formants of each diphthong have their own direction of movement. The way to find the boundary of each diphthong is applied, as in Table 1.

Table 1: The principles for finding the boundary between 2 vocalic elements of diphthongs.

diphthongs	1 st formant (1 st > 2 nd vocalic elements)	2 nd formant (1 st > 2 nd vocalic elements)
/ia/	lower > higher (Use negative ongoing zero-crossing of 2 nd derivative)	higher > lower (Use positive ongoing zero-crossing of 2 nd derivative)
/ua/	lower > higher (Use negative ongoing zero-crossing of 2 nd derivative)	mid level > lower (Consult the derivatives of F1 values)
/ua/	lower > higher (Use negative ongoing zero-crossing of 2 nd derivative)	lower > higher (Use negative ongoing zero-crossing of 2 nd derivative.) (NOTE: Sometimes, the rate of change and its phase are different from the F1 values. To be consistent, use the derivative of F1 values.)

After the boundary between the first and the second vocalic elements of diphthongs was marked, I measured the durations of the first and the second vocalic elements of diphthongs. The results are presented in the next section.

3 Results

Figures 2, 3, and 4 show the durations of the first and the second vocalic elements of diphthongs /ia/, /ua/, and /ua/, respectively.

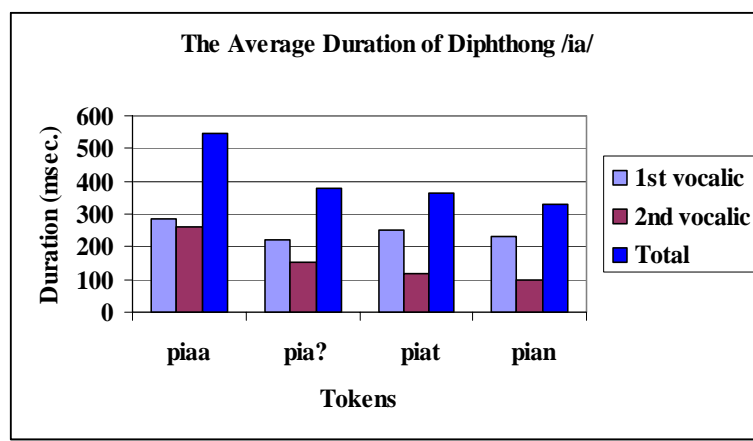


Figure 2: The duration of diphthong /ia/.

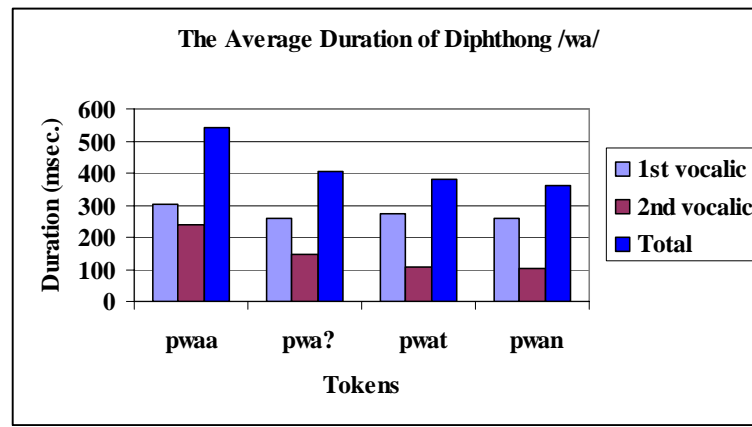


Figure 3: *The duration of diphthong /wa/.*

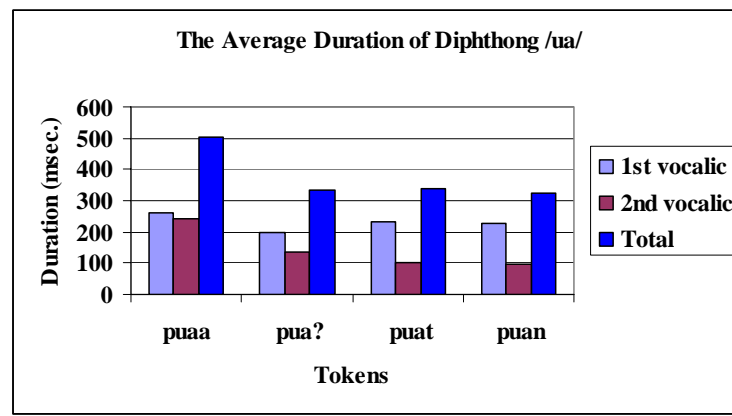


Figure 4: *The duration of diphthong /ua/.*

Figure 5 presents the average duration of all three diphthongs: /ia/, /ua/, and /wa/ in four conditions. Figure 6 shows the average duration of diphthongs in open and closed syllables.

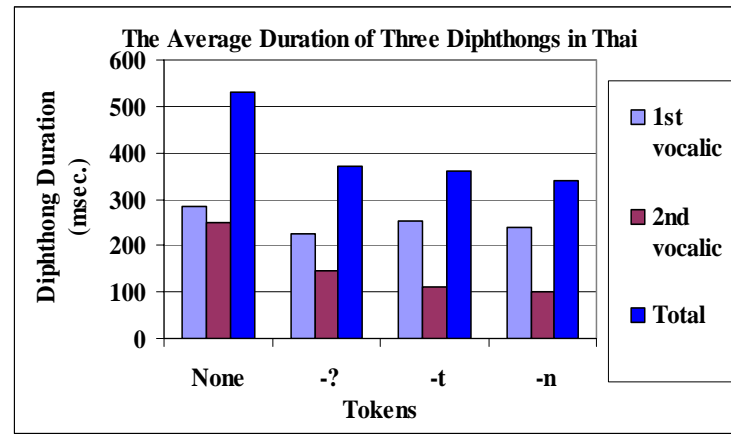


Figure 5: *The average duration of all three diphthongs: /ia/, /ua/, and /ua/ in four conditions.*

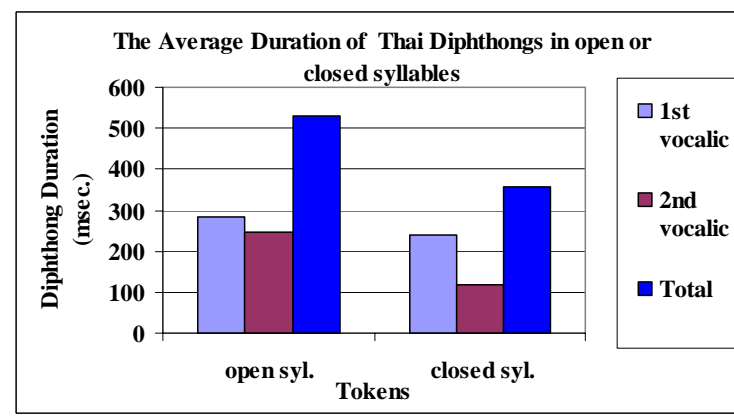


Figure 6: *The average duration of diphthongs in open and closed syllables.*

From Figures 2-4 above, it can be seen that the durations of the two vocalic elements among the three diphthongs in each condition (without any final, with final glottal stop, with a final alveolar stop, and with a final alveolar nasal) are in the same range.

Figures 5-6 above summarize the average of the duration of the two vocalic elements of all three diphthongs in each condition, as stated above. The results show that it can be clearly seen that in all conditions the first vocalic element is longer than the second vocalic element. This result correlates with the previous finding in Roengpitya (2001 and 2002) that the first vocalic component is a prominent part in distinguishing the three phonemic diphthongs in Thai.

The results of this paper, as seen in Figure 6, further reveal that the difference between the durations of the first and the second vocalic elements are greater for the tokens in closed syllables (the first vocalic element is 34% longer than the second vocalic element) than for the tokens in open syllables (the first vocalic element is only 7% longer than the second vocalic element).

The next result agrees with the previous study in the same previous literature that the total duration of diphthongs in open syllables is longer (about 174 msec.) than the total duration of diphthongs in closed syllables.

Further details report that both the first and the second vocalic elements of diphthongs in open syllables are longer than both vocalic elements of diphthongs in closed syllables. The main cue to distinguish the total durations of longer allodiphthongs (in open syllables) and of shorter allodiphthongs (in closed syllables) is the duration of the second vocalic element. The second vocalic element of longer allodiphthongs is about 130 msec. (in average) longer than the one of shorter allodiphthongs; whereas, the first vocalic element of longer allodiphthongs is only about 44 msec. (in average) longer than that of shorter allodiphthongs.

4 Conclusion

Previously (Roengpitya 2001 and 2002), diphthongs were measured for three main components: the first vocalic element duration, the duration of the transition between the first and the second vocalic elements, and the second vocalic element duration.

The aim of the present study, however, has been to apply a new method of diphthong measurement, using the second derivatives of the first two formants to demarcate the offset of the first vocalic element and the onset of the second vocalic element, before measuring the durations of the two main diphthong components without the duration of the transition between the two vocalic elements.

The results from the acoustic study of Thai diphthongs presented here follow the same direction as the results in previous findings on shorter and longer diphthongs in Thai. First, the first vocalic element of all diphthongs is significantly longer than the second vocalic element. The prominent element of a diphthong falls on the first vocalic element rather than on the second vocalic element. The study in this paper has additionally given more details that the difference between the duration of the two vocalic elements is greater for diphthongs in closed syllables than for those in open syllables.

Furthermore, longer allodiphthongs in open syllables have a longer total duration than those of shorter allodiphthongs in closed syllables. The main cue in distinguishing longer allodiphthongs from shorter ones is the duration of the second vocalic element. Shorter allodiphthongs have a shorter second vocalic element than longer diphthongs do. To conclude, though the results of diphthong durations obtained in this study via the use of a new method of measurement, confirmed the main results of the findings in previous literature (Roengpitya, 2001 and 2002), the present study has also provided more details and support for the main findings of previous studies.

In the near future, I aim to apply this method to an investigation of the status of the so-called rising diphthongs in Thai /ai/ and /au/, or /aj/ and /aw/, and examine whether they are diphthongs or a vowel-consonant combination.

From the diphthong study of the present paper, I also hope that the new method of measuring diphthongs introduced in the paper will be another useful option for other researchers to study diphthongs not only in Thai, but also in other languages of the World.

Notes

The research of this paper is funded by the grant for new lecturers, Chulalongkorn University, Bangkok, Thailand. The author feels grateful for the advice and comments from Professor John J.

Ohala (University of California at Berkeley) and Professor Theraphan L-Thongkum (Chulalongkorn University). Thanks to Ronald Sprouse (University of California at Berkeley) for the Matlab routines. Thanks to Paul Boersma and David Weenink for the Praat sound analysis program.

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THE MIDDLE VOICE IN BALINESE

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1 Introduction

Through the examination of middle voice constructions in Balinese, we address two related issues raised in the recent literature dealing with this topic; namely, 1) the nature of the middle voice category (Kemmer 1993) and 2) the distribution of middle constructions (Haiman 1983). But first, a brief introduction to the Balinese structure and morphological middle forms is in order.

Balinese, like many other Indonesian and Philippine languages, has a fluid (or symmetrical) voice system, where there is no basic voice, and whereby either an agentive or patient nominal can be rather freely chosen as a primary grammatical relation (e.g., Subject, Topic, or Pivot). The following examples (1) and (2) illustrate the two relevant transitive constructions, actor-voice (AV) and undergoer-voice (UV) constructions (Arka 1998), which correspond to the Actor-Topic/Focus and Goal-Topic/Focus constructions in Philippine languages.

Transitive clauses

- (1) Actor-voice construction
Tiang nyepak cicing-e. [N-sepak] (N-verb form)
I AV.kick dog-DEF
'I kicked the dog.'
- (2) Undergoer-voice constructions
Cicing-e sepak tiang. [Ø-sepak] (Ø-verb form)
dog-DEF UV.kick I
'I kicked the dog.'

As for intransitive clauses, there are three formal classes: a) ones that have a N-verb form, b) ones that have a *ma*-verb form, and c) those that have a Ø-verb form.

Intransitive clauses

- (3) Cerik-cerik-e ngeling. [N-geling]
child-child-DEF cry
'The children cried.'

- (4) Cerik-cerik-e majujuk. [ma-jujuk]
 child-child-DEF stand up
 'The children stood up.'
- (5) Cerik-cerik-e ulung. [Ø-ulung]
 child-child-DEF fall
 'The children fell.'

Among these intransitive constructions, the *ma*-construction illustrated in (4) provides a point of departure to our inquiry of the middle voice forms in Balinese.

2 *Ma*- As a Middle Marker

In the Balinese grammatical treatments such as Artawa (1994), Clynes (1995), and Arka (1998), the *ma*-construction has generally been considered simply as an alternate or variant construction of the N-prefixed form such as (3). But there are a fair number of *ma*-forms that express those situation types that are coded by what are identified as middle voice constructions in other languages. Accordingly, it is reasonable to consider these forms as middle constructions.¹ The *ma*-prefix, in addition, has several other uses whose semantics are not straightforwardly characterizable in terms of the middle semantics. The following represent the middle and some other uses of the *ma*-prefix.

Morphological middles

- (6) *ma-suah* 'comb (hair)', *ma-suluh* 'look at oneself in the mirror'
ma-sugi 'wash (face)', *ma-ambuh* 'wash one's hair'
ma-baseh 'wash one's hands/feet'
ma-cukur 'shave' (Artawa's dialect) 'cut one's hair' (Arka's dialect)
ma-kuris 'shave one's beard/moustache' (Arka's dialect)
ma-pupur 'powder oneself'
ma-sikat 'brush oneself (e.g., own teeth)'
ma-dengdeng 'dry oneself, sun-bake', *ma-payas* 'dress oneself'
ma-topong 'have a hat on', *ma-song* 'have a hole'
ma-umah 'have a place to stay'
ma-bapa 'has a father-relation with someone' 'call someone *bapa*/father'
ma-adi 'has a sibling relation with someone' 'call *adi*/younger sibling'
ma-linge 'lie face down', *ma-sila* 'sit down cross-legged'
ma-jujuk 'stand up' (straight, not bending), *ma-tangi* 'stand up'
m(a)-engkeb 'hide', *ma-jalan* 'walk', *ma-laib* 'run'
ma-kecog 'jump', *ma-lincer* 'spin', *ma-suryak* 'shout'
ma-takon 'ask', *ma-bangkes* 'sneeze', *ma-kecuh* 'spit'
ma-kenyir 'smile very briefly', *ma-keplug* 'explode (once)'
ma-krepet 'produce cracking sounds'
ma-kebyah 'flash (of light) once', *ma-kudus* 'produce smoke'

Singaraja dialect (Clynes 1995: 264)

- me-kecuh* 'spit', *me-solah* 'dance.HI', *me-tangi* 'wake up'
me-suryak 'cheer', *me-suat* 'answer', *me-gending* 'sing'

me-gendi ‘leave’, *me-keber* ‘fly’, *me-sedédég* ‘lean against’
me-bading ‘turn around’, *me-cuab* ‘sprout out (e.g., blood)’ etc.

Reciprocal *ma-...(-an)*²

- (7) Manuk-e ma-palu.
 roosters-DEF fight.each other
 ‘The roosters are fighting (each other).’
- (8) Wayan lan Made ma-jagur-an.
 Wayan and Made fight.each.other
 ‘Wayan and Made are fighting.’

Resultative *ma-*

- (9) Jajan-e suba ma-gugut.
 cake-DEF already ma-bite
 ‘The cake is already bitten.’

Antipassive *ma-*

- (10) a. Nasi-ne daar tiang.
 rice-DEF eat 1SG
 ‘I ate the rice.’
 b. Tiang ma-daar. (Antipassive)
 1SG ma-eat
 ‘I ate.’
- (11) a. Ia ngeneh-ang tiang.
 3SG think-APPL 1SG
 ‘He is thinking about me.’
 b. Ia ma-keneh **teken** tiang. (Antipassive)
 3SG ma-think to 1SG
 ‘S/he has some feeling (love) for me.’

Inchoative *ma-*

ma-medih ‘become angry’ < *depid* ‘angry’
ma-meseh ‘become swollen’ < *beseh* ‘swollen’
ma-manes ‘become troublesome/ become angry/ start to cause problems’ < *panes*
 ‘hot/angry’

“Pretend” *ma-*

ma-mongol ‘pretend to be deaf’ < *bongol* ‘deaf’
ma-mules ‘pretend to sleep’ < *pules* ‘sleep’

3 On the Nature of the Middle Category

3.1 Reflexives and Middles

The first issue we wish to deal with has to do with the nature of the middle voice category; namely, a topic extensively studied by Kemmer (1993). On the basis of the observation that there are both those languages that do not formally distinguish between reflexive and middle constructions and those that do, Kemmer recognizes two types of languages, which she identifies as “one-form languages” and “two-form languages,” respectively.

Spanish (one-form language)

- (12) a. María **se** vio. (Reflexive)
 MID see
 ‘Maria saw herself.’
 b. María **se** peinó. (Middle)
 MID comb
 ‘Maria combed (herself).’

Swedish (two-form language)

- (13) a. Hon såg **sig själv**. (Reflexive)
 she saw herself
 ‘She saw herself.’
 b. Hon kammade **sig**. (Middle)
 she comb MID
 ‘She combed (her hair).’

Kemmer (1993:28) then goes on to say that: “[t]he marking patterns described above...tell us two things. One is that since reflexive and middle markers often show synchronic and/or diachronic formal relations, we can conclude that there is a semantic relation between the categories that these markers express. On the other hand, the fact that languages often do make a formal distinction between reflexive and middle marking also suggests that there is a semantic distinction between the functional correlates of these formal markers which is susceptible to linguistic coding. It is the two-form languages in which this difference is most clearly manifested.”

On the basis of the considerations expressed above, Kemmer distinguishes reflexive situation types and middle situation types in the following manner. Those constructions that express reflexive situation types are then identified as reflexive constructions, and those that express middle situation types are treated as middle constructions.

Reflexive situation types

- Direct reflexive (*John hit/kicked/killed himself.*)
- Indirect reflexive (*John built a house for himself.*)
- Logophoric reflexive (*She feels herself (to be) abused.*)

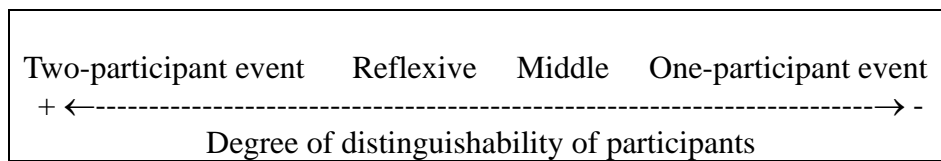
Middle situation types

- Body action middles
 - Grooming actions (wash, shave, bathe, dress, adorn...)
 - Change in body posture actions (sit down, kneel down, lie down...)

Nontranslational motion actions (stretch, bow, turn, shake...)
 Translational motion actions (fly, flee, go away, climb up...)
 Indirect middles (choose, acquire, get, obtain...)
 Emotion middles (be angry, fear, desire...)
 Cognition middles (think, cogitate, consider, deliberate...)
 Spontaneous middles (break, open, freeze, melt...)

As a way of representing the similarity and distinction between reflexive and middle situations, Kemmer (1993:73) proposes the following table, where different situation or event types are placed on the continuum based on the parameter of what she calls “degree of distinguishability of participants.”

Table 1: *Distribution of event types according to Kemmer (1993)*



Our first criticism of Kemmer’s approach arises from the observation in Balinese that the so-called reflexive constructions and the so-called middle constructions are sometimes not easily distinguishable on the basis of meaning. For example, there is an area of overlap between these two constructions as observed by Artawa (1994), who says that “[*ma*-prefix] is used to express a reflexive meaning. The base form can be a noun as in [(14)] or a precatatorial as in [(15)] below.”

(14) Ia sedek mapupur. [ma-pupur]
 3SG ASP put on.powder
 ‘She is putting powder on her face.’

(15) Ia sedek masugi. [ma-sugi]
 3SG ASP wash.face
 ‘She is washing her face.’

“The activity signified by the verb in each of the above examples has a reflexive meaning, that is, the subject of the sentence does something on himself/herself. These sentences are paraphrasable as follows respectively.”

(16) Ia sedek mupurin awak-ne. [N-pupur-in]
 3SG ASP AV.put on.powder self-3SGPOSS
 ‘She is putting powder on herself.’

- (17) Ia sedek nyugiin awak-ne. [N-sugi-in]
 3SG ASP AV.wash.face self-3SGPOSS
 ‘She is (face-)washing herself.’

Indeed, as observed below, there is no clear cutoff point between reflexive situations and middle situations, or the constructions representing them. Kemmer’s representation of the relevant situation types in Table 1 countenances a continuum, and as such our criticism here may appear pointless. But in fact it is not. The point is that drawing a line between reflexives and middles as proposed by Kemmer is arbitrary. Why not, for example, recognize grooming actions as a reflexive situation type, as suggested by Artawa’s observation above? Plausibility of other divisions is evident if one examines middle data from any language at a greater depth, as apparent in the Balinese data examined below and in the Swedish data studied by Sundman (1987) and Tohno (1999).

The question of what really distinguishes reflexive constructions from middles has not been made explicit either in Faltz (1985), who focuses on reflexive constructions; or in Kemmer (1993), focusing on middles. Faltz’s general assumption seems to be that while reflexives are generally transitive, as in the English form *John hit himself*, middles are generally intransitive. This observation is reflected in Kemmer’s representation in Table 1, where middle situations are leaning toward the one-participant (i.e., intransitive) situation type, whereas reflexive situations are positioned closer to the two-participant (transitive) situation type. Unfortunately, actual situations are not as straightforward as these assumptions suggest. There are numerous languages in which certain middle constructions assume the form of a transitive clause. Just to illustrate this point from two quite divergent languages, observe the following patterns from Classical Greek and the Tibeto-Burman language Sanxiang Dulong/Rawang.

Classical Greek

- (18) a. túptomai (Reflexive)
 ‘I strike myself.’
 b. loúomai (Middle)
 ‘I am washing (myself).’
- (19) a. loúō **khitôna** (Active)
 wash.1SG.ACT shirt
 ‘I wash a shirt.’
 b. loúomai **khitôna** (Middle)
 wash.1SG.MID shirt
 ‘I wash my shirt/I wash a shirt for myself.’

Sanxiang Dulong/Rawang (Tibeto-Burman; LaPolla 1996:1943-1945)

- (20) a. aŋ⁵³ sat⁵⁵ -ɕu³¹ (Reflexive)
 3SG hit-MID
 ‘S/he is hitting her/himself.’
 b. aŋ⁵³ et⁵⁵ -ɕu³¹ (Middle)
 3SG laugh-MID
 ‘S/he is laughing.’

- (21) a. aŋ⁵³ a³¹dʒuɯl³¹ a³¹beʔ⁵⁵ (Active)
 3SG mosquito hit
 ‘S/he is hitting the mosquito.’
 b. aŋ⁵³ a³¹dʒuɯl³¹ a³¹beʔ⁵⁵-ɕu³¹ (Middle)
 3SG mosquito hit-MID
 ‘S/he is hitting the mosquito (on her/his body).’

(19a) and (21a) are transitive active sentences, with *khitôna* ‘shirt’ and *a³¹dʒuɯl³¹* ‘mosquito’, respectively, as a direct object. Notice that (19b) and (21b) have the middle inflection/affixation, formally indicating that they clearly are middle constructions, but they also contain the same direct object as the corresponding transitive active construction. Thus there are middle constructions that are syntactically transitive.

More disturbing to Kemmer’s positioning of reflexive and middle situations in Table 1 is that these middle constructions with a direct object, hence the middle situations they represent, clearly involve two highly distinguishable participants, requiring their positioning farther toward the two-participant event than reflexives.³

Finally, it is observed that in certain languages (e.g., Greek) a reflexive pronoun and a middle inflection can co-occur, indicating that reflexive and middle constructions are not disjoint.

Classical Greek

- (22) èautòn apokúrtesthai ‘to hide himself’ (Smyth 1956:391)

Modern Greek

- (23) iperaspízete ton eaftó tu (Manney 2000:51)
 defend.3SG.MID the self.ACC 3SG.GEN
 ‘He’s defending himself (with a great deal of passion and zeal).’

3.2 Functional-Typological Approach

The problem inherent in the past studies dealing with reflexive and middle constructions such as Faltz (1985) and Kemmer (1993) is due to their failure to follow the basic procedures of functional-typology. The functional-typological methods, as practiced even in such early typological studies of causative constructions as Shibatani (1973, 1976), require a semantic definition of the functional domain to be typed. Approaching a functional domain based on the form, e.g., middle morphological marking or causative marking, constitutes only an initial step in establishing form-function correlation in this framework. Both a thorough language internal and a crosslinguistic study require us to step back from the initial, form-based observation and to posit a form-independent definition for the particular functional domain under investigation. This is because, for one thing, different languages may use different grammatical resources in the expression of a similar function; and, for another, a language may possess more than one formal expression-type for the relevant functional domain.

Form-independent definitions of voice domains have been notoriously difficult and controversial. Indeed, in the past a coherent and comprehensive conceptual framework for various voice phenomena has been lacking. Much progress, however, has been made in

recent years. Shibatani (2006), for example, sees voice as grammatical categories representing different aspects of the evolution of an action (including a process). Under this view, three major parameters are recognized, each representing a different evolutionary phase of an action. The following summarizes these and some subparameters and the relevant voice oppositions and grammatical constructions:

Voice parameters

1) Origin of an action

- (a) How is the action brought about? (Active-spontaneous)
- (b) Where does the action originate? (Active-passive; Direct-inverse; Split-ergativity; Causatives)

2) Development of an action

How does the action develop—beyond the agent or confined to the agent? (Active-middle; see below)

3) Termination of an action

- (a) Does the action develop to its full extent and affect the patient; or does it fail to do so? (Ergative-antipassive; Conatives; Partitive constructions)
- (b) Does the action develop further than its normal course such that the effect is registered in an entity beyond the direct participants of the event? (Benefactives/applicatives; External possession; Ethical datives; Adversative passives)

As indicated above, the active-middle opposition pertains to the developmental phase of an action. The question is essentially whether an action (or process) extends beyond the sphere of an agent and develops in another entity (active voice) or it is confined within the sphere of the protagonist (middle voice).

Active-Middle opposition

Active voice:

The action is transferred to and develops in an entity beyond the sphere of the agent.

Middle voice:

The development of an action/process is confined within the sphere of the protagonist.

The definition of the middle voice category in terms of the confinement of an action/process within the sphere of the protagonist is a traditional one, as can be seen from Benveniste's (1950/1971:148) characterization of the active-middle opposition: "In the active, the verbs denote a process that is accomplished outside the subject. In the middle, which is the diathesis to be defined by the opposition, the verb indicates a process centering in the subject, the subject being inside the process."

Once the semantic characterization of the middle voice domain is reached, our next task is to collect various forms representing the meaning of this domain. Given the above definition of the middle category, it is easy to see that the so-called reflexive constructions are middle expressions par excellence. For example, if one transfers one's action of killing to another person and the process of dying is achieved in the latter, we obtain an active

situation, whereas if one confines such an action within one’s own domain, we would obtain a middle situation expressed by a reflexive construction such as the English form *John killed himself*. Reflexive constructions of this type are then nothing but periphrastic middle constructions, where a middle marker (the reflexive pronoun *himself*, in our example) occurs as an independent word.⁴

If one makes someone squat, we obtain an active situation. If, on the other hand, one confines the activity of squatting to oneself, we obtain a middle situation, expressible in an intransitive construction as in the English form *John squatted*. This form, while there is no overt middle marking, is a middle construction because it represents a middle situation, as much as a verb such as *kill* is a causative verb despite its lack of a causative marker. What verbs such as *squat*, *shave* (as used in *John is shaving*) and, in fact, all underived intransitive verbs represent is a class of lexical middles. Our claim, essentially, is that the traditional transitive-intransitive distinction is rooted in the active-middle voice opposition.

Balinese *ma*-marked middles represent a class of morphological middles, where middle marking is realized morphologically, i.e., as part of a word. What Kemmer (1993) and others in the past have concentrated on in the name of middle construction are these morphological middles. But a typological study demands that we examine the entire spectrum of middle constructions, ranging from the periphrastic to the lexical type (as in the case of causatives), and to determine the form-function correlation. Indeed, not only causatives and middles, but the whole host of constructions come in the three formal types, which must be said to typically form a continuum (see Shibatani and Pardeshi 2002). For example, reciprocals may be lexical (e.g., English *marry*, *quarrel*), morphological (e.g., Japanese *naguri-a(w)-u* ‘hit each other’), or periphrastic (e.g., *John and Bill hate each other*). English negation shows three types also: e.g., lexical *deny*, morphological *impossible*, and periphrastic *not possible*.

The organization of the active-middle opposition is thus expressible as in the following table, where the correspondence between our representation and Kemmer’s is also indicated at the bottom.⁵

Table 2: *Organization of the active-middle opposition*

Active-Middle Opposition			
<i>Active voice category</i>	<i>Middle voice category:</i>		
	Periphrastic middle	Morphological middle	Lexical middle
	+ ←-----→ -		
	<i>Productivity</i> ⁶		
Two-participant event	Reflexive	Middle	One-participant event

Returning to Balinese, we now recognize that the language has all three types of middle represented.

Table 3: *Balinese middle types*

Periphrastic.....	Morphological.....	Lexical
<i>nyagur awak</i> - 'hit oneself'	xxx	xxx
<i>nyukur awak</i> - 'shave oneself'	<i>ma-cukur</i> 'shave'	xxx
xxx	<i>ma-jalan</i> 'walk'	xxx
(causative + <i>awak</i>)	xxx	<i>nyongkok</i> 'squat'
(causative+ <i>awak</i>)	xxx	<i>negak</i> 'sit'

4 Distribution of Middle Forms

Having identified the types of middle form found in Balinese, our next task is accounting for the form-function correlation; i.e., how the different types of middle form are distributed over the middle domain. Again, some progress toward this goal has been made in recent years. We will specifically examine the account offered in Haiman (1983). In this paper, Haiman compares what he calls “reduced” and “full” reflexive forms and proposes a functional explanation for their distribution. The data examined are illustrated by the following examples from English and Russian, where the (a) sentences have a full form and the (b) sentences a reduced form.

English

- (24) a. Max kicked **himself**.
 b. Max washed.

Russian

- (25) a. On porezal **sebja**.
 he cut self
 'He cut himself.'
 b. Ona odevaet-**sja**.
 she dress-MID
 'She is getting dressed.'

In accounting for the distribution of these forms, Haiman (1983:803) distinguishes between what he calls “extroverted verbs” and “introverted verbs,” whose definitions are given as below:

Extroverted verbs: “describe actions which the subject usually performs toward others”

Introverted verbs: “refer to actions which one generally performs upon one’s self”

Capitalizing on Zipf’s (1935) observation on the correlation between the form size and the familiarity of concept, Haiman tells us that: “the **full form** corresponds to an unexpected object, and the **reduced form** to an expected object—where both are

coreferential with the subject of the verb” (1983:803; emphasis added). That is, with an extroverted verb like *kick* and *cut*, the normal expectation is that the action is directed toward others. The full reflexive forms in (24a) and (25a) indicate unexpected situations where extroverted actions are directed to the patient coreferential with the subject. When introverted activities are directed toward the subject in accord with the normal expectation, the reduced forms would be used, as in the (b) forms above. In short, “[w]e have then an economic explanation for the null [or reduced] expression of the reflexive pronoun with introverted verbs: the familiar or expected case is signaled by a reduced form” (Haiman 1983:803).

Haiman’s account is an excellent demonstration of how cognition and grammar interact, and for this reason it is a functional explanation par excellence. Though on the right track, Haiman’s account still leaves many details to be filled in. In the next section, we will take up some of the residual issues associated with Haiman’s functional explanation. A more substantive argument against Haiman’s formulation of economic motivation will subsequently be advanced.

5 Continuum in the Balinese Middle

An initial problem with Haiman’s account has to do with the binary distinction posited between extroverted and introverted verbs. A closer examination in Balinese and other languages reveals that there is no clear-cut boundary between these two types of verbs; rather, verbs form a continuum. This is shown in the patterns of active-middle formation in Balinese.

The first pattern involves unambiguous extroverted verbs. Here i) the active verb form is underived, ii) no morphological middle formation in term of the *ma*-prefix is permitted, and iii) the middle situation is expressed exclusively by the periphrastic form involving the reflexive *awak*, as seen below:

Pattern 1. Underived active form; no *ma*- form; reflexive (periphrastic middle) forms only (stab, kick, hit, etc.).

- (26) a. Tiang nebek Wayan. (Active)
 I N-stab Wayan
 ‘I stabbed Wayan.’
- b. Tiang nebek awak tiang-e. (Periphrastic middle)
 I N-stab self I-POSS
 ‘I stabbed myself.’
- c. *Tiang ma-tebek. (Morphological middle)
 I MID-stab
 ‘I stabbed myself.’

We have been able to identify only one verb (*gagas* ‘scratch’) exemplifying the second pattern, which deviates from the first pattern in that the *ma*-morphological middle is marginally permitted. Instead of the simple *ma*-form, the reciprocal *ma*-...-*an* form may be used, as in (d) below.

Pattern 2. Underived active form; simple *ma*-form marginal; reflexive form preferred (scratch).

- (27) a. Tiang ngagas Wayan. (Active)
 I N-scratch Wayan
 ‘I scratched Wayan.’
- b. Tiang ngagas awak tiang-e. (Periphrastic middle)
 I N-scratch self I-POSS
 ‘I scratched myself.’
- c. [?]Tiang ma-gagas. (Morphological middle)
 I MID-scratch
 ‘I scratched myself.’
- d. Tiang ma-gagas-an.
 ‘I scratched myself.’

The third pattern involves i) underived active verb forms, and both ii) periphrastic and iii) morphological middles are permitted with equal facility. The periphrastic forms here do not require extraneous assumptions about the agent performing the action as in some other cases studied below. We characterize this type of periphrastic middle expression as a “natural” reflexive form. Again, there are not many verbs that display this pattern, the verb *cukur* ‘shave’ in Ketut Artawa’s dialect, and the verb *kuris* ‘shave’ in I Wayan Arka’s dialect being the two we have been able to identify.

Pattern 3. Underived active form; both *ma*-forms and natural reflexive forms equally possible

- (28) a. Wayan nyukur Ketut. [N-cukur] (Active)
 Wayan N-shave Ketut
 ‘Wayan is shaving Ketut.’
- b. Wayan nyukur awak-ne. (Periphrastic middle)
 Wayan N-shave self-3POSS
 ‘Wayan is shaving himself.’
- c. Wayan ma-cukur. (Morphological middle)
 Wayan MID-shave
 ‘Wayan is shaving.’

Pattern 4 involves active forms derived via applicativization, while both *ma*-forms and reflexive forms obtain with equal facility. A fair number of grooming actions are expressed by this pattern. Unlike *cukur* and *kuris*, which are free root verbs, the forms showing the following pattern are either 1) bound-root verbs (the so-called “precatatorial” forms; see Artawa 1994), which cannot occur without some affix being attached, or 2) nouns functioning as a verb with the aid of an affix. *Sugi* ‘wash (face)’, *baseh* ‘wash (limbs)’, and *ambuh* ‘wash (hair)’ are bound-root verbs, while *suah* ‘comb’, *sikat* ‘brush (teeth)’, and *pupur* ‘powder (face)’ are noun-based. The essential difference between Pattern 3 and 4 is that forms belonging to the latter require conversion to a syntactically

viable verb form via applicativization. Otherwise, all grooming actions can be expressed either by *ma*-morphological form or the natural reflexive form.

Pattern 4. Derived active forms; both *ma*- and natural reflexive forms obtain.

- (29) a. Tiang nyuah-**in** panak tiang-e. (Applicative Active)
 I N-comb-APPL child I-POSS
 ‘I combed my child.’
- b. Tiang nyuah-**in** awak tiang-e. (Periphrastic middle)
 I N-comb-APPL self I-POSS
 ‘I combed myself.’
- c. Tiang ma-suah. (Morphological middle)
 I MID-comb
 ‘I combed myself.’

Pattern 5 has active forms derived through causativization, and *ma*-middle forms. Periphrastic middles in the reflexive form are possible, but unlike the natural reflexive forms seen above, their use is associated with extraneous assumptions about the agent; e.g., an invalid trying hard to stand up, lie down, etc. That is, these periphrastic middles express more unusual, deliberately performed middle actions,⁷ indicating that *ma*-forms are preferred middle forms for expressing natural middle actions.

Pattern 5. Derived active forms; both *ma*-forms and deliberate reflexive forms possible (stand up, lie down, walk)

- (30) a. Tiang nyujuk-**ang** Wayan. (Causative active)
 I N-stand up-CAUS Wayan
 ‘I stood up Wayan.’
- b. Tiang nyujuk-**ang** awak tiang-e. (Periphrastic middle)
 I N-stand up-CAUS self I-POSS
 ‘I stood up myself.’
- c. Tiang ma-jujuk. (Morphological middle)
 I MID-stand up
 ‘I stood up.’

The next pattern, Pattern 6, also has causative active forms like Pattern 5, but unlike the latter, it requires a periphrastic causative, rather than the morphological *-ang* causative.⁸ The causative-based periphrastic middles here also convey deliberate middle actions.

Pattern 6. Periphrastic causative active forms; *ma*-middles; periphrastic causative reflexive forms (walk, fly). Those *ma*-marked middles whose protagonists are agentive follow this pattern.

- (31) a. *Tiang ngae Wayan ma-jalan.* (Periphrastic causative)
 I make Wayan MID-walk
 ‘I made Wayan walk.’
- b. *Wayan ma-jalan.* (Morphological middle)
 Wayan MID-walk
 ‘Wayan walked.’
- c. *Wayan ngae awak-ne ma-jalan.* (Periphrastic middle)
 Wayan make self-3POSS MID-walk
 ‘Wayan made himself walk.’

Pattern 7. Morphological causative active forms; lexical middles, and deliberate reflexive forms (sit, bathe). Those lexical middles whose protagonists are simultaneously agent and patient follow this pattern.

- (32) a. *Wayan negak-ang pakak-ne.* (Causative Active)
 Wayan N-sit-CAUS son-3POSS
 ‘Wayan sat his son.’
- b. *Wayan negak-ang awak-ne.* (Periphrastic middle)
 Wayan N-sit-CAUS self-3POSS
 ‘Wayan sat himself.’
- c. **Wayan ma-tegak.* (Morphological middle—not possible)
 Wayan MID-sit
 ‘Wayan sat.’
- d. *Wayan negak.* [N-tegak] (Lexical middle)
 Wayan N-sit
 ‘Wayan sat.’

Pattern 8. Periphrastic causative active forms; lexical middles, periphrastic causative reflexive (swim, etc.). Those lexical middles whose protagonists are agentive follow this pattern.

- (33) a. *Wayan ngae Ketut nglangi.* (Periphrastic causative active)
 Wayan make Ketut swim
 ‘Wayan made Ketut swim.’
- b. *Ketut nglangi.* (Lexical middle)
 Ketut swim
 ‘Ketut swam.’
- c. *Wayan ngae awak-ne nglangi.* (Periphrastic middle)
 Wayan make self-3POSS swim
 ‘Wayan made himself swim.’

The Balinese patterns above indicate that certain actions, e.g., stabbing, hitting, kicking, are clearly treated as extroverted verbs with unmarked active forms and with periphrastic (or “full”, to use Haiman’s characterization) middles. They also show that activities like sitting and swimming are treated as introverted activities in Balinese, where the middle situation receives an unmarked (lexical middle) expression, and where the

active situation requires a marked (causativized) expression. However, between these two polar patterns predicted by Haiman's account, there are activities that are treated differently from these. Especially noteworthy are grooming actions such as shaving and combing (see examples in 28 and 29 above) that require marking only in middle expressions or in both active and middle expressions. The marking pattern here indicates that these activities are categorized as those that can naturally be applied to others as well as to oneself. Notice further that these situations can be naturally expressed by periphrastic middles (cf. 28b and 28c, and 29b and 29c), indicating that they are construable either as a reflexive situation type or a middle situation type, according to Kemmer's classification.

It must be pointed out here that an account based on the markedness pattern like the above has a limitation. Whether or not a particular introverted action is expressed as an unmarked lexical middle form is not entirely predictable. This is easy to see when two languages are compared. In Balinese, while *ma-jujuk* 'stand (up)' has an overt middle marking, *negak* [N-tegak] 'sit (down)' is lexical without any morphological middle marking.⁹ In German, however, the pattern is reversed such that *sich hinsetzen* 'sit down' has a middle marker, while *aufstehen* 'stand up' does not. In Balinese *ma-keber* 'fly' is middle-marked, but *nlangi* [N-langi] 'swim' is not. German marks *sich schütteln* 'shake', but not *zittern* 'tremble'.

What we see here is a limitation of a synchronic account. Perhaps a diachronic explanation, such as the one based on a diachronic spread of middle marking (see Kemmer 1993), is required for these irregular patterns. However, even a diachronic account would have a tough time explaining why the verb for stand up gets the middle marker prior to the verb for sitting down in Balinese, while the order is reversed in German. Perhaps the following discussion may shed some light on this kind of question.

5.1 Beyond Verbs

While the above discussion drawing upon Haiman's (1983) insight has been carried out in terms of individual verbs, actually some data suggest that what is really relevant are situation types and how specific situations are construed. This can be seen from the use of the verb of seeing in Swedish. The following pattern shows that while seeing oneself directly is construed as an extroverted activity applied to oneself requiring a periphrastic expression, seeing oneself in the mirror is construed as a type of grooming action, which is normally expressed by the clitic middle form.

Seeing in Swedish (Sundman 1986, Tohno 1999)

- (34) a. Hon såg ***sig/sig** **själv**.
 'She saw herself.'
 b. Hon såg **sig (själv)** **i spegeln**.
 'She saw herself in the mirror.'

In Balinese seeing oneself in the mirror has a special word (*ma-suluh*) distinct from the one (*tingalin*) used for seeing someone/something else.

- (35) a. Tiang ma-suluh di kaca-e.
 I MID-see in mirror-DEF
 'I saw myself in the mirror.'

- b. *?Tiang nyuluh-in Wayan di kaca-e.
 I N-see-APPL Wayan in mirror-DEF
 'I saw Wayan in the mirror.'
- c. Tiang ningal-in Wayan di kaca-e.
 I N-see-APPL Wayan in mirror-DEF
 'I saw Wayan in the mirror.'

5.2 Different Language, Different Logic

Speakers of different languages (or even speakers of a single language) may construe the same situation differently, depending on the different logic they use. In Balinese and English, committing suicide by hanging is construed as a case of extroverted action applied to oneself, for, presumably, one normally hangs other things (including people!?) than oneself.

- (36) a. Ketut ngantung I Made. (Active)
 N-hang
 'Ketut hanged I Made.'
- b. Ketut ngantung awak-ne. (Periphrastic middle)
 N-hang self-3POSS
 'Ketut hanged himself.'
- c. Ketut ma-gantung. (Resultative)
 'Ketut is hanged.'

The *ma*-form above is interpreted as a resultative and does not allow a middle interpretation.

- (37) a. John hanged Bill. (Active)
 b. John hanged himself. (Periphrastic middle)
 c. *John hanged. (Lexical)

In Swedish and Japanese, however, committing suicide is construed as something one normally does to oneself, i.e., like grooming actions. The likely logic here is that people do not in fact typically go out and hang other people; if hanging is ever done, it is likely to be done to oneself. Thus, it is the short clitic forms that are used in Swedish, the pattern seen for grooming actions.

Swedish

- (38) a. Han hängde sig.
 he hanged MID
 'He hanged himself.'
- b. Han sköt sig i huvudet.
 he shot MID in head
 'He shot himself in the head.'

In Japanese those activities that one typically applies to oneself are expressed without the use of the reflexive possessive form, as in (39b) below, while such a form is usable for activities usually applied to others, as in (39a).

Japanese

- (39) a. Taroo-wa zibun-no atama-o tatai-ta.
 Taro-TOP self-of head-ACC hit-PAST
 ‘Taro hit his own head.’
 b. Taroo-wa ([?]zibun-no) ha-o migai-ta.
 Taro-TOP self-of teeth-ACC polish-PAST
 ‘Taro brushed (his) teeth.’

(39b), with the reflexive possessive form, is usable only in a context where Taro’s teeth are contrasted with other’s; e.g., Taro brushed his own teeth after brushing Fido’s. Now, hanging oneself in Japanese, like Swedish, is construed similarly to grooming actions, like brushing one’s teeth.

- (40) Taroo-wa ([?]zibun-no) kubi-o tut-te sin-da.
 Taro-TOP self-of neck-ACC hang-CONJ die-PAST
 ‘(lit.) Taro died hanging (his) neck.’

5.3 Circumscribing One’s Personal Sphere

Finally, languages differ with regard to the correlation of middle marking and circumscribing one’s personal sphere. In many languages body parts, possessed objects, and sometimes one’s own relatives or even an entity temporarily located in one’s vicinity are construed as belonging to one’s sphere, and one’s action affecting them is construed similarly to affecting oneself triggering morphological middle marking.

Spanish

- (41) a. María lavó su blusa. (Active)
 ‘Maria washed her blouse.’
 b. María **se** lavó **la cara**. (Middle)
 ‘Maria washed her face.’
 c. María **se** lavó la blusa. (Middle)
 ‘Maria washed the blouse for herself.’

Classical Greek

- (42) loúomai khitôna (Morphological middle)
 wash.1SG.MID shirt
 ‘I wash my shirt/I wash a shirt for myself.’

Sanxiang Dulong/Rawang

- (43) aŋ⁵³ a³¹dzul³¹ a³¹beŋ⁵⁵-ɕu³¹ (Middle)
 3SG mosquito hit-MID
 ‘S/he is hitting the mosquito (on her/his body).’

Sanskrit (Klaiman 1988)

- (44) Devadatto bhārāym upayaccha-te. (Middle)
 Devadatta wife have relations-3SG.MID
 ‘Devadatta has relations with his (own) wife.’

Notice the difference between Spanish and Classical Greek. In the former, (41b), while washing one’s face triggers middle marking, washing one’s shirt, (41a), does not. The middle form in (41c) is a self-benefactive middle expression. In Classical Greek, on the other hand, washing one’s shirt triggers the middle inflection. Both Sanxiang Dulong/Rawang and Sanskrit extend those entities triggering middle marking to a greater extent than many other languages.

In Balinese *ma*-marked middle constructions are all syntactically intransitive, and affecting those entities belonging to one’s sphere does not trigger *ma*-marking as long as they are overtly expressed as an object.

Balinese

- (45) a. Wayan ma-kuris. (Morphological middle)
 Wayan MID-shave
 ‘Wayan is shaving.’
 b. Wayan nguris kumis awak-ne. (Periphrastic middle)
 Wayan N-shave beard self-3POSS
 ‘Wayan is shaving his own beard.’
 c. *Wayan **ma**-kuris kumis awak-ne.
 d. Wayan nguris kumis panak-ne. (Active)
 Wayan N-shave beard son-3POSS
 ‘Wayan is shaving his son’s beard.’

Ma-forms are possible as long as an affected body part is only lexically implied as in the following examples:

- (46) a. Wayan ma-ambuh.
 Wayan MID-wash (self’s hair)
 ‘Wayan washed his hair.’
 b. Wayan ma-baseh.
 Wayan MID-wash (self’s limbs)
 ‘Wayan washed his limbs.’

While morphological and lexical middles in Balinese are strictly intransitive in form, periphrastic middles are syntactically transitive, just as the lexical and periphrastic middles in English are; *John washed*, *John squatted* vs. *John washed himself*, *John hit him*. In languages like Classical Greek and some others referred to above, middles come in both intransitive and transitive forms.

6 Form or Function?

In this final section we shall examine Haiman's (1983) formulation of economic motivation more critically. As can be seen in the following quote, and as indicated by the earlier quotes from this work, Haiman's explanation makes crucial reference to a formal property, namely "fullness" vs. "reducedness" of the relevant form: "economic motivation establishes a correspondence between a linguistic dimension (transparency/opacity, full/reduced form) and a conceptual dimension (unfamiliar/familiar, unpredictable/predictable)... **Reduction of form** is an ECONOMICALLY motivated index of familiarity." (802; emphasis added)

Haiman's formulation of economic motivation is based on the seminal work on the functional account of form-function correlation by Zipf (1935). As Haiman's quote above implies, Zipf talks about both formal and semantic factors correlating with the familiarity of concept and the frequency of mention, as is clear in the following quotes:

Formal complexity and familiarity of concept

"The magnitude of complexity of speech-configuration which bears an inverse (not necessarily proportionate) relationship to its relative frequency, reflects also in an inverse (not necessarily proportionate) way the extent to which the category is familiar in common usage." (272)

Semantic distinctness and frequency

"The degree of distinctness of meaning seem[s] to bear an inverse relationship to F[requency] and C[rystalization] [of the configuration]." (157)

We consider the semantic factor, namely the distinction between semantically transparent form and opaque form, more important than the property of formal complexity or size. For one thing, form varies from one language to another; accordingly an account based on a formal property is bound to be less viable as a universally applicable explanation than one functionally based. Secondly, functionalists must ask what formal distinctions in complexity or size really mean. Our interpretation of the distribution of middle forms focuses on the factor of semantic transparency. The correlation of periphrastic middle constructions with less familiar or unusual situations, as discovered by Haiman, points to the correlation between semantically transparent forms and unusual situations. A periphrastic construction in which a middle marker (e.g., a reflexive form) is distinctly expressed is more semantically transparent than morphological or lexical constructions, in which a middle marker is either part of a word or non-existent.

A crucial point to be made is that morphological constructions vary in their property of semantic transparency. Semantic transparency of morphological constructions correlates with the productivity of the form. The higher the productivity is, the more transparent the form is semantically. High productivity means a high degree of recurrence of the element in question. The form-meaning correspondence of such a productive pattern is easily discernible, as the practice of elementary morphological analysis reveals. Lexical and irregular morphological forms are semantically opaque in that a regular form-meaning

correspondence is either impossible or difficult to extrapolate. We then see a certain similarity between periphrastic constructions and highly productive morphological forms. Though they inevitably vary in the formal property, they are functionally alike in that both are highly semantically transparent. The generalization drawn is the correlation between (semantically transparent) productive forms (whether periphrastic or morphological) and unusual situations.

Our approach makes an important empirical prediction that Haiman's form-based account fails to make. The case in point is a language in which there are multiple morphological middle forms. For example, Tarascan, a language isolate in Mexico, has the following middle suffixes (Nava and Maldonado 2002, p.c.): *-nharhi* 'face', *-kurhi* 'waist', *-ts'i* 'head', *-mi* 'liquid', *-ki*, *-pi*, *rhi-*, *-rha*, *-ra*, etc. Some of these suffixes are still etymologically transparent, while others are not. The question is, which form is "full" and which is "reduced"? We need to know this in order to apply Haiman's formulation of economic motivation. But it is clear that the answer is not obvious, if answerable at all—they are all suffixes. If the full-reduced distinction were to be made in terms of the number of phonemes involved, *-nharhi* would count as the longest, hence the full form, with the prediction that it would be used for middle situations involving extroverted actions. As it turns out, this prediction is incorrect.

The suffixes such as *-nharhi* 'face' and *-mi* 'liquid' are unproductive and usable only for situations involving (part of) a face and liquid, as in the following examples.

- (47) a. Dora *chkú-nharhi-s-0-ti*
 Dora sharp-pain-forehead-PERP-PRES-IND.3
 'Dora has had sharp pain in the face/eyes.'
- b. *itsí arhu-mi-s-0-ti*
 water divide-LIQ.MID-PERF-PRES-IND.3
 'The water separated (the clean from the dirty water).'

The most productive middle suffix in Tarascan happens to be another etymologically transparent form *-kurhi* 'waste', which expresses, among others, decausative middle and self-benefactive middle situations, as in the following forms:

- (48) a. *enanti jeya-kurhi-s-0-ti*
 guayaba squeeze-MID-PERF-PRES-IND.3
 'The guayaba got squeezed.'
- b. Dora *urhu-kurhi-s-0-ti* *tsíri-ni*
 Dora grind-REFL-PERF-PRES-IND.3 corn-OBJ
 'Dora ground the corn for herself (her corn).'

And it is this productive suffix that is used for unusual middle situations, as in

- (49) a. *Marcosí ata-kurhi-s-0-ti*
 Marcos hit-MID-PERF-PRES-IND.3
 'Marcos hit himself.'

- b. Marcosī exe-**kurhi**-s-0-ti
 Marcos see-MID-PERF-PRES-IND.3
 ‘Marcos saw himself.’

Our formulation of the principle governing the relevant form-function correlation takes the following form:

Principle of Functional Transparency

Less familiar or unusual situations require semantically/functionally more explicit coding.

While the functional principle above avoids mention of a formal property, form, in fact, also matters. Form differs in the degree of semantic/functional transparency:

- Periphrastic expression with a clearly distinguishable form is semantically more explicit than morphological expression in terms of affixation or inflection.
- Productive morphology is semantically more transparent than irregular morphology or no morphology.

Our conclusion, then, is that both meaning and form are important. This benign conclusion is only natural as meaning is expressed through form. The question of whether form matters **only** insofar as meaning rides on it requires further study.

Notes

We are indebted to I Wayan Arka for some relevant data and a useful discussion on Balinese. An earlier version of this paper was presented as a plenary talk at the XIIIth South East Asian Linguistics Society (SEALS) Conference at UCLA on May 3, 2003. The preparation of the final version of the paper was in part supported by a Summer Research Grant of the School of Humanities at Rice University.

1. Arka (unpublished) now recognizes some of the *ma*-forms as middle expressions.
2. We consider reciprocals to be a type of middle construction.
3. Kemmer confuses the grammatical notion of semantic roles and event participants. A reflexive construction such as *John hit himself* involves two semantic roles of Agent and Patient, as does a regular transitive clause such as *John hit Bill*. But a simple reflexive construction of this type expresses a situation involving a single participant, who plays the double role of Agent and Patient. On the other hand, a middle construction like Balinese *Ketut ma-jalan* ‘Ketut walked’ involves one semantic role and a single participant. Thus as far as the semantic role configuration is concerned, reflexive constructions are closer to the two-participant event type, but they are closer to the one-participant event type with respect to the number of participants—in fact, much closer to this pole than some middle constructions involving two distinguishable participants examined here.
4. Krusinga (1925) correctly recognizes a category of reflexive voice (our middle voice category) in English. His characterization of voice and definitions of the voice

categories in English below are a fair representation of the traditional grammar: “Voice is the name for a verbal form according as it primarily expresses the action or state with respect to its subject, which may be represented as acting (*active voice*), or undergoing (*passive voice*), or affected by its own action (*reflexive voice*). (167-168)

5. As is clear from the earlier discussion, the two conceptions do not match perfectly. In particular, we recognize two-participant middle situations and the corresponding transitive middle constructions.
6. The degree of productivity does not match the syntax-morphological distinction. As in the case of morphological causatives, there are highly productive morphological middles. Productivity is a more important parameter than the formal distinction between periphrastic and morphological expressions in both causatives and middles—see below.
7. Periphrastic middles of this type are usable more regularly in the imperative mood, though its use in this context also implies that the addressee was somewhat unwilling to do the specified act.
8. Morphological *-ang* causative forms are possible with this type of agentive intransitive verb. However, they convey what Shibatani and Pardeshi (2002) call “sociative causation.” *Tiang nyalan-ang Wayan* ‘I made Wayan walk’, for example, expresses a situation where the causer made the causee walk by holding the latter’s arm and walking with him. The situation expressed differs from both direct causation expressed by other *-ang* causatives, in which the causee is patientive, and indirect causation expressed by the periphrastic *ngae*-causative discussed here (see 31a), in which the causer does not directly participate in the caused event. See Shibatani and Pardeshi (2002) for a detailed discussion on the distinctions drawn here.
9. Notice that the N-prefix observed in these lexical middles does not mark “middleness,” as it also occurs in an active transitive clause; it instead marks the agentive status of the primary argument.

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ACCOMPLISHMENT CONSTRUCTIONS IN THAI: DIVERSE CAUSE-EFFECT RELATIONSHIPS

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1 Introduction

In his work on the typology of event integration, Talmy (2000) points out the difference between English and Mandarin Chinese verbs of agentive activity in their preferred patterns of lexicalization with reference to the degree of fulfillment of the agent's intention to bring about a desired outcome of the action. According to him, English activity verbs are predominantly "fulfilled verbs" which express that an agent acts on a patient with the intention to cause a desired result and the intention is fulfilled (i.e. the result is realized), whereas Mandarin Chinese activity verbs are characteristically "conative verbs" which express not attained-fulfillment of the agent's intention but moot-fulfillment or implied-fulfillment, that is, the realization of the intended result is moot or merely implied and therefore it is defeasible. Whether the intended result is realized or not is beyond the referential scope of the lexical meaning of Mandarin Chinese activity verbs. To represent the achievement of the goal of the agent's action, compounds consisting of an activity verb and a change of state verb or state verb (e.g. **dǎ pò** 'hit + broken') are used in Mandarin Chinese. Similarly, the Thai language employs serial verb constructions to analytically represent the complex event beginning with the agent's action and ending up with the fulfillment of the agent's intention. However, resultative situations expressed by Thai serial verb constructions do not necessarily involve the agent's intention.

This study aims at investigating the semantics of accomplishment [1] constructions in Thai. In particular, I examine the event structure of events encoded by Thai accomplishment constructions. In this paper I use the term "accomplishment construction" to refer to Thai serial verb construction composed of two verb phrases [2] that represents a complex event consisting of two relevant events in succession, i.e., cause and effect events. Put differently, the accomplishment construction is a linguistic device to iconically encode two serial events holding a certain cause-effect relationship. The causal relation between the two events, namely a cause event brings about an effect event, can be graphically represented as follows: CAUSE → EFFECT. This invariable sequence of the two events corresponds to the fixed order of two verb phrases in the construction. As illustrated in (1) to (5) below, the former verb phrase (VP1) and the latter verb phrase (VP2) respectively represent a preceding cause event and a following effect event.

The examples below exemplify different causal relations between cause and effect events. In (1), someone's beating a box yields an expected broken state of the box. In (2), someone's spending money leads to disappearance of all the money. In (3), someone's drinking bootleg whisky leads to his inebriety. In (4), someone's stretching her line of sight away gives rise to her visual perception of some mountains. And in (5), something's falling off results in its destruction.

- (1) [tʰi klɔ̀ŋ] VP1 [tʰɛk] VP2
 beat box be broken
 ‘(He) beat a box and it was broken.’
- (2) [cháy ɲən] VP1 [mòt] VP2
 use money come to an end
 ‘(He) used money and it was used up.’
- (3) [kin lâw thũan] VP1 [maw] VP2
 eat bootleg whisky be intoxicated
 ‘(He) drank bootleg whisky and was intoxicated.’
- (4) [mɔ̀ŋ pay] VP1 [hě̃n phuu khǎw] VP2
 look go see mountain
 ‘(He) looked away and caught sight of mountains.’
- (5) [tòk] VP1 [tʰɛk] VP2
 go down be broken
 ‘(It) fell off and was broken.’

These patterns are possibly regarded as resultative constructions in a broad sense. (1), which is composed of VP1 for volitional activity and VP2 for change of state/location or state, exemplifies a typical resultative construction expressing a complex event of canonical causation (direct and intended causation), namely an agent directly acts on a patient for some purpose and the patient is physically affected in accordance with the purpose as a result. In Rappaport Hovav & Levin’s (2001) syntactic terms, examples (1) to (5) can be classified as follows. (1) to (3) are “transitive-based” (i.e. the first verb is followed by an object argument) whereas (4) and (5) are “intransitive-based” (i.e. the first verb is followed by no object argument); (1) and (2) are “object-oriented” (i.e. the second verb predicates of the object of the first verb) whereas (3) to (5) are “subject-oriented” (i.e. the second verb predicates of the subject of the first verb). At any rate, the referent of the unnamed subject of VP2 must be the same as the referent of the object or the subject of VP1.

Thai accomplishment constructions are thus “subcategorized”. However, I have also discovered that examples (1) to (5) have certain common properties, hence I categorize them into a single general category, i.e., accomplishment construction. I will explicate the semantic and syntactic characteristics of the accomplishment construction in Sections 2 and 3, respectively. I will argue that cause and effect events represented by the two verb phrases in the construction are in a coordinate relationship and yet they constitute a single macro-event. In Section 4, I will examine Thai arrival expressions which I consider a subtype of the construction. Section 5 is a summary of this study.

2 Semantic Characteristics

Our understanding of causal relation is basic in our mental life. A causal relation is composed of two asymmetrical semantic components: cause/reason and effect/result. The relationship between the first pair ‘cause-effect’ (i.e. a cause produces an effect in the spatio-temporal domain) involves phenomenal motivation, as in ‘Because he bumped me, I

dropped the glass,’ while the relationship between the second pair ‘reason-result’ (i.e. a reason accounts for a result in the logical domain) involves logical motivation, as in ‘Because it was boring, I left’ (cf. Givón 1990). Although causes and effects are semantic components for describing objective events occurring in the physical world, a link between a cause and an effect never exists as part of objective reality but is established due to human expectation, inference, reasoning, and the like. Thus, causal relations, whether they are phenomenal or logical, exist in relation to our interpretation of reality. I assume that each human individual acquires from everyday experiences the “idealized cognitive model (ICM)” (cf. Lakoff 1987) for causal relations, namely one situation is correlated with another situation. Thai speakers employ serial verb constructions to express such a cause-effect relationship. Two serial verb phrases used to express a cause-effect relationship are called accomplishment constructions in this study. The following discussion will reveal that despite the semantic diversity of the construction, all subtypes of the construction must be amenable to the same constraints with regard to the eventuality of accomplishment conceived by Thai speakers. This section addresses the following questions: (a) Exactly what cause-effect relationships do Thai accomplishment constructions express?; (b) What semantic conditions is the construction subject to?

VP2 in examples (1) to (5) above includes a “completive verb” in Noss’s (1964) terminology, namely, **tèek** ‘be broken’ in (1) and (5), **mòt** ‘come to an end’ in (2), **maw** ‘be intoxicated’ in (3), and **hěn** ‘see’ in (4). According to Noss (1964: 126), completive verbs occurring in VP2 signal “successful completion of attempted action.” However, this explanation is not adequate for all completive verbs following VP1, since the action denoted by VP1 may not have originated in the agent’s intention to achieve a certain goal, in other words, the person who performs the action may not be a typical agent with clear intention. This is the case with (2) where the person did not necessarily have the intention to use up his money. Furthermore, a cause event named by VP1 may sometimes not be an agent’s action but a theme’s process, as illustrated in (5). Therefore, I would prefer to say that completive verbs in VP2 express “realization of an expectable event (effect) as the result of a preceding event (cause),” which may or may not involve the intention of the agent in the preceding event. A piece of evidence to support this opinion is that the accomplishment construction has an affinity with an adverbial indicating involuntariness (such as **yàaŋ pen pay dâŋ ?eeŋ** ‘automatically’ and **yàaŋ mâŋ rúu tua** ‘involuntarily’) as in (6). By contrast, an adverbial indicating the agent’s volition (such as **phayaayaam** ‘make an effort’ and **yàaŋ coŋcay** ‘intentionally’) is normally not used as a modifier for the construction, as in (7).

- (6) a. tii klòŋ tèek yàaŋ pen pay dâŋ ?eeŋ
 beat box be broken automatically
 ‘(He) beat a box and it was broken automatically.’
- b. cháŋ ɲən mòt yàaŋ mâŋ rúu tua
 use money come to an end involuntarily
 ‘(He) involuntarily used money and it was used up.’
- (7) a.? phayaayaam tii klòŋ tèek
 make an effort beat box be broken
- b.? cháŋ ɲən mòt yàaŋ coŋcay
 use money come to an end intentionally

The expectation on the part of the speaker/conceptualizer is based on her consideration of the nature of the involved entities as well as the physical and cultural setting in which the entities are situated. Even if one does not have the intention to cause a specific effect, a certain effect would arise from one's activity given an appropriate setting, which we readily expect. We also know from our force-dynamic experiences in the physical world that an entity's motion mostly terminates and sometimes brings about some effect eventually.

VP2 in the accomplishment construction expresses realization of an effect event that delimits the duration of a preceding cause event denoted by VP1. The effect event denoted by VP2 bounds the complex event as a whole denoted by the combination of VP1 and VP2. In this sense, we may call the effect event a "delimiter event" or a "culminative event." There are a variety of subtypes of the delimiter event. For instance, (1) and (5) including **tèek** 'be broken' involve a delimiter event of "destruction" (i.e. something has been destroyed); (2) including **mòt** 'come to an end' involves that of "exhaustion" (i.e. someone has used up something) or "disappearance" (i.e. something has disappeared); (3) including **maw** 'be intoxicated' involves that of "natural consequence" (i.e. someone/something has undergone a change of state/location as a matter of course); and, (4) including **hěn phuukhǎw** 'see mountains' involves that of "perception" (i.e. someone has perceived something). It is likely that the least specific and the most inclusive label for characterizing these various delimiter events is "natural consequence" (i.e. an entity undergoes a change as a matter of course). This means that any delimiter event is a natural consequence of a preceding cause event in the given circumstances.

It is noteworthy that there may be a considerable time span before the effect event manifests itself. The effect event named by VP2 may be of any simplex aspectual type (state or activity/process or achievement), while the cause event named by VP1 should be durative, or specifically, an activity/process or state that continues until the realization of an effect event expressed by VP2. Even though the duration of the cause event is fairly short, such as hitting and lifting, it must take some time until the effect event takes place. Below is a summary of combination patterns for the meanings of VP1 and VP2.

Table 1: *Combination Patterns for VP1 and VP2 in Thai Accomplishment Constructions*

	VP1: CAUSE; VP2: EFFECT
Pattern 1	VP1: volitional activity VP2: change of state/location or state
Pattern 2	VP1: non-specific but direct activity VP2: change of state/location or spontaneous action
Pattern 3	VP1: activity/process or state VP2: accumulation
Pattern 4	VP1: sensation-related activity VP2: perception/conception
Pattern 5	VP1: non-purposive activity or process VP2: change of state/location or state

Further explanation for each pattern is given below:

<Pattern 1>

VP1: volitional activity (of agent)

VP2: change of state/location or state (of patient)

This pattern consists of a transitive activity verb taking an affected entity as its object argument (e.g. **tii klòŋ** ‘hit a box,’ **yók krapǎw** ‘lift a bag,’ **sák sūa** ‘wash a shirt,’ **cháy ɲən** ‘use money’) and an unaccusative verb indicating change of state/location (e.g. **tèek** ‘be broken,’ **mòt** ‘come to an end,’ **khûn** ‘ascend’) or a state verb expressing transient property (e.g. **sàʔaat** ‘clean’) (cf. Kessakul & Methapisit 2000; Thepkanjana & Uehara 2004). This pattern is object-oriented, that is, the object of the first verb and the unnamed subject of the second verb refer to the same entity. For example:

- (8)=(1) [tii klòŋ] _{VP1} [tèek] _{VP2}
 beat box be broken
 ‘(He) beat a box and it was broken.’
- (9) [sák sūa] _{VP1} [sàʔaat] _{VP2}
 wash shirt clean
 ‘(He) washed a shirt and it became clean.’
- (10) [yók krapǎw] _{VP1} [khûn] _{VP2}
 lift bag ascend
 ‘(He) lifted a bag and it moved upward.’
- (11)=(2) [cháy ɲən] _{VP1} [mòt] _{VP2}
 use money come to an end
 ‘(He) used money and it was used up.’

Li & Thompson (1989: 54-56) has classified resultative verb compounds (RVC’s) in Mandarin Chinese into four types, namely, types of “cause” (e.g. **dǎ pò** ‘hit + broken’; **lā kāi** ‘pull + open’), “achievement” (e.g. **xiě qīngchū** ‘write + clear’; **mǎy dào** ‘buy + arrive’), “direction” (e.g. **tiào quò qu** ‘jump + cross + go’; **pǎo chū lái** ‘run + exit + come’), and “phase” (e.g. **yòng wán** ‘use + finish’; **guān diào** ‘close + away’). Their classification in principle fits Thai accomplishment constructions of this pattern. Those like (8) can be categorized as cause type, those like (9) as achievement type, those like (10) as direction type, and those like (11) as phase type.

The subjects and objects of VP1 in (8) to (10) represent typical agents and patients, i.e., the former acts upon the latter by intention, while those in (11) does not. On the grounds that normally one does not want to use up one’s money, it is likely that the person described in (11) kept dissipating his money with casual abandon until he encountered such an unfortunate situation that he had spent all the money. What is expressed by (11), therefore, cannot be regarded as canonical causation with typical agent and patient. Yet, the prior VP1 event (the person’s using money) and the posterior VP2 event (the money’s disappearance) are not completely independent of each other, but are undoubtedly considered to hold a

cause-effect relationship.

<Pattern 2>

VP1: non-specific but direct activity (of agent)

VP2: change of state/location or spontaneous action (of patient)

In this pattern, VP1 must contain the verb **tham** ‘do’ followed by a noun phrase indicating a patient, and VP2 contains mostly an unaccusative verb indicating a change of state/location (e.g. **hăay** ‘disappear,’ **tòk** ‘fall’) or possibly an unergative verb expressing a spontaneous action. This pattern, like Pattern 1, is object-oriented, and it is quite a unique resultative construction which is used to encode a complex event of non-canonical causation, namely an agent acts on a patient either by intention or by chance but necessarily directly and then the patient undergoes a change of state/location. For example:

(12) [tham krapăw] VP1 [hăay] VP2
do bag disappear
‘(He) directly acted on a bag and it disappeared.’

(13) [tham dèk] VP1 [tòk nám] VP2
do child go down water
‘(He) directly acted on a child and the child fell into the water.’

(14) [tham chán] VP1 [wîŋ nǐi] VP2
do PRONOUN run flee
‘(He) directly acted on me and I ran away.’

VP2 may consist of an unergative verb that represents an atelic activity (e.g. **wîŋ nǐi** ‘run away’). However, the activity must be spontaneously initiated irrespective of volition, as in (14) where the patient was forced to run away because of some bad action by the unnamed agent (cf. Pothipath 1999).

<Pattern 3>

VP1: activity (of agent), process or state (of theme)

VP2: accumulation (of patient by agent’s activity, or of something as a result)

The situation denoted by VP1 may be an activity/process or a state. The referent of the subject of VP1 in (15) to (17) below is an agent engaged in an activity; that in (18) is a theme undergoing a change of location; and, that in (19) is a theme simply exhibiting a state. VP2 must consist of the verb **dây** ‘come into existence; get’ followed by a noun phrase indicating an amount accumulated. This pattern designates what has been accumulated in terms of volume, distance or duration after continuance of an activity/process or a state denoted by VP1. Note that **dây** in (17) to (19) no longer has the agentive meaning ‘get’ due to the absence of an agent (cf. Takahashi & Methapisit 2004).

- (15) [càp plaa]_{VP1} [dây sǎm tua]_{VP2}
 catch fish come into existence; get three CLASSIFIER
 ‘(He) caught fishes and the number amounted to three.’
- (16) [khǎan còtmǎay]_{VP1} [dây hâa banthát]_{VP2}
 write letter come into existence; get five CLASSIFIER
 ‘(He) wrote a letter and it amounted to five lines.’
- (17) [tham ɲaan bɔ̌ɔrisàt]_{VP1} [dây sǎɔŋ pii]_{VP2}
 work company come into existence two year
 ‘(He) worked for a company and the period amounted to two years.’
- (18) [lɔɔy khûm pay]_{VP1} [dây rɔɔy méet]_{VP2}
 float ascend go come into existence hundred meter
 ‘(It) went up floating and the distance amounted to one hundred meters.’
- (19) [yen]_{VP1} [dây sǐp naathii]_{VP2}
 cool come into existence ten minute
 ‘(It) was cool and the period amounted to ten minutes.’

<Pattern 4>

VP1: sensation-related activity (of agent or experiencer)

VP2: perception/conception (of experiencer)

This pattern consists of VP1 for activity giving rise to some sensation (e.g. touching, tasting, smelling, listening, looking) and VP2 for perception/conception. The referent of the subject of VP1 is concurrently an agent engaged in sensation-related activity and an experiencer enjoying perception/conception. Thus, this pattern is subject-oriented. VP1 may be transitive, as in (20) and (21), or intransitive, as in (22).

- (20) [dom yaa]_{VP1} [dây klin hǎɔm]_{VP2}
 smell medicine get odor fragrant
 ‘(He) smelled the medicine and had a fragrant smell.’
- (21) [faŋ banyaay]_{VP1} [rúu rûaŋ]_{VP2}
 listen lecture understand
 ‘(He) listened to the lecture and understood.’
- (22)=(4) [mɔɔŋ pay]_{VP1} [hěn phuu khǎw]_{VP2}
 look go see mountain
 ‘(He) looked away and caught sight of mountains.’

(23) below is a marginal member of patterns 4 and 5. It looks like pattern 4 in that VP2 represents a perception/conception (seeing fresh vegetables). At the same time, it is similar to pattern 5 in that VP1 represents a non-purposive activity (going to a market with no intention to see fresh vegetables).

- (23) [pay talàat]_{VP1} [hěn phàk sòt]_{VP2}
 go market see vegetables fresh
 '(He) went to the market and caught sight of fresh vegetables.'

<Pattern 5>

VP1: non-purposive activity (of agent) or process (of theme)

VP2: change of state/location (of theme) or state (of experiencer)

This pattern consists of VP1 representing a non-purposive activity (e.g. **kin lâw thùan** 'drink bootleg whisky,' **dəən pay** 'walk away') or process (e.g. **tòk** 'go down') and VP2 representing a change of state/location (e.g. **thũŋ ráan** 'arrive at the shop,' **tèek** 'be broken') or a state (e.g. **maw** 'be intoxicated'). This pattern also is subject-oriented. For example:

- (24)=(3) [kin lâw thùan]_{VP1} [maw]_{VP2}
 eat bootleg whisky be intoxicated
 '(He) drank bootleg whisky and was intoxicated.'

- (25) [dəən pay]_{VP1} [thũŋ ráan]_{VP2}
 walk go arrive shop
 '(He) walked away and arrived at the shop.'

- (26)=(5) [tòk]_{VP1} [tèek]_{VP2}
 go down be broken
 '(It) fell off and was broken.'

The referent of the subject of VP1 in (24) and (25) is an agent that executes an action, whereas that in (26) is a theme that undergoes a change of state/location. The agent in (24) and (25) is, however, a less typical agent that carries out an action for no particular purpose.

There are two important conditions on the semantics of the accomplishment construction. The fundamental one is that the actualization of the effect event denoted by VP2 should be at issue, since the speaker using the construction for the description of two serial events focuses on whether or not the latter effect event takes place as a result of the former cause event. The communicative function of the construction is to comment on whether an effect event does or does not arise from a cause event. The secondary condition is that a posterior effect event must be regarded as a natural consequence of a prior cause event. The crucial point is that the realization of an effect event should not be completely under control of the agent of a cause event. There must be something beyond the agent's control such as suitable circumstances and timeliness helping to bring about a certain resultant situation. If a consequent event is totally under the control of the agent of a cause event, then the two serial events may be regarded as merely two phases of a single event of the agent's manipulation which happen virtually instantly and can be compactly encoded by a single causative verb of non-alternating type (which does not have an intransitive variant) such as **khâa** 'kill' (cf. Thepkanjana 2000).

- (27) khâa man
kill PRONOUN
'(He) killed it.'

However, when the focus of the speaker is placed on the result phase rather than the action phase of the causative event, she uses the accomplishment construction, as in (28), to depict the result phase as another event of outcome resulting from the preceding activity event.

- (28) [khâa man]_{VP1} [tâay]_{VP2}
kill PRONOUN dead
'(He) killed it and it was dead.'

The speaker of (28) is concerned with the realization of the state of being dead. She conceptualizes that the activity event (killing an animate entity) and the inchoative event (dying of the animate entity) take place in succession and instantiate a cause-effect relationship.

The other possible interpretation of the situation in which the agent has control over the realization of an effect event is that the effect event is initiated by the agent and the same agent's prior action is carried out for the purpose of causing the effect event, as exemplified in (29). An indicator of the agent's volition (e.g. **phûa thîi cà?** 'in order to') can be added to such purposive activity expressions.

- (29) a. pîŋ plaa (phûa thîi cà?) kin
grill fish (in order to) eat
'(He) grilled a fish to eat.'
- b. khûn rôt fay (phûa thîi cà?) pay Chiangmày
ascend train (in order to) go Chiangmai
'(He) rode a train to go to Chiangmai.'

These serial verb constructions primarily describe the agent's purposive action. They differ from the accomplishment construction in their syntactic behaviors as well (see the following section).

To summarize, the accomplishment construction expresses a macro-event of accomplishment that is composed of cause and effect events that occur in a series. The unnamed subject of VP2 is the same as the object or the subject of VP1. The speaker must concern herself with the realization of the effect event. The realization of the effect event must not completely be controlled by the agent of the cause event, and therefore there is room for the speaker to comment on success or failure of the realization of the effect event. There is a simple semantic condition on the combination of cause and effect events, that is, the effect event must be a "natural consequence" of the cause event. The effect event can be any kind of change as long as it is considered to naturally arise from the preceding cause event in a pragmatically appropriate manner in the given context. Not only good outcome but also ill outcome of the effect event can be taken as a natural consequence considering the

given particular circumstances.

3 Syntactic Characteristics

The accomplishment construction has two remarkable syntactic properties. First, the progressive aspect marker **kamlaŋ** cannot be included in the construction. Second, normally the negative **mây** is inserted between VP1 and VP2.

The telic (perfective) nature of the accomplishment construction is incompatible with progressive (imperfective) aspect. Therefore, (30) including the progressive marker **kamlaŋ** is unacceptable. In contrast, expressions of purposive activity, which is inherently atelic (imperfective), may include the progressive marker, as in (31).

(30) * kamlaŋ tii klòŋ tɛ̀ɛk
 PROGRESSIVE beat box be broken

(31) kamlaŋ pîŋ plaa kin
 PROGRESSIVE grill fish eat
 ‘(He) was grilling a fish to eat.’

This shows that in (30) not VP1 representing a simplex event of activity alone but the combination of VP1 and VP2 representing a complex event of accomplishment as a whole is within the scope of modification of the progressive marker. Since the combined two verb phrases cooperatively express a single macro-event, they are not separately modified.

However, the negative **mây** is normally placed right before VP2, that is, an effect event denoted by VP2 alone is negated, as illustrated in (32) below. However, this is quite reasonable because a cause event is a precondition for a following effect event. Put differently, the existence of a prior cause event is presupposed for the emergence of a posterior effect event, the import of the accomplishment construction. It is abnormal for such a precondition to be negated.

(32) a. tii klòŋ mây tɛ̀ɛk
 hit box NEGATIVE be broken
 ‘(He) hit the box but it was not broken.’
 b. mɔ̀ŋ pay mây hɛ̀n phuukhăw
 look go NEGATIVE see mountain
 ‘(He) looked away but did not catch sight of mountains.’

It is noteworthy that the degree of acceptability of the negative form varies depending on whether or not the context in question enhances the informativeness of the negative predicate (cf. Takahashi & Thepkanjana 1997). For instance, (32a) seems less acceptable than (32b), because we cannot readily imagine a suitable context for (32a) to be informative. A box’s destruction is not always expected to occur as a result of hitting the box, and so (32a) putting emphasis on the negation of a resultant destruction is not very informative without a certain special context in which the destruction is expected. By contrast, seeing is commonly expected to occur as a result of looking. On this basis, (32b) telling failure of catching sight is informative and worth to mention.

It is also possible to negate the whole macro-event of accomplishment denoted by the

combination of VP1 and VP2 by putting the negative in front of VP1, as in (33), but it is more or less modal negation expressing contradiction. That is, what is negated in (33) is not purely the objective proposition overtly represented by the two verb phrases but rather the interlocutor's understanding or view with regard to the proposition.

- (33) mây tii klòŋ tɛ̀k
 NEGATIVE hit box be broken
 '(He) did not do in such a way that (he) hits the box and it is broken; It is not correct to believe that (he) hit the box and it was broken.'

On the other hand, the negative is normally placed in front of VP1 in purposive activity expressions, as in (34a), and at the front position of verbal compounds, as in (34b). (35a) and (35b), where the negative is placed between the two verb phrases, are awkward.

- (34) a. mây pîŋ plaa kin
 NEGATIVE grill fish eat
 '(He) did not grill a fish to eat.'
- b. mây sòp tòk
 NEGATIVE fail an examination
 (Lit: examine and go down)
 '(He) did not fail an examination.'
- (35) a.? pîŋ plaa mây kin
 grill fish NEGATIVE eat
- b.? sòp mây tòk
 take an examination NEGATIVE go down

Compared with these expressions, VP2 in the accomplishment construction expresses a more substantial meaning, for it by itself can be negated, as shown in (32) above. It is impossible for only VP2 to be negated, unless the meaning of VP2 is substantial.

Based on the above discussion on syntactic behaviors of the accomplishment construction, I argue that VP1 and VP2 in the construction are in a coordinate relationship. Neither VP1 nor VP2 has a subordinate status, but their status is equal. Each of the two verb phrases expresses a concrete event that takes place in physical space and time. The two substantial sub-events expressed by the two verb phrases, i.e., cause and effect events, are coordinate events both of which are indispensable to a macro-event of accomplishment. The accomplishment macro-event as a whole is asserted, denied, demanded and asked about. But it is also possible for the latter effect event alone to be denied, since the cause and effect events are coordinate events.

4 Arrival as Accomplishment

In this section I will propose a new perspective in which Thai arrival expressions like (36) are viewed as a subtype of the accomplishment construction. The preceding locomotion event represented by VP1 and the following arrival event represented by VP2 can be regarded as a kind of cause and effect.

- (36) a.=(25) [dəən pay]_{VP1} [thũŋ ráan]_{VP2}
 walk go reach shop
 ‘(He) walked away and arrived at the shop.’
- b. [lɔɔy maa]_{VP1} [krathóp hĩn]_{VP2}
 float come collide with stone
 ‘(It) came floating and struck the stone.’
- c. [thòt ɲaw loŋ]_{VP1}
 stretch shadow descend
 [thâap bon phúuun nám]_{VP2}
 lay flat against on surface water
 ‘(It) stretched its shadow down and the shadow covered the surface of the water.’
- d. [phũŋ hòk maa]_{VP1} [khâw sũan]_{VP2}
 dart lance come enter garden
 ‘(He) threw a lance and it came in the garden.’

(36a) and (36b) are subject-oriented (the unnamed subject of VP2 has the same referent as the subject of VP1), while (36c) and (36d) is object-oriented (the unnamed subject of VP2 has the same referent as the object of VP2). Though the argument-linking type is different, their syntactic behaviors are basically identical.

Thai arrival expressions like (36) cannot be equated with English mono-clausal allative expressions (e.g. someone walked to somewhere; someone threw something into somewhere). Since an arrival verb (e.g. **thũŋ** ‘arrive,’ **krathóp** ‘collide with,’ **thâap** ‘lay flat against,’ **khâw** ‘enter’) is dispensable in expressing such an allative sense, as in (37) below, the verb itself does not contribute to an allative sense. Its function is to denote a unique arrival event whereby the preceding locomotion event is delimited (cf. Takahashi, to appear).

- (37) a. dəən pay ráan
 walk go shop
 ‘(He) walked to the shop.’
- b. lɔɔy maa thĩi hĩn
 float come place stone
 ‘(It) came floating to the place of the stone.’
- c. thòt ɲaw loŋ bon phúuun nám
 stretch shadow descend on surface water
 ‘(It) stretched its shadow down on the surface of the water.’
- d. phũŋ hòk maa thĩi sũan
 dart lance come place garden
 ‘(He) threw a lance into the garden.’

While simplex locomotion expressions are compatible with progressive aspect, as in (38), arrival expressions including VP2 for arrival are incompatible with progressive aspect, as in (39).

- (38) kamləŋ dəən pay (yəŋ) ráan
 PROGRESSIVE walk go (to) shop
 ‘(He) was walking to the shop.’
- (39) * kamləŋ dəən pay thǔŋ ráan
 PROGRESSIVE walk go reach shop

Furthermore, VP2 in arrival expressions can be negated independently of VP1. For example:

- (40) dəən pay mây thǔŋ ráan
 walk go NEGATIVE reach shop
 ‘(He) walked away but did not reach the shop.’

I consider these syntactic phenomena as evidence to prove that VP2 in Thai arrival expressions like (36) is not an allative prepositional phrase that highlights the vector of the motion denoted by VP1 but it is an inchoative verb phrase that designates a resultant arrival event. If this analysis is correct, a typologically significant consequence is that in Thai ARRIVAL is not a basic form of the vector component of PATH of motion. Talmy (2000: 53-57) argues that the concept PATH comprises the following three main components that are structurally distinct: (a) Vector, (b) Conformation, and (c) Deictic. The vector component, in turn, consists of the three basic forms of ARRIVAL, TRAVERSAL, and DEPARTURE that a moving entity can execute in relation to a reference entity. He states that these three forms of the vector are quite possibly universal. However, I claim that the pervasive idea that ARRIVAL is a basic form of the vector on a par with TRAVERSAL and DEPARTURE is not applicable to Thai motion expressions. For one thing, in Thai an unmarked allative sense emerges from serialization of a path verb and a goal prepositional or noun phrase even if the allative preposition *yəŋ* ‘to, toward’ is not included, as illustrated in (37) above. What is more, in Thai ARRIVAL is verbally expressed as an achievement resulting from a preceding locomotion. That is, a preceding locomotion event is one event and a following arrival is another. For these reasons, it is unlikely that the vector component in Thai encompasses ARRIVAL as a basic form.

5 Conclusion

In this study I have defined two serialized verb phrases in Thai that respectively represent a preceding cause event and a subsequent effect event as the accomplishment construction. I have shown that there are a variety of combination patterns for the two verb phrases expressing cause and effect events. The combination of cause and effect events constitutes a complex accomplishment event. On the grounds that both cause and effect events expressed by the accomplishment construction are concrete and substantial, I consider them to have the same status as clausal constituents and to be in a coordinate relationship.

Notes

I would like to thank Robert De Silva and Andrew Simpson for their stylistic suggestions.

1. The term “accomplishment” was originally used by Vendler (1967: 102) to refer to one of the four distinctive categories of aspect that each verb inherently entails (i.e. Aktionsart). The accomplishment aspect is characterized as dynamic, telic (perfective) and non-punctual. In this study I extend the referential domain of this term to the aspectual nature of complex events expressed by the combination of two verb phrases.
2. A single verb phrase in Thai may consist of more than one verb. A traditional account is that the second verb functions as a subsidiary verb indicating an abstract notion associated with a physical meaning of the first verb, such as directedness of a motion.

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CONTACT AND ATTRITION IN SUN HONGKAI'S ANONG: COMPLEMENTARY SOURCES OF CHANGE¹

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0 Introduction

Anong, a Tibeto-Burman language of Yunnan, is in its last generation—in 1999, there were 62 fluent speakers left, all over 50. The descriptive material on Anong is quite limited; what there is all comes from the work of Sun Hongkai, particularly 1988, 1999a, and a preliminary, but still useful wordlist (Sun ms.); a little additional data can be found in Sun Hongkai 1999b and Sun and Li 2001. Cf. also the beginning of Thurgood 2003, which describes the language setting more fully.

In Sun 1999a, Sun makes a number of observations about the path of decline being followed by Anong, a language he has been documenting off and on since 1960. This piece augments that work, providing data to substantiate many of those observations and teasing out, where plausible, which changes represent largely internally-motivated attrition, which changes represent external contact with Lisu (and, secondarily, Chinese), and where and how the two mutually reinforce one another. In doing so, we draw on data from the Nungish languages (Trung (Dulong), Nujiang, and Rawang), the languages most-closely related to Anong and on data from Lisu and secondarily Chinese, the languages Anong speakers are most intimately in contact with.

0.1 Contact and attrition

Anong language contact is primarily with Lisu and secondarily with Chinese. In a 1999 survey only 62 of the roughly six thousand ethnic Anong were still fluent in Anong. The majority have shifted to Lisu, with a handful of others having shifted to Chinese and a still smaller number having shifted to Bai. Our own examination of the vocabulary agrees with Sun's assessment: there are a significant number of loans from Chinese and from Lisu, but thus far no discernible body of loans from Bai, nor any evidence of Bai influence on Anong. The evidence for intense contact is particularly evident in two areas: The replacement of a great deal of native vocabulary by Lisu and Chinese loanwords and the fact that even among the most fluent Anong speakers, most Anong speak Lisu better than Anong.

1 Loss of native vocabulary

In passing, Sun notes (1999a:354) that Anong speakers frequently used Lisu words in place of common Anong, giving as an example his language consultant using the Lisu adverb [a³¹khu⁵⁵] in place of the Anong equivalent [ba³¹ʂ³¹] 'very, extremely, particularly'. Sun further notes that the numeral system had begun to disappear; some fluent speakers could count to a hundred, but the less fluent could only count up to ten. Even less skilled speakers

¹ Editors' note: to facilitate typesetting of the pre-UNICODE files, various tables in this paper were converted into image files – we apologise for any resulting reduction in print quality.

Shoichi Iwasaki, Andrew Simpson, Karen Adams & Paul Sidwell, eds. *SEALSXIII: papers from the 13th meeting of the Southeast Asian Linguistics Society* (2003). Canberra, Pacific Linguistics, 2007, pp.279-295.

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only used Anong for numbers below ten, using Lisu for numbers above ten. Other speakers used Lisu for all numbers.

In terms of specific numbers, Sun (1999a:354) recorded 2,600 words in 1960, of which some 5% were Chinese loans and some 8% from Lisu. In 1999, he both rechecked the original words and elicited many more. In 1999, the lexicon was now around 8% Chinese loans, with the percentage of Lisu loans more than doubled to around 17%.

TABLE 1. Chinese and Lisu loans in Anong

year	total words	Chinese loans	Lisu loans
1960	2,600	5%	8%
1999	4,900	8%	17%

The numbers in Sun's 1999a article were not accompanied by any data, but the two tables below, Table 2: Lisu borrowings in Anong and Table 3: Chinese borrowings in Anong, support Sun's assessment: there are roughly twice as many Lisu borrowings as Chinese borrowings.

1.1 Lisu loans

TABLE 2. Lisu borrowings in Anong

Lisu	Anong	Pinyin	Trung	Nujiang	
nɛ ⁴⁴ tshɿ ⁴¹	nɛ ⁵⁵ tshɿ ³¹	yào	---	---	medicine
th _a ³¹	th _a ³¹	bié	---	---	don't
lu ³¹	lu ³¹	lóng	---	---	dragon
la ³¹ sa ⁵⁵	la ³¹ mu ⁵⁵ du ³¹	bàozi	---	---	leopard
tshɛ ³⁵	tshɛ ⁵³	lù	ɕu ³¹ wa ⁵⁵	ɕu ³¹ wa ⁵⁵	deer
ŋua ⁵⁵ la ³¹	ŋua ⁵⁵ la ³¹	shuǐtǎ	su ³¹ ɿǎm ⁵³	su ³¹ ɿǎm ⁵³	otter
ŋua ⁵⁵ -t	ŋua ⁵⁵	yú	ŋa ⁵⁵ <u>plǎ?</u>	nǎm ³¹ <u>plǎ?</u>	fish
la ³⁵ dzu ⁴¹	la ³⁵ dzi ³¹	làjiāo	bɿ ⁵⁵ ci ⁵⁵	ba ³¹ tɕi ⁵⁵	pepper
na ⁴⁴ do ⁴⁴	na ³¹ do ⁵⁵	tiānhuā	bue ³⁵	---	smallpox
tho ³¹	da ⁵⁵ tshɿ ⁵⁵	péngyou	---	---	friend
mɛ ⁵⁵ vu ³³	mɛ ⁵⁵ vu ³¹	nǚxū	---	---	son-in-law

za ⁴¹ mu ⁴¹	tɕhɛ ⁵⁵ ʔmu ³¹	nǚrén	---	---	daughter
la ³¹ tɕa ⁵⁵	la ³¹ tɕa ⁵⁵	mò	---	---	a mill
mo ³¹ gua ³¹	mu ⁵⁵ kua ⁵⁵	gē	kɔ ⁵⁵	kɔ ⁵⁵	song
p ^h ɛ ⁴¹	p ^h ɛ ³⁵	qízi	---	---	flag; banner
dʒɿ ³¹ li ³¹	dzi ³¹ li ⁵⁵	dízi	---	---	bamboo flute
ɣu ³³ ŋo ³¹	ɣu ⁵⁵	yǐngzi	---	---	shadow
tshɿ ⁵⁵	tɕhi ⁵⁵ mu ⁵⁵	bì	---	---	close (eyes)
na ⁵⁵	ŋ ⁵⁵ na ⁵⁵ xo ³¹	shàn	---	---	castrate
xua ⁴⁴	ʔau ³	xúnzhǎo	la ⁵⁵ (lɔn ⁵⁵)	la ⁵³	look for
li ⁵⁵	t ^h i ³¹ li ³¹	huán	---	---	pay back, return
lo ⁵⁵	luŋ ⁵⁵	fèi	g.u ⁵³	g.u ⁵³	to bark
p ^h u ⁴⁴	p ^h u ⁵⁵	bái	---	---	white; silver
bi ⁴¹ le ⁴⁴	ɕim ⁵⁵ bu ³¹	mǎn	---	---	full
p ^h u ³¹ k ^h a ³⁵	a ³¹ p ^h u ³⁵ ɛ ³⁵	guì	---	---	expensive
a ³¹ k ^h u ⁵⁵	a ³¹ k ^h u ⁵⁵	hěn	gu ³¹ mǎi ⁵³	---	very
xu ³¹ fɿ ³¹	hɛ ³¹ tɕhɿ ⁵⁵	hànzú	ja ⁵⁵	dza ⁵³	Han
k ^h u ³¹ xu ⁴⁴ - la ⁴¹ ma ⁴⁴	k ^h u ³¹ xu ⁵⁵ - la ⁵⁵ ma ⁵⁵	wúgong	x.u ⁵⁵ - dzum ⁵³ wɛ ^{ʔ55}	gu ³¹ -zen ⁵³ wet ⁵⁵	centipede
xa ³¹	ɕa ^{ʔ55} b.u ³⁵	guò	---	---	cross over
thɛ ³³	thi ³¹ mu ⁵⁵	shuō	---	---	speak; talk
mie ³¹ k ^h ua ³¹	nɛ ⁵⁵ k ^h ua ³¹	liánjiē	---	---	join; link
dʒɿ ⁴⁴	dzɿ ⁵³	mò	---	---	grind (rice)
sɿ ³¹ p ^h u ³¹	ba ⁴⁴ p ^h u ³¹	pángguāng	---	---	bladder
mu ³¹ tsɿ ⁴⁴	mu ³¹ tsɿ ⁵³	húzi	---	---	beard
bu ³¹	bu ⁵⁵ ga ³¹ mu ⁵⁵	chóuzi	---	---	silk
po ⁴⁴ lo ⁴⁴	pu ⁵⁵ lu ⁵³	zǐdàn	---	---	bullet
nɛ ⁴⁴ tshɿ ⁴¹ - ʃa ³⁵ su ⁴⁴	nɛ ⁵⁵ tshɿ ³¹ .ru ³¹ - mun ⁵⁵ su ⁵⁵	yīshēng	---	---	doctor

o ⁵⁵ ɣo ³¹ ma ³³	au ⁵³ ma ³¹	gūmǔ	---	---	aunt (1)
a ⁴⁴ ɣo ³³	au ⁵³ p ^h a ³¹	shūfù	---	---	uncle (1)
po ³¹ dʒa ³³	a ³¹ dʒa ⁵⁵ u ³¹	guǎnlǐ	---	---	to manage
miɛ ⁴⁴ ba ³³	nɛ ⁵⁵ ba ⁵⁵	jìngzi	---	---	mirror
tʃ ^h i ⁴⁴ lɛ ⁴¹	tʂ ^h i ⁵⁵ k ^h u ³¹	xiùzi	---	---	sleeve
dʒe ³³ hi ³³	di ³¹ hiŋ ⁵⁵	fēijī	---	---	airplane
a ⁴⁴ t ^h ɛ ³¹ t ^h ɛ ³¹	k ^h a ⁵⁵ t ^h a ³¹ -	cháng	---	---	frequently
xo ⁴⁴ tsɿ ⁴⁴	xo ³¹ tsɿ ⁵⁵	dīng	tiŋ ⁵⁵ tsu ⁵³	---	a nail
k ^h o ⁴¹ fɿ ⁴¹	k ^h o ³¹ ʂɿ ³¹	guònián	lu ³¹ sǎ ⁵⁵	---	celebrate New Year
mɛ ³⁵ t ^h a ⁵⁵ hi ³³	mɛ ³⁵ t ^h a ⁵⁵	huǒchē	xɔ ⁵⁵ tse ⁵⁵	xɔ ⁵⁵ ts ^h e ⁵⁵	a train
ua ⁴⁴ tʃɛ ⁴⁴	ua ⁵⁵ tʃi ⁵⁵ - bu ³¹ dʒi ⁵⁵	kuāng	pu ³¹ tsǎ ⁷⁵⁵	pu ³¹ ts ^h ǎ ⁷⁵⁵	basket
dʒe ³³ hi ³³	di ³¹ hiŋ ⁵⁵	fēijī	---	---	airplane
a ⁴⁴ t ^h ɛ ³¹ t ^h ɛ ³¹	k ^h a ⁵⁵ t ^h a ³¹ -	cháng	---	---	frequently
xo ⁴⁴ tsɿ ⁴⁴	xo ³¹ tsɿ ⁵⁵	dīng	tiŋ ⁵⁵ tsu ⁵³	---	a nail
k ^h o ⁴¹ fɿ ⁴¹	k ^h o ³¹ ʂɿ ³¹	guònián	lu ³¹ sǎ ⁵⁵	---	celebrate New Year
mɛ ³⁵ t ^h a ⁵⁵ hi ³³	mɛ ³⁵ t ^h a ⁵⁵	huǒchē	xɔ ⁵⁵ tse ⁵⁵	xɔ ⁵⁵ ts ^h e ⁵⁵	a train
ua ⁴⁴ tʃɛ ⁴⁴	ua ⁵⁵ tʃi ⁵⁵ - bu ³¹ dʒi ⁵⁵	kuāng	pu ³¹ tsǎ ⁷⁵⁵	pu ³¹ ts ^h ǎ ⁷⁵⁵	basket
gua ³¹ k ^h ua ³¹	gua ³¹ k ^h a ⁵⁵	qiáomài	---	---	buckwheat
tsɛ ³⁵	tʃi ³¹ dʒɛ ⁷⁵⁵	dī	---	---	to drop
dʒe ³⁵	dʒɛ ³⁵ tʃ ^h uŋ ³¹	qiángbì	---	---	a wall
t ^h o ⁴¹ lɔ ³³	t ^h u ³¹ lɔ ⁵⁵	tùzi	---	---	rabbit
tʃ ^h i ³¹	tʂ ^h i ³¹	pì	pi ⁵³		fart
ts ^h o ⁵⁵	ts ^h o ⁵⁵	cōng	su ⁵³ dɔŋ ⁵⁵	su ³¹ dɔŋ ⁵⁵	onion
ts ^h o ⁴⁴ fɿ ³¹	tʂ ^h i ⁵⁵	mǐnzú	min ³¹ tsu ⁵³	min ³¹ tʂu ⁵³	minority
k ^h ua ³¹ se ⁵⁵	k ^h ua ³¹ su ⁵⁵	dàsuàn	---	---	garlic
hɛ ³¹ t ^h o ³⁵	xə ³¹ t ^h o ³⁵	wénzi	---	---	mosquito
ua ³¹ lɔ ³¹	ua ³¹ lɔ ⁵⁵	biānfú	---	---	bat

TABLE 3. Chinese loans in Anong

Lisu	Anong	Pinyin	Trung	Nujiang	
---	i ³¹ ts ^h uɛn ³⁵	cùn	tɪ ⁵⁵ tsun ⁵⁵	tɕi ⁵⁵ tsweŋ ⁵⁵	cun (inch)
---	ts ^h uŋ ³¹ ɕɿ ³⁵	chéng	ts(tc)ɛŋ ⁵⁵	tɕ ^h uŋ ⁵⁵	city; town
---	tɕɛŋ ⁵⁵ tsu ³¹	dèngzi	pan ⁵⁵ tu ⁵⁵	pan ⁵⁵ tu ⁵⁵	stool; bench
---	xua ⁵⁵ su ⁵⁵	huāshēng	xwa ⁵⁵ sen ⁵⁵	xwa ⁵⁵ sen ⁵⁵	peanut
---	ua ³¹ tsɿ ⁵⁵	wàzi	wa ⁵⁵ tsu ⁵⁵	wa ³¹ tsu ⁵⁵	socks
---	uɛn ³¹ tsa ³⁵	wénzhàng	---	wen ³¹ tsa ⁵⁵	mosquito net
---	ɕi ⁵⁵ p ^h i ⁵⁵	xǐzi	ɕi ⁵⁵ tsu ⁵⁵	ɕi ⁵⁵ tsu ⁵⁵	mat
---	iŋ ³¹ xaŋ ⁵⁵	yínháng	iŋ ⁵⁵ xaŋ ⁵³	jiŋ ³¹ xaŋ ⁵³	bank (money)
---	i ³⁵ tsɿ ³¹	yǐzi	---	i ³¹ tsu ⁵³	chair
---	la ³¹ bɔ ⁵³	luóbo	lu ³¹ bũ ⁷⁵⁵	lɔ ³¹ bɔ ⁵³ -f	radish
---	a ³¹ kaŋ ⁵⁵	gāng	kaŋ ⁵⁵	kaŋ ⁵⁵	steel
mo ³¹ gua ³¹	mu ⁵⁵ kua ⁵⁵	gē	kɔ ⁵⁵	kɔ ⁵⁵	song
ko ⁵⁵	a ³¹ gu ⁵⁵	guò	---	---	go past
xu ³¹ tʃ ^h ɿ ⁵⁵	xɔ ⁵⁵ ts ^h ai ³¹	huǒchái	ja ⁵⁵ xɔ ⁵³	xɔ ⁵⁵ ts ^h ai ³¹	matches
khɛ ⁴⁴ xui ³⁵	khɛ ³³ xue ³⁵	kāihù	kai ⁵⁵ xui ⁵⁵	khai ⁵⁵ xue ⁵⁵	hold meeting
la ³¹ tʃu ³¹	la ³¹ tsu ⁵⁵	làzhú	la ³¹ tsu ⁵³	la ⁵⁵ tɕu ⁵⁵	candle(wax)
me ³¹	me ³¹ thai ⁵⁵	méi	---	me ³¹ thai ⁵⁵	coal

ts ^h o ⁴⁴ f ³¹	tɕh ³¹	mǐnzú	min ³¹ tsu ⁵³	min ³¹ tɕsu ⁵³	minority
me ³¹	me ³¹	mò	mǎi ⁵⁵	me ³¹	ink (Chinese)
mu ³⁵ o ⁴¹ ʒi ³³	me ³¹ tɕh ³¹	mòshuǐ	mǎi ⁵⁵ sui ⁵⁵	me ³¹ sui ³	ink, black
tʃh ³³ pi ³¹	tɕh ³¹ en ⁵⁵ pi ³¹	qiānbǐ	tɕan ⁵⁵ pi ³³	tɕh ³¹ an ⁵⁵ pi ³¹	pencil
ʃua ³¹ tsɿ ⁴⁴	ɕua ⁵⁵ tsɿ ⁵⁵	shuāzi	swa ³¹ tsɿ ⁵⁵	---	brush
sua ³¹	so ⁵⁵	shǔ	sɔʔ ⁵⁵	---	count
so ⁴⁴ th ³¹ u ³¹	su ⁵⁵ th ³¹ u ³¹	suǒzi	sɔ ⁵⁵ tsi ⁵⁵	sɔ ³¹ si ⁵⁵	lock
---	di ³¹ baŋ ⁵⁵	bāngzhù	---	---	help
---	tiau ⁵⁵ k ^h ɛ ³¹	diāokè	---	---	carve, engrave
---	a ³¹ ven ³³	fēn	---	---	divide
---	p ^h u ³¹ lu ⁵⁵	pū	---	---	unfold
gu ³¹	gu ³¹ ni ⁵⁵	guì	mu ³¹ kɿŋ ⁵⁵	khǔʔ ⁵⁵	kneel
la ³⁵ dzu ⁴¹	la ³⁵ dzi ⁷³¹	làjiāo	bɿa ⁵⁵ ci ⁵⁵	ba ³¹ tɕi ⁵⁵	pepper (hot)
tʃo ⁵⁵	tɕu ³⁵	jiù	---	---	rescue
mo ³³ do ³³	mo ⁵⁵ do ⁵⁵	qìchē	tɕi ⁵⁵ tse ⁵⁵	tɕh ³¹ tshe ⁵⁵	car

1.2 Chinese loans

The Lisu and Chinese borrowings are the only substantive set of borrowings, with only a handful of words borrowed from other sources (Burmese, a Tai-Kadai source, and some Mon-Khmer forms here and there). Our data base was more restricted than Sun's, consisting of the forms in his 1988 article plus the forms in ZMYYC (1991).

2 Phonological changes

The Anong changes, however, are not limited to its lexicon. It has undergone rapid changes in its phonology, in part under the influence of Lisu and in part simply the product of attrition, although at times teasing the two apart is impossible as many of the changes look to be the product of both influences.

2.1 The Anong consonant system

Sun (1988:27-34) provides a reasonably detailed sketch of the Anong sound system. As of 1988, he lists Anong as having 66 or so consonants (1988:27-29):

TABLE 4. Anong consonants (as of 1988)

p-	t-	t̚-	k-	ʔ-		
p ^h -	t ^h -	t̚ ^h -	k ^h -			
b-	d-	d̚-	g-			
	ts-	tʂ-	tɕ-			
	tʃ ^h -	tʂ ^h -	tɕ ^h -			
	dz-	dʒ-	dʒ-			
	f-	s-	ʂ-	ɕ-	x-	h-
	v-	z-	ʒ-		ɣ-	
ᵐ-	ᵑ-		ᵑ̚-	ᵑ-		
m-	n-	ɳ-	ᵑ̚-	ᵑ-		
	l-	ɭ-				
	ɬ-	ɮ-				

Source: Sun (1988:27-29)

Sun (1988:30) also notes that as of 1988 there were 77 finals, ten of them simple vowels, sixteen of them diphthongs, four syllabic nasals, and forty-seven finals with consonant endings.

2.2 The preglottalized consonants

Sun's 1988 (27-34) inventory of consonants includes a preglottalized series, which he describes as consisting of a glottal stop followed by one of the voiced obstruents, one of the voiced affricates (except for dz-), or one of the voiced nasals (except for e-).

TABLE 5. Anong preglottalized consonants (in 1988)

ʔb-	ʔd-	ʔd̚-	ʔg-	
	dz-	ʔdʒ-	ʔdʒ-	
ʔm-	ʔn-	ʔɳ-	ʔɳ-	[ɳ-]
ʔbɮ-				

Source: Sun (1988:29-34)

A little over a decade later, the preglottalized stops are in danger of disappearing. Sun (1999a:355) reports that, while the speech of some elderly speakers still contains preglottalized stops, that is, an initial glottal stop followed by a voiced consonant: [ʔb-],

[ʔb-], [ʔm-], [ʔd-], [ʔn-], [ʔd-], [ʔg-], [ʔŋ-], [ʔl-], [ʔɿ-], and [ʔdz-], (Sun 1999a:355). However, as Sun notes other elderly speakers only retain them as tense vowels, while the majority of the remaining speakers have lost them entirely.

TABLE 6. Loss of glottalized consonants

Anong elderly	Anong under 50	Dulong	gloss
mo ⁵⁵ ʔda ⁵⁵	mo ⁵⁵ da ⁵⁵	mũ ^{ʔ31} dur ³¹ .iũŋ ⁵³	thunder
ŋi ⁵⁵ luŋ ⁵⁵ ʔdze ³¹ lin ⁵⁵	ŋi ⁵⁵ luŋ ⁵⁵ dze ³¹ lin ⁵⁵	tčɛ ^{ʔ55}	open eyes
ʔdaŋ ⁵⁵ ; ʔdaŋ ⁵⁵	daŋ ⁵⁵	---	crawl
ʔdzu ⁵⁵ ŋy ³¹	dzu ³¹ ŋu ⁵⁵	dzin ⁵⁵	to soak
pliŋ ³¹ ʔga ⁵⁵	ga ⁵⁵	ga ⁵⁵	bright; clear
çɛ ³¹ ʔnɛm ⁵⁵ ɛ ³¹	ɑ ³¹ nɛm ⁵⁵	---	beautiful
ɑ ³¹ ʔna ³¹	ʔɑ ³¹ nɛ ³⁵ u ³⁵		dye
ʔdɛm ⁵⁵	dɛm ⁵⁵		on credit

Sun (1999a:355) states that in the data recorded in 1960, the language consultant's Anong included minimal pairs between words with preglottalized stops and those without, but in 1999; in these same examples, the initial pre-glottalization had disappeared, in most cases with the glottalization having simply been lost.

Sun (1999a:355) specifically notes that the 1960 survey had not shown any tenseness, but tenseness was found in the 1983 survey. The 1983 tenseness was found in vowel and nasal codas, but it did not appear to have a grammatical function, nor was it used to differentiate words. However, in the 1999 survey Sun found it used not only to show contrasting pairs in new words, but also for marking grammatical meaning. Unfortunately, no examples are listed. Lisu, incidentally, has tenseness.

2.3 Simplification of clusters with retroflexes

The initial consonant clusters [p^h-], [b-], [m-], [f-], [v-], [k^h-], and [g-], found in the speech of older Anong speakers, are no longer present in the speakers under the age of 50, nor in the speech of young people (Sun 1999a:355). In the place of the [-] was a semi-vowel pronounced as the high vowel [i] or the semi-vowel [j] (Sun 1999a:355), in those cases where the reflexes of the [-] have not disappeared completely.

TABLE 7. Simplification of retroflexes

Lisu	Anong	Trung	Nujiang	gloss
p ^h u ⁴⁴	p ^h u ⁵⁵ no ³¹	p ^h u ⁵⁵		untie
	a ³¹ p ^h i ³¹			ancestor
li ³¹	bi ³	a ³¹ bli ⁵³	bli ⁵³	four
ts ^h e ⁴⁴ du ³¹	sa ⁵⁵ bi ³¹	duŋ ⁵⁵ bli ⁵³	---	pestle; mortar
x ^a ³¹	ca ⁵⁵ ʔb ^h u ³⁵	---	---	cross over
p ^h i ³¹	ban ⁵⁵ se ³¹	blat ⁵⁵	blät ⁵⁵ ; -blat ⁵⁵	braid
	a ³¹ m ^h an ⁵⁵			angry
	da ³¹ f ^h i ⁵⁵			turtledove
	k ^h i ⁵³			sweet
k ^h u ³¹	dε ³¹ g ^h i ⁵⁵	du ³¹ g ^h ui ⁵⁵	du ³¹ gi ⁵⁵	dog
bu ³³	g ^h i ⁵⁵	g ^h ui ⁵³	g ^h ui ⁵⁵	crow, to
tʃ ^h i ⁴⁴ ne ³³ 'foot' + 'pinch'	a ³¹ xε ³³ g ^h i ³¹ dε m ⁵⁵	lu ³¹ g ^h u ⁵³	lu ³¹ g ^h u ⁵³	shoes
---	hε ³¹ g ^h i ⁵³	---	---	potato
bo ⁴⁴	ga ⁵⁵ ga ³¹	a ³¹ g ^h u ⁵³	a ³¹ g ^h u ⁵³	full; satiated
---	x ^h u ⁵⁵	---	---	sift

With only a few exceptions, the forms in the table are the old forms before the loss of the retroflexes. Other data contains examples of the same forms but without the medial -i-, as spoken by the middle-aged and the younger generation.

2.4 Loss of older retroflexed onsets

The retroflex series in the 1988 consonant inventory (Table 1) is a retention from the earliest recorded stage of Anong (Sun (1999a:355). It is now beginning to merge with the non-retroflexed series.

TABLE 8. Loss of retroflexed onsets

Lisu	Anong	Trung	gloss
bw ³³	tʰi ³¹ liu ⁵³	---	pay for
pʰi ³¹ tʰo ³¹	ca ⁵⁵ sam ³¹ tʰuŋ ⁵⁵	pi ⁵⁵ tɕu ⁵³	ball
---	tʰim ⁵⁵	---	tie a knot
ŋi ³³ ma ³³	tʰa ³¹ ŋaŋ ⁵⁵	a ³¹ nu ⁵⁵	sibling, younger
---	tʰam ⁵⁵	a ³¹ dap ⁵⁵	hit (table)
tʰɛ ⁴¹	tʰa ³¹ -i	dap ⁵⁵	nail onto
---	tʰu ⁵⁵	---	pluck
tʰɛ ⁴¹	tʰa ³¹ -i	dap ⁵⁵	nail onto
da ³¹ to ⁵³	a ³¹ tʰa ³¹	ka ⁵⁵ a ³¹ taŋ ⁵⁵	answer
li ⁵⁵	tʰi ³¹ li ³¹	tsap ⁵⁵ note	give/ pay back
---	ŋ ³¹ kʰi ⁵⁵ ŋi ³¹ tʰi ⁵⁵	kwan ⁵⁵	chase; hunt
pʰiɛ ³ za ⁴¹ ku ⁴⁴	tʰin ⁵³	tu ⁵⁵	rob; plunder
la ³¹	a ³¹ tʰuŋ ⁵⁵	mu ³¹ dum ⁵⁵	retreat
vu ³¹ la ³³	tʰɛ ⁵⁵	a ³¹ ai ⁵⁵	grow up
mo ³¹	tʰi ³¹ maŋ ³¹	---	old (people)
tu ³⁵	ɕi ³¹ tʰi ³⁵	ten ⁵⁵ (knife)	hold
---	ka ³¹ tʰaŋ ⁵³	---	above; over
ka ⁴⁴ tɛ ⁴⁴	dɛ ³¹ guŋ ³¹ tʰaŋ ⁵⁵	gɔŋ ⁵⁵ ɿŋ ⁵⁵	backbone
ɣa ³³ pʰu ⁴⁴	dɔ ³¹ gu ⁵⁵	kǎ ⁵⁵ aŋ ³¹ gu ⁵⁵	rooster
---	tɕa ⁵⁵ dɔŋ ³¹	pu ³¹ tɕi ⁵⁵ dǎŋ ⁵³	a nest
la ³¹ ba ³¹	ɕɿ ³¹ dɔŋ ³¹	ɰ ⁵⁵ bǔ ⁵⁵	cover; quilt
sa ³¹ du ³³	dɿ ³¹ ɣɛn ⁵⁵	pu ³¹ sa ⁵⁵	mark; sign
---	dɔŋ ⁵⁵ ɛ ³¹	dǔ ⁵⁵	vomit
---	dɿm ⁵⁵	---	kick

---	ʔdaŋ ⁵⁵	ŋaŋ ⁵⁵	crawl
na ³¹	dʲi ³¹ gaŋ ⁵⁵	---	rest; stop
tʃɿ ⁴⁴	dʲi ³¹ gɿ ³¹ u ³¹	---	smelt [copper]
tʃe ⁴⁴ tsu ⁴⁴	dʲi ³¹ fɿ ⁵⁵	nǎm ⁵³ nu ⁵³ na ⁵⁵	cool
tʃh ³³ th ³³	ʃɿ ³¹ da ⁵⁵	mi ⁵⁵ gɔ̃t ⁵⁵	intelligent
ne ⁴⁴ ts ^h ɿ ³⁵	dʲu ³¹	nǎm ⁵³ du ³¹ zǎt ⁵⁵	dark (not light)
a ³¹ dʒɿ ³¹	a ³¹ daŋ ⁵⁵	su ³¹ nǎŋ ⁵⁵	all
ma ³³	thi ³¹ dʲu ³¹	ti ⁵⁵ gu ⁵⁵	chicken, clf.
ta ³³ ta ³⁵	da ⁵⁵ daŋ ³¹	su ³¹ ɿep ⁵⁵	vertical, stand
---	xam ⁵⁵ daŋ ⁵⁵	aŋ ³¹ ɿam ⁵⁵	across; horizontal
na ⁵⁵ bo ³¹	a ³¹ na ³¹ bu ³¹ dʲu ⁵⁵	nu ³¹ du ⁵³	deaf
ʒɿ ⁵⁵	dʲu ⁵⁵ tʃhin ³¹ nuŋ ⁵⁵	---	seize; take; carry
k ^h u ⁵⁵	dʲu ³¹ dʲuŋ ⁵⁵	ni ⁵⁵ ts ^h a ⁵⁵	tight
---	mu ⁷⁵³ dʲu ⁷⁵³	paŋ ⁵³ nu ⁵⁵	cloudy
ka ⁴⁴ te ⁴⁴	dʲe ³¹ guŋ ³¹ thar ⁵⁵	gɔ̃ŋ ⁵⁵ ɿi ⁷⁵⁵	backbone
tʃu ⁴⁴	dʲi ³¹ ɿu ⁷⁵⁵	xɿu ⁷⁵⁵	thin (person)
---	mu ⁷⁵³ dʲu ⁷⁵³	nǎm ⁵³ du ⁵⁵	cloudy
ŋ ⁱ 33ma ³³	th ^a 31ŋaŋ ⁵⁵	a ³¹ nu ⁵⁵	sibling, younger
---	ŋ ⁱ 31ŋa ³¹ a ³¹ tʃ ^h u ³¹	tsu ⁵³	to herd
ni ³⁵ nu ³³	ŋi ⁵⁵ ci ³¹	ŋi ⁵⁵ ci ³¹	love
nu ³¹	ɛn ⁴¹	ŋɿup ⁵⁵	soft; tender
ne ⁴⁴	ŋaŋ ⁵⁵ ɛ ³¹	tsaŋ ⁵⁵ ma ⁵⁵ mu ³¹ ca ⁵³ c??	dirty
e ⁵⁵ ua ³¹ ŋ ⁱ 31ʒo ⁴⁴	ŋ ³¹ ŋuŋ ⁵⁵ si ³¹	---	they (two)
e ⁵⁵ ua ³¹	ŋ ³¹ ŋuŋ ⁵⁵	ǎŋ ⁵⁵ nǎŋ ⁵⁵	they (pl.)
du ³¹ dʒa ³¹	ts ^h om ⁵⁵ ŋia ⁵³	---	think
a ⁵⁵ so ⁴⁴	th ^e 31m ^e 55sa ³¹	tɔ̃i ⁵⁵ a ³¹ laŋ ⁵³	just now
---	ŋɛ ³¹ ŋuŋ ⁵⁵ si ³¹	---	you (two)
---	ŋɛ ³¹ ŋuŋ ⁵⁵	nu ⁵⁵ nǎŋ ⁵⁵	you (plural)
gu ³¹	gu ³¹ ŋi ⁵⁵	mu ³¹ kɿoŋ ⁵⁵	kneel

ʃɿ ⁴⁴	ʂɿ ⁵⁵	seɿ ⁵⁵	gold; yellow
kʰu ³¹ xu ⁴⁴	ʂɿ ⁵⁵ ɿ ³¹	su ³¹ li ⁵³	flea cf. louse
li ⁵⁵	tʰi ³¹ ɿ ³¹	---	give/ pay back
go ⁴¹	gu ³¹ ɿ ⁵⁵	du ³¹ gɿ ⁵⁵	crooked, bent
li ³¹	a ³¹ ɿ ⁵⁵	a ³¹ li ⁵³	heavy
---	tʰi ⁵⁵ ɿ ⁵⁵	ti ⁵⁵ li ⁵⁵	grain clf.
---	tʰi ³¹ ɿ ⁵³	---	pay for
e ⁵⁵ lu ⁴⁴	ŋ ³¹ ɿ ⁵⁵	aŋ ³¹ li ⁵⁵	old

TABLE 9. Loss of retroflex initials

Anong elder	Anong under 50	Dulong	gloss
tʰe ⁵⁵	tʰe ⁵⁵	---	grow up
tʰa ³¹ ɿ ⁵⁵	tʰa ³¹ na ⁵⁵	---	younger brother
tʰin ⁵³	tʰin ⁵⁵ ; tʰin ⁵³	tu ⁵⁵	rob; plunder
ɕim ⁵⁵	dim ⁵⁵	---	kick
bu ³¹ ɕu ⁵⁵	a ³¹ na ³¹ bu ⁵⁵ ɕu ⁵⁵	nu ³¹ ɕu ⁵³	deaf
?ɕaŋ ⁵⁵ ; ?daŋ ⁵⁵	daŋ ⁵⁵	---	crawl (child)
ŋe ³¹ bu ³¹	na ³¹ bu ³¹	nǎm ⁵³ bǔŋ ⁵³	the wind
ŋu ³¹	nu ³¹	nu ⁵³	wine; rice beer
xε ⁵⁵ ɿ ⁵⁵	ŋi ³⁵ xα ⁵⁵ na ⁵⁵	na ⁷⁵⁵	black
ŋεm ³³ ; ŋεm ⁵⁵	nεm ³¹	nam ⁵⁵	sell
bu ³¹ ɿ ⁵⁵	bu ³¹ li ⁵⁵	bu ³¹ li ⁵⁵	insect

2.5 Increased phonological free variation

Sun (1999a:355) notes that free variation occurred in individuals and it appears in the language as a whole. Sun notes that one pattern of such variation is between the lateral fricative and the lateral.

TABLE 10. Increased free variation

Lisu	Anong elderly	Anong under 50	Dulong	gloss
tu ⁵⁵	lim ⁵⁵	lim ⁵⁵ /ɿim ⁵³	lu ⁵⁵	bury
lu ⁴¹	laŋ ⁵⁵	laŋ ⁵⁵ /ɿaŋ ⁵⁵	la ⁷⁵⁵	lick, lap
	la ⁵⁵	la ⁵⁵ /ɿa ⁵⁵	---	take

2.6 New free variation between the affricate series

In Anong, there are two sets of affricates: alveolar and palatal. For a number of words, these two are in free variation. They have innovated this variation since the earliest recording.

TABLE 11. New free variation in affricates/fricatives

Lisu	Anong elderly	Anong under 50	Dulong	gloss
---	tʃhɑ ⁵⁵	tʃhɑ ⁵⁵ /tʃhɑ ⁵⁵	pu ³¹ tʃi ⁵⁵	bird
---	tʃɑ ⁵⁵ xom ³³	tʃɑ ⁵⁵ xom ³³ /tʃɑ ⁵⁵ xom ³³	---	squirrel
---	çɛm ³¹	çɛm ³¹ /fɛm ³¹	çǎm ⁵³	knife

Most likely this innovated free variation is related to Lisu influence, a language which has failed to preserve the older distinction between alveolar and palatal affricates.

3 Grammatical changes

Significant restructuring is not confined to the phonological realm. The grammatical structures of Anong have also undergone widespread, non-trivial restructuring. The earliest recorded stages of Anong grammar had a rich system of grammatical distinctions with much of it expressed through affixes and through inflectional changes in word roots. However, since the earlier recordings Anong has undergone rapid changes: Some grammatical categories are now only used by elderly speakers and have already disappeared in the speech of even only slightly-younger speakers. A number of cases of the restructuring of grammatical categories are discussed below:

3.1 Restructuring of causativization

Sun touches on the restructuring in a paper on Tibeto-Burman causatives (1999b). In that he compares the older and newer versions of Anong causativization with the causative system of closely-related Dulong, and Thurgood (2003) expands upon that paper. Here, however, it is enough to show a quick comparison of the comparatives of the older speakers with the speakers under 50.

TABLE 12. Older versus newer causatives

			older speakers	younger speakers
stuck	ga ⁵⁵	cause to be stuck'	sɿ ³¹ ga ⁵⁵	ga ⁵⁵ / ka ⁵⁵
rot	bum ³¹	cause to rot'	sɿ ³¹ bum ³¹	bum ³¹ / pum ³¹

Notice that the older speakers have a causative essentially based on prefixation of the root. For these same forms, the younger speakers have either a prefixless root or a root with a devoiced onset. This devoicing and the subsequent loss of the prefix has, incidentally, taken place within the last twenty years. Much of the change between the older speakers and the younger speakers has taken place between Sun's recording of Anong in 1983 and his recording in 1999.

3.2 *Loss of person and number*

Earlier Anong verbs indicated person and number through a rather rich system of affixation, including at times the person and number marking of objects. However, except for the most proficient speakers, this affixation system has undergone serious deterioration or even loss.

3.3 *Loss of grammatical particles*

Drastic simplification is occurring in the marking of a number of Anong grammatical constructions. The restrictions on the use of those particles are being lost; in some cases, speakers under the age of 50 have stopped using them entirely.

TABLE 13. Loss of grammatical particles

		Anong elderly	Anong under 50
INSTRUMENTAL	mi ⁵³	still used	still used
CAUSATIVE	mi ⁵³	still used	no longer used
RECIPIENT	ba ³¹	still used	no longer used
LOCATIVE	thaŋ ⁵³	still used	used sometimes
POSSESSIVE	ka ³¹	still used	no longer used

As is shown in (Table 13), some of the particles are ceasing to be used by the younger speakers. Some are no longer used; others are only used sometimes.

3.4 *More on possessive marking*

Anong nouns indicate the possessive by the addition of a prefix (derived from the personal pronouns). Such possessive marking was once widespread in a small number of elderly, fluent Anong speakers. However, for most Anong speakers the older system is being replaced. Now, in the speech of older speakers, there are two ways of marking possessive: prefixation alone and prefixation with possessive pronouns. Those under 50, however, only use the possessive pronoun to mark possession. This is illustrated in (table 14).

TABLE 14. Possessive marking

Anong elderly		Anong under 50	
prefixation only	prefix + pronoun	pronoun only	
α ³¹ mu ³¹ /	ŋα ³¹ α ³¹ mu ³¹	ŋα ³¹ mu ³¹	my mother
ŋu ³¹ mu ³¹ /	ŋα ³¹ ŋu ³¹ mu ³¹	ŋα ³¹ mu ³¹	your mother
ŋ ³¹ mu ³¹ /	ŋ ³¹ ŋ ³¹ mu ³¹	ŋ ³¹ mu ³¹	his mother

Not surprisingly, the system used by Anong speakers under 50 closely resembles that of Lisu.

3.5 Borrowed agentive suffix

One of the many morphological borrowings from Lisu is the agentive suffix *-su*, exemplified in the examples of Table 15. The preliminary wordlist contains over 50 such constructions.

TABLE 15. Agentive *-su* borrowed from Lisu

<i>-su</i> ⁴⁴	<i>-su</i> ⁵⁵	AGENTIVE
sa ³⁵ mi ³¹ ʒe ³³ su ⁴⁴	ɕuŋ ⁵⁵ io ³¹ mun ⁵⁵ su ⁵⁵	carpenter
ne ⁴⁴ tsh ⁴¹ ʃa ³⁵ su ⁴⁴	ne ⁵⁵ tsh ³¹ ru ³¹ mum ⁵⁵ su ⁵⁵	doctor
so ⁴⁴ su ⁴⁴	tɕhɛn ³³ sɿ ⁵⁵	student
ma ⁵⁵ su ⁴⁴	sɿ ³¹ lam ⁵⁵ su ⁵⁵	teacher
	thi ³¹ za ³¹ cin ³¹ ŋin ⁵⁵ su ⁵⁵	a guide
	thi ³¹ za ³¹ dzɿ ⁵⁵ su ⁵⁵	traveller
	nan ⁵⁵ vɛn ³⁵ su ⁵⁵	customer
	da ³¹ si ⁵⁵ ua ⁵⁵ su ⁵⁵	colleague
	k ^h a ⁵⁵ ŋi ⁵⁵ su ⁵⁵	a judge
	la ³¹ ma ⁵⁵ ua ³³ su ⁵⁵	farmer

Notice also that, while Anong and Lisu both have agentive marked words, it is not the words themselves that have been borrowed but only the suffix that has been borrowed into Anong.

This brief survey of language loss and language restructuring under the twin influences of attrition and contact is not definitive, nor is it meant to be. Countless other structures remain to be described and analyzed. However, despite its brevity, this preliminary list should provide a feel for the rapidity and totality of the restructuring over the last forty years.

4 The twin causes of language change

Two factors seem to account for the rapidity and the directionality of the restructuring of Anong. The first is the attrition associated with language death; it is being used by fewer and fewer speakers on fewer and fewer occasions. It is, in addition, virtually inaccessible to non-fluent speakers, with those who speak it well diminishing in number year by year. Even among the most fluent Anong speakers, their Lisu is usually better than their Anong. Sun's survey (1999a:353-355) of around a quarter of all the Anong speakers located in Mugujia village, including virtually all the most fluent speakers examined their fluency in Anong, in Lisu, and in Chinese, in terms of four levels of linguistic competence, here called Levels A, B, C, and D. The levels are A Fluent (daily conversation, food production, and 3000 word vocabulary), B Semi-fluent (daily greetings, 1000 word vocabulary), C Limited, and D Non-speakers (for more details see Thurgood 2003).

The findings are summarized in Table 16 below, compiled from the numbers in Sun (1999a:353-355). As the Anong column shows, as of 1999 there were 62 individuals "fluent" in Anong (using the criteria above). Essentially this small group constitutes all the remaining fluent speakers, since as Sun notes (1999a:354), Mugujia village, with its cluster of Anong speakers, is the only place one can still find fluent speakers. There are, however,

“semi-fluent” speakers in other areas, allowing us to estimate the total number of semi-fluent speakers at 280.

TABLE 16. Anong fluency rates in Anong, Lisu, and Chinese

Proficiency	Anong		Lisu		Chinese	
	#	%	#	%	#	%
A. Fluent	62	59.6%	96	92.3%	13	12.5%
B. Semi-fluent	19	18.2%	8	7.7%	17	16.3%
C. Limited	14	13.4%	0	0.0%	19	18.3%
D. Non-speakers	7	8.8%	0	0.0%	55	52.6%

An examination of the second column is revealing. Even among the 104 Anong speakers in Muguja village, including the last 62 fluent speakers, all but 8 of them are also fluent in Lisu (Sun 1999a:353-355). The remaining 8 Anong speakers only semi-fluent in Lisu were elderly and rarely went out. Sun notes that almost all of the Anong speak better Lisu than Anong, including the 62 fluent speakers. In short, Anong speakers have better command of Lisu than Anong.

Sun (1999a:355) comments specifically on the correlation between proficiency level in Anong and the knowledge of vocabulary. Sun (1999a:355) distinguishes Anong speakers in terms of a proficiency continuum: Level A speakers Sun describes as fluent, by which he means being able to converse readily, to describe daily activities and food preparation, and as having vocabularies of over 3000 words. Level B speakers Sun describes as ordinary, by which he means able to converse on a more limited basis, having a more limited vocabulary—roughly 1,000 basic items of vocabulary, and speaking their second language better than their first language. Level C speakers Sun describes as limited to greetings and a few everyday phrases, they are limited in their ability to express themselves widely in Anong, they mix in words from their second language, their pronunciation is flawed, and they speak their second language quite fluently. Level D speakers Sun describes as having largely lost most or all of their first language. Some can understand a little, but cannot speak, while others cannot even understand a little.

One corollary to this usage pattern is that Lisu, not Anong is the default language, even in Muguja village. Generally, only the fluent Anong use it when conversing with each other; when a non-fluent speaker joins in, the conversation shifts into Lisu, limiting access for the less fluent and guaranteeing that Anong will not be passed on. In part, because of the marginal role that the language plays in Anong society, many of the best educated Anong are relatively indifferent to the impending loss of Anong, expressing the view that not only is this the general trend but also noting that they realize that there is little they could do about it in any case (Sun 1999a). Note that, while Anong is their first language, it is neither their only language, their most useful language, nor even their most fluent language; almost all Anong speak better Lisu and use it for more purposes.

The Anong have been a relatively open-minded community. In the Nujiang River area, they coexisted amicably with other ethnic groups. Inter-marriage was common, especially with the Lisu. The Anong language has relatively complicated phonological and grammatical systems. We observed that, even in those few villages where the Anong were in

the majority, people from the few households (of other ethnic groups) living among them did not tend to learn Anong. In Anong families where one of the members had married someone from another ethnic group, even though there was only one non-Anong member of the family, he or she very rarely spoke Anong. On the contrary, Lisu became the common language of the married couple. For Anong who had married Bai or Chinese, the language usage situation was very similar: Essentially they all used Lisu, as it was the dominant language in that area. Therefore, family members often learnt Lisu first. Thus, here as elsewhere Lisu, not Anong, is the default language of communication.

5 Conclusions

Two pressures have worked in tandem in Anong, attrition and contact. Together they account for the total restructuring of Anong over just the last forty years; together they account for the almost inevitable disappearance of Anong within the next forty.

Acknowledgements

The research in this paper is supported in part by National Science Foundation Grant No. BSR60232 Investigation and Documentation of Three Endangered Languages in China. The Anong data is from Sun Hongkai's work, a participant in the grant.

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