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**PROCEEDINGS OF THE NINETEENTH ANNUAL MEETING
OF THE
BERKELEY LINGUISTICS SOCIETY**

February 12-15, 1993

**SPECIAL SESSION
ON
SYNTACTIC ISSUES
IN
NATIVE AMERICAN LANGUAGES**

**Berkeley Linguistics Society
Berkeley, California, USA**

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edited by

David A. Peterson

Berkeley Linguistics Society

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KRISTIN HANSON

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SCOTT SCHWENTER

How a Judge's *Voir Dire* Can Teach a Juror What to Say
ROGER SHUY

PREFACE

This volume represents the second Americanist Special Session associated with BLS and thereby also the beginning of the second trio of Special Sessions devoted to the areas of areal specialization at Berkeley (the Americas, Africa, and Southeast Asia). We hope that the readership will find the papers enjoyable and useful.

There are many people who should be thanked for their support in various aspects of the production of this volume. First, thanks are due to Rich Rhodes, who first suggested the topic for the Special Session over lunch one Friday at the Survey, and to the members of the Survey who batted the idea around and filled in the details. Laura Buszard-Welcher and Bill Weigel are to be thanked for extensive advice on the logistics of the Special Session itself. Others who helped in various ways include Hal Brightcloud, Dave Costa, Mirjam Fried, Leanne Hinton, Jean-Pierre Koenig, Pam Morgan, Laurel Sutton, and Lionel Wee. Josh Guenter, Barbara Kaiser, and Cheryl Zoll, the organizers of this year's conference, deserve sincerest congratulations and gratitude for such a smooth weekend. Thanks also to the participants and especially to Rich Rhodes for his opening remarks at the Special Session. Finally, my appreciation to the Survey of California and Other Indian Languages for much needed table space and computer facilities.

David A. Peterson

THE CLITIC/AGREEMENT SPLIT: ASYMMETRIES IN CHOCTAW PERSON MARKING

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Jack Martin, *Rice University*

1. Person markers associated with verbs are traditionally analyzed as 'agreement' or as 'incorporated pronouns'.¹ Consider, for example, previous approaches to the conjugation of the verb *hilha* 'dance' in Choctaw, a Western Muskogean language spoken in Mississippi and Oklahoma:²

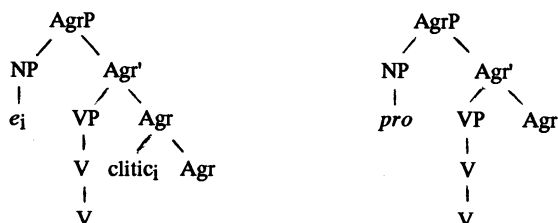
(1) *Choctaw agentive ('series I') person markers:*

	<i>Hilha</i>	-tok.	'He/she/it/they danced.'
	<i>Hilha-li</i>	-tok.	'I danced.'
<i>li-</i>	<i>hilha</i>	-tok.	'We danced.'
<i>Ish-</i>	<i>hilha</i>	-tok.	'You danced.'
<i>Hash-</i>	<i>hilha</i>	-tok.	'Y'all danced.'

Munro and Gordon (1982), Payne (1982), Davies (1986), Ulrich (1986), and Broadwell (1988) analyze each of the agentive person markers in Western Muskogean as 'agreement'. Jelinek (1989), in contrast, follows an older Americanist tradition in analyzing the same markers as incorporated pronouns or 'pronominal arguments'.

The contrast between agreement and incorporated pronouns is sometimes thought to have structural correlates. An incorporated pronoun (or 'pronominal clitic') in Romance, for example, is generally analyzed as an argument-like element adjoined to a head-level category and linked to an empty category in argument position. Agreement, however, has been analyzed as a functional category taking phrasal complements (Pollock 1989, Chomsky 1991). The contrast appears in (2):

(2) a. *Incorporation/cliticization:* b. *Agreement:*



In (2a), the clitic is associated with an empty category in subject position. In (2b), specific properties of Agr (such as the property of having 'rich' agreement) license an empty category (assumed to be *pro*) in the subject position.

The contrast between (2a) and (2b) leads us to reexamine the status of person markers in Choctaw. Note, for example, that the first singular (1s) marker *-li* is postverbal, while the other person markers are preverbal. If *-li* is an agreement marker, its postverbal position might follow from a general preference for uniformly head-final phrases in Choctaw. At the very least, the difference in

placement between 1s and non-1s markers in Choctaw leads us to consider whether the clitic/agreement distinction divides persons in the language.³

In fact, we will argue in 2 that the agentive 1s marker is agreement, and that the other person markers in (1) are incorporated pronouns.⁴ In 3 we examine a similar clitic/agreement split in the nonagentive person markers, suggesting the split is based on grammatical relations (subject vs. object) rather than on person. In 4 we examine the behavior of clitics and agreement with respect to a rule of restructuring. The results are compatible with the distinction shown in (2a-b), but they are also compatible with an approach that treats agreement as 'inside' of clitics, and thus as less accessible to syntactic operations.

2. AGENTIVE AGREEMENT VS. AGENTIVE CLITICS. In this section, we present three types of evidence pointing to an asymmetry between the postverbal 1s marker and the preverbal markers in the agentive series of person markers.

2.1 PHONOLOGICAL EVIDENCE. To our knowledge, the first suggestion that the 1s marker might differ structurally from the non-1s markers comes from Ulrich's (1986) study of Choctaw lexical phonology. Nicklas (1974) and Munro and Ulrich (1984) had previously described a rule of rhythmic lengthening that can be stated informally as follows:

- (3) RHYTHMIC LENGTHENING: In a string of light syllables, non-final, even-numbered syllables are lengthened. (Ulrich 1986:54)

The effect of rhythmic lengthening can be seen in forms like the following:⁵

- (4) *Apila-tok.* → [api:la-tok] 'He/she helped.'
help-PT

In (4), the second syllable is lengthened as a result of (3). Ulrich (1986) notes that the 1s marker *-li* is within the domain of rhythmic lengthening, which we take to be the phonological word:⁶

- (5) *Apila-li-tok.* → [api:la-li-tok] 'I helped.'
help-1sI-PT

The lengthening of the 1s marker in (5) follows if *-li* is within the phonological word. Preverbal person markers, in contrast, are outside of the phonological word:

- (6) *Ish#apila-tok.* → [iʃ.a.pi:.la.tok] 'You helped.'
* [i.ʃa:.pi.la:.tok]

Hash#apila-tok. → [haʃ.a.pi:.la.tok] 'Y'all helped.'
* [ha.ʃa:.pi.la:.tok]

Il#apila-tok. → [il.a.pi:.la.tok] 'We helped.'
* [i.la:.pi.la:.tok]

Note that the final consonants of clitics also fail to resyllabify with the following verb. This is a further diagnostic of the phonological word.

Evidence from rhythmic lengthening suggests the phonological structure of the verb complex in Choctaw is [non-1s [_{word} verb+1s]]. The preverbal/postverbal distinction in Choctaw person markers is thus tied to a structural distinction which we take to reflect a contrast between agreement and incorporated pronouns.

2.2 OMISSIBILITY. In 2.1, we examined evidence suggesting that the non-1s markers are outside of the phonological word, while the 1s marker is inside of the phonological word. While this type of evidence supports a distinction between word-internal and word-external markers, it does not establish the status of these markers with regard to the clitic/agreement distinction.⁷ In this section, we examine a syntactic asymmetry suggesting the 1s marker is agreement, and the non-1s markers are incorporated pronouns.

A 1s marker is required on the verb even when an independent pronoun is present:

- | | |
|--------------------------------|------------------------------|
| (7) PERSON MARKER PRESENT: | PERSON MARKER OMITTED: |
| <i>An-akoosh habli-li-tok.</i> | <i>*An-akoosh habli-tok.</i> |
| I-EMPH:NOM kick-1sI-PT | I-EMPH:NOM kick-PT |

'I kicked.'

Non-1s markers differ in this respect. When an emphatic pronoun is present, it is acceptable to omit person marking on the verb:

- | | |
|---|---------------------------------|
| (8) <i>Chishn-akoosh ish-habli-tok.</i> | <i>Chishn-akoosh habli-tok.</i> |
| you-EMPH:NOM 2sI-kick-PT | you-EMPH:NOM kick-PT |
- 'You kicked.'
- | | |
|---------------------------------------|--------------------------------|
| (9) <i>Pishn-akoosh ii-habli-tok.</i> | <i>Pishn-akoosh habli-tok.</i> |
| we-EMPH:NOM 1pI-kick-PT | we-EMPH:NOM kick-PT |

'We kicked.'

These data are analogous to facts in Spanish, where incorporated pronouns are optional in the presence of an independent pronoun:

- | | |
|--|----------------------------------|
| (10) <i>Lo veo a él.</i> 'I see him/it.' | <i>Veo a él.</i> 'I see him/it.' |
|--|----------------------------------|

Incorporated pronouns in Spanish thus differ from agreement, since agreement is not omissible in the presence of an emphatic pronoun.

We conclude from the similarity between Spanish and Choctaw that 1s *-li* is an agreement marker in Choctaw, while the non-1s markers are incorporated pronouns.

3. NONAGENTIVE AGREEMENT VS. NONAGENTIVE CLITICS. In 2, we argued that the agentive, postverbal 1s marker *-li* is an agreement marker, and that the agentive, preverbal non-1s markers are pronominal clitics. In addition to the agentive series of person markers, Choctaw has a second series of person markers

used for the subjects of many nonagentive verbs (11) and for the objects of most transitive verbs (12):

(11) *Choctaw nonagentive ('series II') person markers: For subject:*

	<i>Niya</i>	<i>-h.</i>	'He/she/it is fat./They are fat.'
<i>Sa-</i>	<i>niya</i>	<i>-h.</i>	'I am fat.'
<i>Pi-</i>	<i>niya</i>	<i>-h.</i>	'We are fat.'
<i>Chi-</i>	<i>niya</i>	<i>-h.</i>	'You are fat.'
<i>Hachi-</i>	<i>niya</i>	<i>-h.</i>	'Y'all are fat.'

(12) *Choctaw nonagentive ('series II') person markers: For object:*

	<i>Tokli</i>	<i>-tok.</i>	'He/she/they pushed him/her/it/them.'
<i>Sa-</i>	<i>tokli</i>	<i>-tok.</i>	'He/she/they pushed me.'
<i>Pi-</i>	<i>tokli</i>	<i>-tok.</i>	'He/she/they pushed me.'
<i>Chi-</i>	<i>tokli</i>	<i>-tok.</i>	'He/she/they pushed you.'
<i>Hachi-</i>	<i>tokli</i>	<i>-tok.</i>	'He/she/they pushed y'all.'

Previous accounts of Choctaw have grouped the nonagentive person markers in (11) with those in (12), either analyzing them all as agreement (Munro and Gordon 1982, Payne 1982, Davies 1986, Ulrich 1986, Broadwell 1988) or as pronominal arguments (Jelinek 1989). Since the person markers in (11-12) are all preverbal, we might expect they would all be clitics. Surprisingly, the diagnostics we have developed so far suggest the subject markers in (11) are agreement markers, and those in (12) are clitics. Arguments are presented 3.1-2.

3.1 OMISSIBILITY. In 2.2, we noted that the 1s agreement marker *-li* is not omissible in the presence of an emphatic, independent pronoun, while the non-1s clitics are omissible. Nonagentive person markers associated with subjects are not omissible:

(13) PERSON MARKER PRESENT:	PERSON MARKER OMITTED:
<i>An-akoosh sa-niya-h.</i>	<i>*An-akoosh niya-h.</i>
I-EMPH:NOM 1sII-fat-TNS	I-EMPH:NOM fat-TNS
'I am fat.'	

Nonagentive person markers associated with objects are omissible, however:

(14) <i>An-akQ sa-tokli-tok.</i>	<i>An-akQ tokli-tok.</i>
I-EMPH:ACC 1sII-push-PT	I-EMPH:ACC push-PT
'He/she/they pushed me.'	

In this respect, the person markers for nonagentive subject markers pattern with the agreement marker *-li*, while nonagentive object markers pattern with clitics.

3.2 VP-INTERNAL VS. VP-EXTERNAL PERSON MARKERS. Choctaw has a VP anaphor *yohmi* 'do so' that refers to a verb phrase in the preceding discourse:

- (15) *John-at takkon apa-kmq; Bill-akkia yohmi-h.*
 John-NOM apple eat-IRR Bill-too do:so-TNS
 'John ate apples and Bill did, too.'

Yohmi replaces the entire preceding verb phrase. An object cannot appear in the *yohmi* clause:

- (16) *John-at takkon apa-kmq; Bill-akkia (*takkon/ahi) yohmi-h.*
 John-NOM apple eat-IRR Bill-too (*apple/potato) do:so-TNS
 'John ate apples and Bill did (*apples/potatoes), too.'

Nonagentive person markers can be divided into two groups according to whether they may occur in the *yohmi* clause. When they are associated with subjects, the person markers may appear on *yohmi*:

- (17) *John-at niya-kmq; an-akkia sa-yohmi-h.*
 John-NOM fat-IRR I-too 1sII-do:so-TNS
 'John is fat and I am, too.'

In this respect, subject markers pattern alike regardless of series:

- (18) *John-at chi-pisa-kmq; an-akkia yohmi-li-h.*
 John-NOM 2sII-see-IRR I-too do:so-1sI-TNS
 'John saw you and I did, too.'

When the nonagentive person marker is associated with an object, however, it may not be repeated in the *yohmi* clause:

- (19) **John-at sa-pisa-kmq; Bill-akkia sa-yohmi-h.*
 John-NOM 1sII-see-IRR Bill-too 1sII-do:so-TNS
 'John saw me and Bill did, too.'

These facts can be described if we assume the following: a) subject markers (including both agentive and nonagentive subjects) are external to the verb phrase; b) object markers are part of the verb phrase; c) *yohmi* replaces or stands for the entire antecedent verb phrase. As a result, nonagentive person markers fall into two groups (which we have labelled 'agreement' and 'clitics') according to whether they (or their referents) are VP-internal or VP-external.⁸

4. RESTRUCTURING AND THE CLITIC/AGREEMENT SPLIT. Rizzi (1978) notes that with certain modal, aspectual, and motion verbs in Italian, a pronominal clitic originating in an embedded infinitival clause may appear either on the infinitive or on the higher verb:

- (20) *Mario finisce di batter la a macchina domani (la tesi).*
Mario la finisce di battere a macchina domani.
 'Mario will finish typing it tomorrow (his thesis).'

In accounting for these data, Rizzi (1978) motivates a rule of restructuring that optionally transforms an underlying biclausal structure into a simple sentence (see also Burzio 1986, ch. 5, among others). Following Burzio's (1986:324ff) account in all essential details, we assume that restructuring optionally applies in Italian to convert (21a) into (21b):

- (21) a. *Mario finisce* [_S PRO [_{VP} *di battere* [_i] *a macchina*]]
 b. *Mario* [_i] *finisce* [_{VP} *di battere* [_i] *a macchina*] [_S PRO —]

That is, restructuring allows the embedded verb phrase to become part of the matrix sentence. Pronominal clitics appear on the highest verb in the clause in each case.

Choctaw has something like restructuring. In Choctaw, two auxiliaries *tahli* and *taha* are generally used to indicate that an event is completed or that an argument of the verb is completely affected. A preliminary characterization of the distinction between them is that *tahli* is used for agentive predicates and *taha* for nonagentive predicates and verbs of motion. What we have called clitics generally appear on either the auxiliary or on the main verb:

- | | |
|--------------------------------|--------------------------------|
| (22) ON AUXILIARY: | ON EMBEDDED VERB: |
| <i>Bashli-t ish-tahli-tok.</i> | <i>Ish-bashli-t tahli-tok.</i> |
| cut-PRT 2sI-complete-PT | 2sI-cut-PRT complete-PT |

'You finished cutting it.'

- | | |
|-------------------------|-------------------------|
| <i>Iya-t ii-taha-h.</i> | <i>Il-iya-t taha-h.</i> |
| go-PRT 1pI-complete-TNS | 1pI-go-PRT complete-TNS |

'We all went.'

As the data in (22) show, the agentive clitics may appear on the auxiliaries *taha* and *tahli* or on the embedded verb. Nonagentive clitics (the nonagentive person markers associated with syntactic objects) have a similar distribution:

- | | |
|-----------------------------------|------------------------------|
| (23) <i>Fammi-t sa-tahli-tok.</i> | <i>Sa-fammi-t tahli-tok.</i> |
| whip-PRT 1sII-complete-PT | 1sII-whip-PRT complete-PT |

'He/she finished whipping me.'

What we have called agreement, however, is more constrained. The agentive agreement marker (1s -*li*) cannot appear on the embedded verb:

- | | |
|------------------------------------|---------------------------------|
| (24) <i>Bashli-t tahli-li-tok.</i> | * <i>Bashli-li-t tahli-tok.</i> |
| cut-PRT complete-1sI-PT | cut-1sI-PRT complete-PT |

'I finished cutting it.'

The nonagentive agreement markers (those associated with syntactic subjects) are acceptable on the embedded verb, but not all speakers permit the nonagentive agreement markers on the auxiliary:

- | | | | | |
|------|-----------------|-------------------|------------------|----------------|
| (25) | % <i>Niya-t</i> | <i>sa-taha-h.</i> | <i>Sa-niya-t</i> | <i>taha-h.</i> |
| | fat-PRT | 1sII-complete-TNS | 1sII-fat-PRT | complete-TNS |

'I'm completely fat.'/'I've gotten really fat.'

The data can thus be summarized as follows: clitics may appear on the auxiliary or on the embedded verb; agreement appears to split, with the agentive agreement marker favoring the auxiliary, and the nonagentive agreement marker favoring the embedded verb. These data generally support the distinction we have made between clitics and agreement, but the details of the analysis need to be refined.

We will make two assumptions in accounting for these data: a) whether clitics appear on the embedded verb or on the auxiliary will depend on restructuring (as in Italian); b) the contrast between the agentive and nonagentive agreement markers in (24-25) is due to differences in the auxiliaries (*tahli* and *taha*, respectively) rather than to differences in the agreement markers. Specifically, we propose that *tahli* takes a VP complement and that *taha* takes a clausal complement (here, AgrP).

- | | |
|---------|---|
| (26) a. | [AgrP NP [VP [v VERB]] [v <i>tahli</i>] Agr -tok] |
| b. | [AgrP NP [AgrP NP [VP [v VERB]] Agr] [v <i>taha</i>] Agr -h] |

The contrast between (24) and (25) now follows in part from these structures: if *tahli* takes a VP complement, an agreement marker will be impossible on its complement (as in (24)); if *taha* takes AgrP as its complement, however, agreement markers will be possible on the embedded verb (as in (25)).

The suggested contrast between *tahli* and *taha* in (26a-b) allows us to capture an additional fact: negation is not allowed on the complement of *tahli*, but it is allowed on the complement of *taha*. In Choctaw, negatives are formed by: a) suffixing *-o* to the verb (similar to French *pas*); b) putting the verb in the lengthened grade; and, c) attaching a clitic *ik-* to the verb. The auxiliaries *tahli* and *taha* are negated differently:

- | | |
|-------------------------------|--------------------------------|
| (27) ON AUXILIARY: | ON EMBEDDED VERB: |
| <i>Taloowa-t ik-tahl-o-h.</i> | <i>*Ik-taloow-o-t tahli-h.</i> |
| sing-PRT N-complete:L-NEG-TNS | N-sing:L-NEG-PRT complete-TNS |

'He/she/they didn't finish singing.'

- | | |
|---------------------------------|------------------------------|
| (28) <i>Niya-t ik-taah-o-h.</i> | <i>Ik-niiy-o-t taha-h.</i> |
| fat-PRT N-complete:L-NEG-TNS | N-fat:L-NEG-PRT complete-TNS |

'He/she/they aren't completely fat.'

Note that in sentences with *taha*, negative morphology may appear on the auxiliary or on the embedded verb. In sentences with *tahli*, negative morphology cannot

appear on the embedded verb. The fact that the nonagentive agreement marker appears on the embedded verb while the agentive agreement marker appears on the auxiliary can thus be attributed to differences in the complements of the auxiliaries.

The structures in (26) and restructuring allow us to describe whether the clitics appear on the embedded verb or on the auxiliary. We follow Baker (1988) in analyzing restructuring as a type of verb incorporation. In the *tahli* construction, the embedded verb will move out of the VP complement and adjoin to the auxiliary verb, yielding (29b) from (29a):

- (29) a. [AgrP NP_i [VP [V VERB]] cl_i-[V *tahli*] Agr -tok]
 b. [AgrP NP_i [VP —] cl_i-[V [V VERB] [V *tahli*]] Agr -tok]

Incorporation of the embedded verb into the auxiliary thus creates a pattern in which the clitics (cl) are prefixed to the main verb rather than to the auxiliary.

In the *taha* construction, we follow Burzio's analysis of Italian in proposing that the VP moves out of the embedded clause (as in (30b)). The embedded verb then optionally incorporates into the auxiliary, yielding (30c):

- (30) a. [NP_i [AgrP NP_i [VP [V VERB]] Agr] cl_i-[V *taha*] Agr -h]
 b. [NP_i [AgrP NP_i — Agr] [VP [V VERB]] cl_i-[V *taha*] Agr -h]
 c. [NP_i [AgrP NP_i — Agr] [VP —] cl_i-[V [V VERB] [V *taha*]] Agr -h]

As a result, clitics will either appear on *taha* (as in (30a-b)) or on the embedded verb (as in (30c)) according to whether verb incorporation has taken place. Agreement, however, will be more restricted, either appearing in association with the auxiliary (as in (29)) or, in a different structure, with the embedded verb (as in (30)).

While the phenomena involving restructuring in Choctaw are complex, the data appear to support the distinction we have made between agreement and clitics. Consider, for example, the fact that all speakers allow nonagentive person markers associated with objects to appear on the auxiliary, while not all speakers allow nonagentive person markers associated with subjects to appear on the auxiliary. This subject/object asymmetry is compatible with the agreement/clitic distinction we have made. Further, what we have called clitics have the appearance of 'hopping' (an effect resulting from verb incorporation), while the markers we have called agreement do not.

5. CONCLUSION. In Spanish and Italian, the person markers associated with nominative subjects are analyzed as agreement markers and the person markers associated with objects are analyzed as pronominal clitics. Previous analyses of Choctaw person markers have been based on morphological series. We have presented evidence for syntactic splits within these series. Within the agentive series, 1s *-li* is an agreement marker, and the other person markers are pronominal clitics. Within the nonagentive series, we have proposed that markers associated with subjects are agreement markers, and other persons are pronominal clitics:

- (31) AGENTIVE SERIES:
 Agreement: first person singular
 Pronominal clitics: other persons

NONAGENTIVE SERIES:

Agreement:

markers used for subjects

Pronominal clitics:

markers used for objects

A further result of the proposed distinction between agreement and clitics is that it helps account for the placement of person markers within the verb complex. As noted in 2.1, agentive clitics are outside of agentive agreement for the rule of rhythmic lengthening:

- (32) [agentive clitics # [[VERB] agentive agreement]]

Among the preverbal person markers, the following order holds:

- (33) [agentive clitics # [nonagentive clitics [nonagentive agreement [VERB]]]]

The best generalization appears to be the following: Within each series of person markers, what we have called 'agreement' is inside of 'clitics'. It is perhaps this layering that is responsible for the grammatical differences we have discovered, rather than the labels 'agreement' and 'clitic'.

A final result is that we have motivated a rule of restructuring in Choctaw (analyzed here as verb incorporation), and have briefly explored the interaction of this rule with agreement and clitics.

Throughout the paper we have ignored the status of independent pronouns and noun phrases. We hope that future work will establish whether these are uniformly arguments, uniformly adjuncts, or split in some way.

NOTES

¹Special thanks to Gus Comby, Henry Willis, and the late Josephine Wade for providing the Choctaw examples in this paper. All mistakes are ours.

²Choctaw is written here in a practical orthography in which *lh*=[ɬ], *sh*=[ʃ], *ch*=[ç], doubled vowels are long, and underlined vowels are nasal. The extant Western Muskogean languages include Choctaw and Chickasaw.

³As in Romance, we tend to use 'clitic' rather than incorporated pronoun: in Choctaw (as in Romance), the 'clitics' include nonpronominal elements as well as pronouns. The terms 'agentive' and 'nonagentive' are used here as convenient labels for the series I and II markers.

⁴The proposal that the 1s marker was an agreement marker and the non-1s markers were clitics in Muskogean was defended in Martin (1992). The Choctaw diagnostics used in this paper were discussed in Broadwell (1992).

⁵Abbreviations used in glosses: ACC=accusative; EMPH=emphatic; IRR=irrealis; N=negative/hypothetical clitic; NEG=negative suffix; NOM=nominative; PRT=participle; PT=past/perfect; TNS=tense. L is an aspectual grade appearing in negatives. Person markers are glossed 1s (first person singular), 2p (second person plural), etc., followed by the series (which, following Munro and Gordon 1982 we label I (agentive) and II (nonagentive)).

⁶The data cited here are from Mississippi Choctaw. For many speakers of Oklahoma Choctaw, the tense marker *-tok* is outside of the phonological word when the prohibition on final long vowels is enforced. For these speakers, the form in (5) surfaces as [api:la-li-tok].

⁷The agreement/incorporated pronoun contrast is logically distinct from the clitic/affix contrast. Thus, Ulrich (1986) analyzes the 1s and non-1s markers as "agreement" markers, yet argues that the non-1s markers are phonologically clitics.

⁸The acceptability of (17) also shows that *yohmi*, unlike English 'do so', is not tied to agency. The VP-internal vs. VP-external contrast must be kept distinct from the agent/nonagent contrast.

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The syntax of discourse functions in Fox¹

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1. Introduction

In this paper I argue for the existence of topic and focus positions in the constituent structure of Fox, and describe some of the syntactic properties of topic and focus. The structure of the paper is as follows: the first section briefly surveys some recent work on word order in Native American languages, beginning with three functionalist studies. The second section illustrates the distinct discourse functions of topic and focus, and the third section discusses the syntax of topic and focus.

1.1. Recent work on word order. Tomlin and Rhodes 1979 claim that in the Algonquian language Ojibwa rheme precedes theme (the opposite of the ordering found in European languages). In general, indefinite NPs precede the verb and definite NPs follow the verb; however, subjects of existential verbs and 'thematically irrelevant NPs' follow the verb, even if they are indefinite, and contrastive NPs and topicalized NPs precede the verb, even if they are definite (p. 316-7).²

Payne 1987, on the Uto-Aztecan language Papago, finds a strong association between indefiniteness and preverbal position, and between definiteness and postverbal position, as Tomlin and Rhodes 1979 report. But she concludes that a better predictor of Papago word order is that preverbal elements are either 'pragmatically marked' (contrastive focus, question words and answers, change in major topic (p. 787)) or an indefinite NP for which 'the hearer is instructed to open a new active discourse file' (p. 794).

Mithun 1987 claims that 'pragmatic ordering' is a separate word order type, apart from the word order typology established by Greenberg 1966. She illustrates the type with data from Cayuga, Coos, and the Australian language Ngandi. According to Mithun, constituents in pragmatically ordered languages are arranged in descending order of 'newsworthiness'. The property of 'newsworthiness' is characterized as follows: 'Constituents may be newsworthy because they introduce pertinent, new information, present new topics, or indicate a contrast' (p. 325).

These three papers, and others working in a functionalist tradition on Native American word order, have been able to describe a number of the discourse factors conditioning word order in the so-called 'free' word order languages. Indeed, it is remarkable that the same pragmatic factors turn up in Algonquian, Iroquoian, Uto-Aztecan, and other language families: overt topics tend to occur before the verb, as do contrastively focused NPs and question words. However, some criticisms can be made of the functionalist approach to word order. First, there is an unfortunate tendency to look for

a single property, such as ‘newsworthiness’, that controls word order. As a consequence, elements with radically different discourse functions, such as topic and focus, get lumped together as being the same thing. (This is less true of Payne’s paper than the others.) Second, the discussion in the papers cited above concerns linear order only, with no investigation of hierarchical structure. Third, there is little discussion of the relationship between topic or focus NPs and the rest of the syntax of the language. Indeed, Mithun 1987 seems to be claiming that there *is* no other syntax in these languages aside from the pragmatic conditions on linear order.

A recent exception to the above criticisms is Aissen 1992, which discusses Jakaltek, Tzotzil, and Tz’utujil Mayan word order patterns, assuming a GB syntactic framework. Aissen begins by providing clear definitions of topic and focus, and goes on to demonstrate that they appear in separate syntactic positions in a hierarchically structured clause, and that topic and focus control distinct sets of syntactic properties. Figure 1, adapted from Aissen 1992, illustrates the structure of a Mayan clause.³ I have obviously omitted here a great deal of the information that Aissen presents for Mayan; the important thing for my present purpose is that figure 1 specifies not only the relative linear order of Topic, Neg, Focus, etc., but also the hierarchical structure.

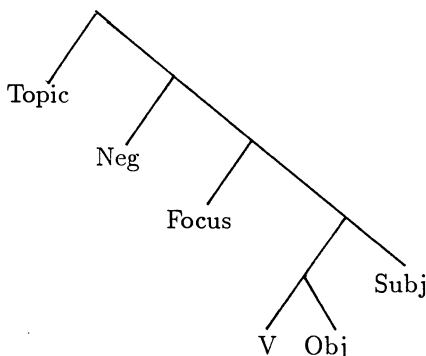


Figure 1. Mayan clause structure (adapted from Aissen 1992).

In contrast to the binary branching structure of Mayan, the constituent structure of Fox is mostly flat (figure 2). Only the topic position is outside the S: all other constituents are daughters of S. Topic, Neg, and Focus appear in the same linear order in Fox and Mayan, but the hierarchical structure of the two languages is different. In the present paper, there is not enough space to justify all aspects of the template in figure 2, such as the appearance of syntactically oblique arguments immediately before the verb, and the appearance of all nontopic, nonfocus, nonoblique arguments after the verb,

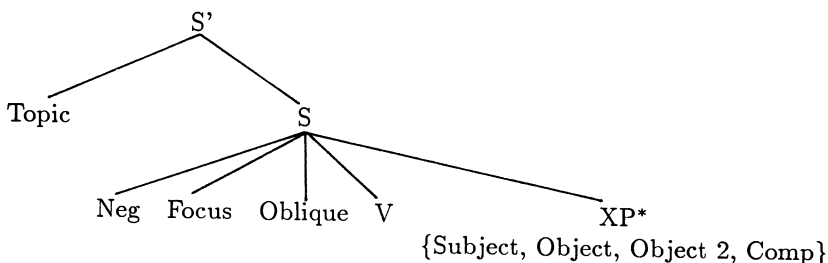


Figure 2. Fox clause structure.

in any order.⁴ Instead, the discussion here will be limited to the topic and focus positions.

1.2. Background about Fox and theoretical assumptions. In this paper I am assuming LFG as the syntactic framework. Fox syntax is organized in terms of grammatical functions (e.g., subject, object, second object, oblique, complement clause (COMP); also the discourse functions topic and focus). These functions are represented at a level of functional structure, distinct from constituent structure. Consequently, there is no need to posit empty NPs if a grammatical function such as subject is expressed only morphologically.

Fox verbs are inflected for subject and object; verbs in relative clauses are additionally inflected for the head of the relative clause. Possessed nouns are inflected for possessor. Syntactically, the inflection for subject, object, etc., may function pronominally.⁵ The emphatic series of independent personal pronouns is used almost exclusively to express topic or focus (Dahlstrom 1988).

Fox verbs may be inflected in one of eighteen inflectional paradigms, depending on syntactic factors (e.g., main vs. subordinate clause) and semantic/pragmatic factors (e.g., aspect, mood, evidentiality). Inflectional information is represented in glosses like this: *1-3/ind.ind.*, read 'first person singular subject acting on third person singular object, in the independent indicative paradigm'. The examples cited in this paper are a combination of elicited sentences and sentences drawn from narrative texts.

2. Discourse functions of topic and focus

2.1. Topic. For topic, I follow Reinhart 1982 in characterizing topic as standing in an 'aboutness' relation to the remainder of the sentence. In Fox, an overt NP will appear in topic position to indicate a new topic, or a shift back to a previously introduced topic.

- (1) [TOP *wi-sahke-ha*]=*ke-hi* *wa-natohka*=*meko* *e-h*=*kehči-nepa-či*.
 Wi-sahke-ha=and peacefully=emph greatly-sleep 3/aor
 ‘As for *Wi-sahke-ha*, he was peacefully sound asleep’ W163P⁶

A somewhat surprising property of overt topics in Fox is that they may be either proximate or obviative. Proximate vs. obviative is an obligatory, discourse-based distinction within third person in Algonquian languages. Roughly speaking, proximate corresponds to the ‘main character’ of the discourse, and is expressed by unmarked third person forms; more peripheral characters are expressed using obviative forms. The topic of (1) above is proximate; the example below shows that a topic may also be obviative.

- (2) [TOP *i-nini*=*ke-hi* *o-šisemani*]
 that.obv=and her.g-child.obv
 wa-natohka=*meko* *e-h*=*kehči-nepa-niči*.
 peacefully=emph greatly-sleep obv/aorist
 ‘As for her grandson [obv], he was peacefully sound asleep’ W10H

(1) and (2) are taken from the same text and form a minimal pair. In (1), the overt topic is *wi-sahke-ha* (the name of the culture hero); the remainder of the sentence functions as a comment about this topic, stating that he was sleeping peacefully. At this point in the story, *Wi-sahke-ha* is the main character, and is therefore referred to by proximate forms. (2), on the other hand, is taken from a later section of the same text, in which *Wi-sahke-ha*’s grandmother is the proximate character, and events are expressed from her point of view. Again, the character *Wi-sahke-ha* is sleeping peacefully, but in (2), he is referred to by an obviative NP, *i-nini o-šisemani* ‘that grandson of hers’, appearing in the topic position.⁷

2.2. Focus. Turning now to the discourse function of focus, Lambrecht’s definition of focus as “the new element added by an utterance to an established pragmatic presupposition” (Lambrecht 1986:177) fits the range of uses associated with focus position in Fox. Examples of items bearing a focus function include question words or phrases, and the answers to such questions; and elements standing in contrastive focus: ‘not x, but y’. To this may be added other varieties of focus identified by Dik et al. 1981: expanding information (not only x, but also y) and restricting information (only y). Also, indefinite pronouns and quantifiers display a strong tendency to appear in focus position, as does ‘surprising’ information.

The following examples provide illustrations of some of the types of focus in Fox — question words, answers to questions, and contrastive focus.

- (3) [FOC *we-ne-h*]=čā·h ne-sa·ta neto·kima·mena·nan?
 who one.who.killed.him[obv] our.chief.obv

‘Who killed our chief?’ J26.13

- (4) [FOC *mana*=čā·h ni·hka·na] ne-sa·ta
 this=so my.friend one.who.killed.him[obv]

‘My friend is the one who killed him’ J26.17

- (5) *šewe-na* [FOC *ni-na*] nemehči=meko -wi·tama·kwa,
 but I plainly=emph -tell 3-1/ind.ind.

a·kwi [FOC *ki-nwa-wa*]
 not you.pl

‘but he has instructed me plainly, not you’ AR40:136.6

The indefinite pronouns of Fox (e.g., *owiye-ha* ‘some/anyone’, *ke·ko·hi* ‘some/anything’) usually appear in focus position. In this respect, Fox behaves like Papago (Payne 1987:798; see also Lambrecht 1986:170).

- (6) *a·kwi*=’yo=ke·h=meko=’pi [FOC *ke·ko·hi*] mi·čiwa·čini
 not=of.course=and=emph=quot anything eat 3p-inan/neg

‘And, of course, they didn’t eat anything at all, it’s said’ W252K

In (6), the quantifier *ke·ko·hi* ‘anything’ is found in focus position, between the negative *a·kwi* and the verb.

Another use of focus NPs is to express ‘surprising’ information, as in the following example:

- (7) *ke·htena*=meko [FOC *aše-wa·pikone·hi*] e·h=no·ša·taki
 surely=emph little.squash give.birth.to 3p-inan/aor

‘Surely she gave birth to a little squash’ W923

The contrast here which motivates placing the NP *aše-wa·pikone·hi* ‘little squash’ in focus position is that between the conventional presupposition that a pregnant woman will give birth to a human baby, and the information that it was in fact a little squash that she gave birth to.

It was observed above that overt topic NPs could be either proximate or obviative. Focus NPs likewise may be either proximate or obviative. Compare (3) above, which contains a proximate question word, with the following example:

- (8) [FOC *we-ne·hani*]=yo we·wi·hka·ničini no-sa?
 who.obv one[obv].who.he.had.as.friend my.father

‘Who [obv] did my father have as a friend?’ W914

In (8), the question word *we-ne·hani* ‘who’ bears the obviative suffix *-ani*.

3. Syntax

3.1. Topic. The topic element need not correspond to a gap or coreferential pronoun in the remainder of the sentence:

- (9) [TOP *ni-na*]=*ke·hi* [S *a·kwi* *ke·ko·hi* *ašenokini*]
 I=and not anything disappear inan/negative
 ‘As for me, nothing is missing’ AR40:146.10

(9) is taken from a passage of a text in which there has been a terrible flood. After the flood waters recede, the people return and check on their houses; one person utters the sentence in (9). Here the topic is *ni-na* ‘I’, and the comment about that topic is that nothing is missing. The relation between the topic and comment is the pragmatic relation of aboutness, rather than a syntactic relation of coreference.⁸

In terms of constituent structure, too, there is a looser connection between an overt topic and the following comment; the comment forms an S constituent which is a sister to the topic. Evidence for this claim comes from co-ordination, clitic placement, and the position of adverbial clauses.

3.1.1. Co-ordination. If topic is sister to an S constituent, then topic should also be able to appear as sister to two conjoined Ss:

- (10) [TOP *i-na*=*ke·hi* *neniwa*]
 that=and man
 [[S *a·kwi* *ni·mičini*] *na·hkači* [S *a·kwi* *nakamočini*]]
 not dance 3/neg also not sing 3/neg
 ‘As for that man, he didn’t dance, and he also didn’t sing’

In (10), *i-na neniwa* ‘that man’ is the topic for both of the following clauses.

3.1.2. Clitic placement. Fox has a large number of second position enclitics. If an overt topic NP appears in a sentence, second position enclitics may be attached in two places: following the first word of the topic NP, and following the first word of the S constituent.

- (11) [TOP *i-niye-ka*=*ke·hi* *ki·h-kočawičiki*]
 those.absent=and ones.who.had.tried
wi·h=ča·kiha·wa·či *apeno·hahi*],
 fut=kill.all 3p-obv/aorist child.obv.pl
 [S *waninawe*=*meko=’pi·=’ni* *e·h=inohinote·wa·či*].
 all.directions=emph=quot=then move [thither] 3p/aorist
 ‘As for those aforementioned⁹ ones; who had tried to kill the children; they; then moved away in all directions, it’s said.’ W250DE

In (11) the topic is a complex NP containing a relative clause; the enclitic =*ke·hi* 'and' is attached to the first word of the topic. (= *ke·hi* is often found with shifted topics.) Other enclitics appear in second position within the S: =*meko* emphatic, =*ipi* quotative, and =*i·ni* 'then'.¹⁰

Positing an S constituent which is sister to the topic provides a simple account of enclitic placement in Fox. The second position enclitics attach to the first phonological word of an S' or S. An analysis of Fox clause structure which did not recognize the existence of the S constituent, on the other hand, could provide no principled explanation for the placement of enclitics in (11).

3.1.3. Adverbial clauses. A third piece of evidence supporting the structural analysis of topic given here is the position of adverbial clauses. Clauses containing a verb inflected in the changed conjunct paradigm (or in the iterative paradigm) function as temporal adjuncts, locating the action of the main clause in time. Such clauses are adjoined to the main S, and may either precede or follow an overt topic. The appearance of adjunct clauses following the topic supports an analysis in which a major constituent break occurs between the topic and the remainder of the sentence.

- (12) o·ni [TOP we·tapeno·hemičiki],
 and then those.who.have.children
- [ADV ke·tawi·wa·paniki],
 almost-be dawn inan.obv/changed conj.
- e·h=pya·niči otapeno·hemwa·wahi
 come obv/aorist their.children.obv.pl

'And then as for the ones who had children,
 when it was almost dawn, their children arrived.' W167

The topic of (12) is *we·tapeno·hemičiki* 'the ones who have children', which is followed by the adverbial clause *ke·tawi·wa·paniki* 'when it was almost dawn'.

3.2. Negative. The previous section demonstrated that the topic position is a sister of S. The negative position, however, is a daughter of S, and the remainder of the clause does not form a constituent. This can be demonstrated by co-ordination:

- (13) * a·kwi [[ni·mičini] na·hkači [nakamočini]]
 not dance 3/neg also sing 3/neg
- ('He didn't dance and sing')

In the ungrammatical sentence (13) a single token of *a·kwi* 'not' is applied to two conjoined clauses. The verbs of both clauses are inflected in the negative

paradigm. If the negative position were a sister of S, as the topic position is (and as Aissen claims for negation in Mayan), then it should be possible to have a single negative element negate two Ss. However, such sentences are ungrammatical in Fox; instead the negative *a·kwi* must appear in both clauses:

- (14) [[*a·kwi* ni-mičini] na-hkači [*a·kwi* nakamočini]]
 not dance 3/neg also not sing 3/neg

‘He didn’t dance and he also didn’t sing’

As a consequence, the negative position must be analyzed as a daughter of S in a flat structure.

As the first word in S, Neg may be the host for enclitics (cf. (6)), but — as predicted by figure 2 — second position enclitics do not attach to the word following Neg. Likewise, adverbial clauses do not intervene between Neg and the remainder of S.

3.3. Focus. After the negative position, the next position in the syntactic template for Fox is reserved for focused elements. There are two separate syntactic constructions in Fox in which focused elements may appear: a clefted structure, with the focus element equated to a headless relative clause (Fox has a zero copula in equational sentences), or a nonclefted clause, with the focused element to the left of the verb. (For examples of clefts, see (3), (4), and (8); for focus in nonclefts, see (5), (6), and (7).) Either way, the pragmatically focused element occupies the syntactic focus position.

Although a topic in Fox need not correspond to any argument in the remainder of the sentence, a focused element must be followed by either a gap or a coreferential pronoun as a consequence of its pragmatic function. It is possible to have long distance dependencies between focus and the coreferential element, as in the following examples:

- (15) *a·kwi* [FOC *i·tepi*] *wi·to·hkawa·čini* [∅ *wi·h=a·niči*]
 not there allow 3-obv/neg fut=go obv/aor

owi·wani *i·na* *neniwa*
 his.wife.obv that man

‘it’s not there; that that man allows his wife to go ∅;’

- (16) [FOC *we·ne·ha*]=ča·hi *ne·na·toše·yana*
 who=so one.who.you.ask

[*owiye·hani* *e·ši-ne·wokokwe-ni*?]
 anyone.obv whether-see obv-3/interrogative

‘Who; did you ask whether anyone saw ∅;?’

In (15) *i-tepi* 'there' is in focus position, corresponding to the gapped oblique argument of the embedded clause. In (16) the question word *we-ne-ha* 'who' is coreferential to the object of the embedded clause, expressed by pronominal inflection on the lower verb.

There is a syntactic constraint on focus: a complement clause cannot be put into the focus position.

- (17) * *a-kwi* [FOC *i-tepi* *wi-h=a-niči*] *wi-to-hkawa-čini*
 not there fut=go obv/aor allow 3-obv/neg

owi-wani *i-na* *neniwa*
 his.wife.obv that man

('It's not [for her to go there] that that man allows his wife')

COMP is the only grammatical function that cannot be placed in focus: subject, object, second object, and oblique may all be focused.

In conclusion, this paper has used the tests of co-ordination, clitic placement, and adverbial clause placement to motivate the constituent structure of figure 2. Topic and focus have been shown to occupy distinct syntactic positions in Fox, and to differ syntactically in that focus requires a gap or coreferential pronoun in the remainder of the sentence, while topic need not correspond to any argument of the sentence.

Notes

1. Fox, or Mesquakie, is an Algonquian language spoken in Iowa. Thanks to Adeline Wanatee for her insights into the Mesquakie language, and to the members of the U. of Chicago seminar on syntax/discourse interactions (Tista Bagchi, Karen Deaton, Bob Knippen, Rosa Rodríguez, and Etsuyo Yuasa) for comments on an earlier version of this paper.
2. Tomlin and Rhodes 1979, Payne 1987, and Mithun 1987, have been reprinted in Payne 1992.
3. For Tz'utujil, the top node is CP; for Tzotzil and Jakalteq, the top node is E. Consequently, Tz'utujil allows topics in embedded clauses, while Tzotzil and Jakalteq topics appear only in root clauses. Fox is like Tz'utujil in allowing topics in embedded clauses; unfortunately, space does not permit a discussion of the properties of Fox subordinate clauses here.
4. The absence of a VP node in figure 2 is motivated by the grammaticality of weak crossover constructions (e.g., *a-kwi owiye-ha kaka-čimekočini o-hkomani* 'his_i mother-in-law doesn't tease anyone_i'). See Dahlstrom 1986 for discussion.
5. In LFG terms, third person inflection is associated with an optional equation (\uparrow PRED) = 'pro'. Nonthird person inflection obligatorily contributes the information that (\uparrow PRED) = 'pro'.

6. In the citations of textual examples W = Kiyana 1913, AR40 = Michelson 1925, and J = Jones 1907. In narrative, verbs of main clauses are inflected in the aorist conjunct paradigm, which requires a proclitic *e·h*= (nonfuture), or *wi·h*= (future).
7. I am ignoring second position enclitics, such as =*ke·hi* 'and', for the time being. Enclitics are discussed below in section 3.1.2.
8. This property of Fox topics (also found in topic prominent languages such as Chinese and Japanese (Li and Thompson 1976) and in Tzotzil and Jakalte Mayan (Aissen 1992)) runs counter to the Extended Coherence Condition of Bresnan and Mchombo 1987, which requires the discourse functions of topic and focus to be bound by an argument.
9. The absentative series of demonstrative pronouns (e.g., *i·niye·ka* in (11)) is often used in narrative to mark the reappearance of a previously mentioned character.
10. For the rules of clitic sandhi, see Goddard 1991.

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Mapping Transitive Voice in Halkomelem

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1. Introduction¹

Although the notion of transitivity plays a central part in every current syntactic theory, it is only vaguely defined in many. Furthermore, an ongoing confusion exists concerning semantic vs. syntactic transitivity and the role each plays in a grammar. To complicate matters, the evidence for transitivity is largely drawn indirectly from phenomena such as agreement and case marking, or from the behavior of subject and/or object nominals with respect to such phenomena as extraction. However, in Salish languages, including the Coast language Halkomelem, transitivity is overtly marked. These languages thus provide a rare opportunity to test the effectiveness of various views of transitivity.

We find in Halkomelem three different suffixes correlated with transitivity: the general transitive (1a), the limited control transitive (1b) used when an action is performed accidentally or with difficulty, and the causative (1c).²

- (1) a. k'wən-ət 'take', k'wē-t 'pour', lem-ət 'look at', lək'-át 'break', t̥əyx'-t 'eat', q'wəq'-ət 'club', q'wəl-ət 'bake, cook', pən-ət 'plant'
- b. k'wən-nəx'w 'manage to take' k'wəł-nəx'w 'spill', lək'-nəx'w 'accidentally break', ləm-nəx'w 'see', q'wəq'-nəx'w 'accidentally club'
- c. ʔiməš-stəx'w 'make (s.o.) walk', nəʔém-əstəx'w 'make (s.o.) go; take', ʔəmət-stəx'w 'have (s.o.) sit down', ʔəmʔi-stəx'w 'make (s.o.) come; bring', qaʔqaʔ-stəx'w 'have (s.o.) drink'

These three types of transitives contrast with basic intransitives, which lack a transitive suffix, such as the unergatives in (2a) and the unaccusatives in (2b).

- (2) a. ʔəšəl 'paddle', heyʔ 'build a canoe', ʔiməš 'walk', k'w'iʔ 'climb', t̥ək'-w 'fly', t̥əwʔ 'flee', p'ək'-w 'come to the surface of the water', q'əp 'assemble, gather', šaqwəl 'go across to the other side', yays 'work'
- b. ʔik'-w 'get lost', k'w'an 'be born', k'wes 'get burnt', t̥ic' 'get cut', pən 'get buried', q'wəp 'be wrinkled', q'wəq'w 'get clubbed', q'wəl 'cook; be ripe'

This paper gives an analysis of Halkomelem transitive marking from the point of view of Mapping Theory. First proposed in Gerdtz (1992), this theory develops an analysis of clause structure centered on the concept of morpho-syntactically-licensed argument positions, henceforth MAPs. First, I give a Mapping Theory analysis for the relevant Halkomelem constructions. Then I turn my attention to transitive marking. What the Halkomelem data show is that simple semantic or syntactic notions of transitivity do not straightforwardly align with Halkomelem transitive marking. However, within a Mapping Theory analysis, a

simple rule is possible: transitive marking appears if some grammatical relation other than the first one is mapped. I conclude that Salish transitive marking is most appropriately regarded as a type of marked association. Like other rules of this sort, it mediates between relational structure and morphosyntactic argument structure.

2. Mapping Theory

Mapping Theory consists of several modules and rules for relating one module to another.³ Four perspectives on a nominal are encoded. First is its thematic relation. Second is its grammatical relation, corresponding to its initial grammatical relation in classic RG. The relations are ordered according to the standard RG hierarchy of 1 > 2 > 3 > oblique. Third is its MAP. Nominals associated with a MAP are direct arguments. They get core morphosyntactic marking: that is, they determine agreement, license structural case, or appear in a configurationally determined word order. MAPs are hierarchically arranged according to a case/agreement hierarchy. Fourth, the details of its morphosyntactic presentation are given.

The Halkomelem clause in (3) is given the representation in (4).

- (3) ni q'ʷaqʷ-ət-əs tʰə swəyʔqeʔ tʰə speʔəθ
 aux club-tr-3erg det man det bear
 'The man clubbed the bear.'
- (4) thematic relations: agent theme
 grammatical relations: 1 2
 | |
 MAPs: A B
 presentation: 3erg/no case no case

There are two lexically subcategorized nominals in (3)—the agent and the theme. Each bears a term grammatical relation and is linked to a MAP. MAPs are ordered positions (represented here as A, B) linked to morphological presentational statements. For example, some of the presentation rules for Halkomelem are given in (5).⁴

- (5) agreement: A = subject pronominals, e.g. cən ‘1st person clitic’
-əs ‘3rd person suffix’ (iff B)
B = object suffixes, e.g. -sámʔs̥ ‘1st person suffix’
nominals: A and B = no marking; others = preposition ʔə

In any given clause, we assign the number of MAPs based on three things: first, the lexical semantic valence of the verb; second, MAP-reducing or -building morphology; and third, the MAP thresholds set for the language (that is, the maximum and minimum number of MAPs allowed). Halkomelem, as claimed in Gerds (1992, 1993), is a 2-MAP language, and thus only A and B are available for linking.

The universal principles for linking GRs to MAPs are given in (6)^{5,6}

- (6) Saturation Principle: every MAP must be linked to a GR or cancelled.
 Biuniqueness Principle: a MAP is linked to at most one GR (except under coreference), and every GR is linked to at most one MAP.
 No Delinking Principle: there are no “delinkings”.

Two types of association are recognized in the theory. Unmarked association proceeds in a vertical, non-crossing, left-to-right fashion. Marked associations, however, may involve non-vertical linkings, the linking of an “extra” nominal not lexically subcategorized by the verb, the non-linking of a nominal, or a special stipulation concerning a linked nominal. Marked associations are generally accompanied by morphological conditions. A statement of these conditions and their concurrent effect on argument structure is the biggest task of a Mapping grammar. Some aspects of marked association will be specified in universal grammar but other aspects will be subject to parameter setting.

2.1 Applicatives

Gerdts (1993) suggests the following universal linking rule for applicatives:

- (7) **Applicative:** add a MAP (up to threshold) and link the 3 or oblique to the lowest MAP.

Take the Halkomelem examples in (8) and (9); (8) shows a dative applicative and (9) shows a benefactive applicative.

- | | | | | | |
|-----|---------------------------|-----------------------|-----|------|---------|
| (8) | niʔ | ʔa-m-əs-θámʔš-əs | ʔə | kʷθə | pukʷ |
| | aux | give-adv-tr+1obj-3erg | obl | det | book |
| | 'He gave me the book.' | | | | |
| | | | | | |
| (9) | niʔ | qʷəl-ətc-θámʔš-əs | ʔə | kʷθə | sce-tən |
| | aux | bake-ben-tr+1obj-3erg | obl | det | salmon |
| | 'He baked me the salmon.' | | | | |

Since (8) and (9) are lexically transitive and Halkomelem is a two-MAP language, MAPs A and B are available for linking. The applicative cannot add a MAP, since the threshold is two in Halkomelem. Nonetheless, the 3 or oblique is linked to the lowest MAP, that is B, as (10) shows.

- | | | | | |
|------|-------|-------|-------|----------|
| (10) | θ-Rs: | agent | theme | goal/ben |
| | GRs: | 1 | 2 | 3/OBL |
| | | | | |
| | MAPs: | A | B | |
-

The 1 links by unmarked association. The 2 is unlinked and therefore gets licensed as a non-argument by a peripheral means, such as the preposition in (8a) and (8b).

Applicatives in Halkomelem can also be formed on initially intransitive clauses, for example the directional in (11).

- (11) ʔi yə-ʔéʔwəʔ-nəs-əs ʔə steniʔ
 aux ser-come-dir+tr-3erg det woman
 ‘He’s coming toward the woman.’

As (12) shows, the lexical valence of the motion verb in (11) is one, so MAP A is assigned. The applicative adds MAP B (added MAPs are represented in boldface), and the oblique links to it.

- (12) θ-Rs: agent dir
 GRs: 1 OBL
 | |
 MAPs: A **B**

We see that the applicatives in (8) and (9) vs. (11) differ in whether or not they add a MAP, but they are the same in that the 3 or oblique nominal links to the lowest MAP.

2.2 Antipassives

An example of an antipassive is given in (13):

- (13) ni q’ʷəl-əm ʔə steniʔ ʔə tʰə sce4tən
 aux cook-intr det woman obl det salmon
 ‘The woman cooked the salmon.’

We can compare this to the transitive clause in (3), which has transitive marking on the verb, ergative agreement, and two plain nominals. The antipassive in (13) has intransitive morphology, no ergative agreement, and the patient nominal is presented with a preposition.

The Mapping Theory rule for antipassive is given in (14); thus (13) is represented as in (15).

- (14) **Antipassive:** cancel the lowest MAP and do not link the GR above it.

- (15) θ-Rs: agent theme
 GRs: 1 2
 | |
 MAPs: A **B**

The antipassive involves cancelling the lowest MAP (represented by shadowed letters), and the 2 is not linked.

2.3 Reflexives

Reflexives show similar properties. In many languages, including Halkomelem (see Gerdts 1989b), reflexives show detransitivization effects. For example, there is no ergative agreement in a reflexive clause like (16).

- (16) ni k'ʷələš-θət ʔə Mary
 aux shoot-tr+ref det M.
 'Mary shot herself.'

To account for the semantic transitivity of (16), we posit two GRs—1 and 2. To account for its intransitive final structure, we posit multiattachment: the 1 and 2 both link to the A slot. In addition, the B-slot is cancelled.

- (17) **Reflexive:** link both a 1 and the GR above the lowest MAP to the same MAP and, in some languages (including Halkomelem), cancel the lowest MAP.

Thus, (16) would be represented as in (18).

- (18) θ-Rs: agent theme
 GRs: 1 2
 | /
 MAPs: A B

2.4 Passives

Gerdt (1993) suggests the following universal linking rule for passives:

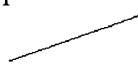
- (19) **Passive:** do not link the first GR; cancel one or more MAPs.

The essential schema for Passives is that the first GR will be unlinked. Furthermore, at least one MAP will be cancelled. However, which MAP will be cancelled is subject to parameterization. The run-of-the-mill passive we see in many languages involves cancelling the B MAP and linking the 2 to the A MAP. We see this, for example, in Lushootseed (a Coast Salish language closely related to Halkomelem). Data (adapted from Hess (1973)) illustrate transitive (20a) and passive (20b) clauses.

- (20) a. ʔu č'axʷat-sid ti č'ač'as
 asp club+tr-2obj det boy
 'The boy clubbed you.'

- b. ʔu ɕ'ax^{as}at-b ɕax^{as} ʔə ti ɕ'aɕ'as
 asp club+tr-intr 2sub obl det boy
 'You were clubbed by the boy.'


In the transitive clause in (20a), the 2nd person theme shows up as objective agreement. In the passive in (20b), intransitive morphology is added to the predicate, and the theme appears as a subjective clitic. This kind of passive is represented in (21): the 2 links to A and hence appears in subjective form, and the B is cancelled; the unlinked 1 is a non-argument, presented as a preposition phrase.

- (21) θ-Rs: agent theme
 GRs: 1 2
 MAPs: A B
- 

The Halkomelem passive demonstrates an alternative pattern.

- (22) ni cən ləm-əθamə
 aux 1-sub look-tr+2obj
 'I looked at you.'
- (23) ni ləm-əθa-m ʔə ɬə sɬeni?
 aux look-tr+2obj+intr obl det woman
 'You were looked at by the woman.'

(22) shows a transitive clause with the 2nd person theme as an objective suffix. In the passive in (23), the 2nd person theme, which tests to be the sole direct argument of the clause, likewise appears as an objective suffix.⁷ The structure in (24) accommodates this.

- (24) θ-Rs: agent theme
 GRs: 1 2
 MAPs: A B
- 

In Halkomelem, the 2 links to B and the A is cancelled. Lushootseed and Halkomelem passives are minimally distinct. They both have the same verbal morphology and the same way of presenting passive agents. But because B cancels in Lushootseed while A cancels in Halkomelem, the themes are linked differently.

3. Transitive marking

The general transitive suffix *-t* (and its allomorphs *-θ* and *-s*) can be seen in the Halkomelem data above. For example, in the transitive clause in (3), *-t* appears immediately after the verb root. Transitive marking not only appears on the

monotransitive in (3), but also on the applicatives in (8), (9), and (11), the reflexive in (16), and the passive in (23). Unergatives (25), unaccusatives (26), as well as antipassives (see (13) above), do not have transitive suffixes.

- (25)

ni

ʔiməʃ

ʔə

stɛniʔ

aux

walk

det

lady

'The lady walked.'
- (26)

ni

qʷəl

tʰə

sceʔtən

aux

bake

det

salmon

'The salmon baked.'

Given this range of data, how do we state a rule for transitive marking? The chart in (27) summarizes the transitive properties of each construction in terms of semantics and syntax: I take semantic transitivity to correlate with the presence of the grammatical relations 1 and 2— typically an agent and a theme; syntactic transitivity corresponds to constructions which allow agreement with two nominals.

(27)

		semantically transitive	syntactically transitive
with -t:	monotransitive	yes	yes
	applicatives (e.g. (8, 9))	yes	yes
	applicatives (e.g. (11))	no	yes
	passives	yes	no
	reflexives	yes	no
without -t:	unergatives	no	no
	unaccusatives	no	no
	antipassives	yes	no

What (27) shows is that a rule based solely on semantic or solely on syntactic transitivity is inadequate. There are constructions that are semantically intransitive, e.g. applicatives like (11), or syntactically intransitive, e.g. passives and reflexives, but nevertheless have transitive marking. In addition, the antipassive is semantically transitive but lacks transitive marking. We are led to conclude that the notion of transitivity that is marked in Halkomelem does not seem to correspond neatly to either semantic or syntactic transitivity, nor to a simple combination of these notions.

However, seen from the Mapping Theory viewpoint, transitive marking is a simple rule. The Mapping Theory analysis for constructions without transitive marking is given in (28) and for those with transitive marking in (29).

- (28)

1

|

A

unergative

2

|

A

unaccusative

1

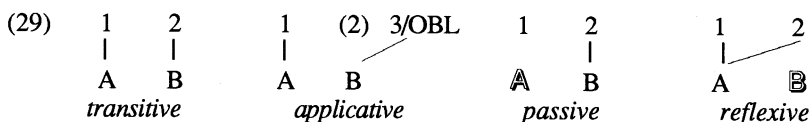
|

A

antipassive

2

B



The crucial difference between the constructions in (28) vs. (29) is captured by the following rule:

- (30) **Transitive:** a GR other than the first one is mapped.

Under the Mapping analysis, transitive marking in Halkomelem can be taken to be another type of marked association: one that stipulates some feature of a mapped nominal, i.e. that it is not the first nominal in the GR tier.

4. Limited Control Marking

A second Halkomelem transitive suffix, limited control, is used in the context of an action that is performed accidentally or with difficulty. However, this suffix appears only in a subset of the constructions in (29). Active transitives, passives, and reflexives can take limited control marking, as (31)-(33) show:

- (31) ni cən k'wəł-nəxw ní ʔə tʰə lətem
 aux 1sub pour-l.c.+3obj be obl det table
 'I spilled it on to the table.'
- (32) ni q'wəq'-n-əm ʔə-λ' John tʰə Bob
 aux club-l.c.-intr obl-det J. det B.
 'Bob was accidentally clubbed by John.'
- (33) ni k'ələš-námət k'ʰə swəy'qe'
 aux shoot-l.c.+ref det man
 'The man managed to shoot himself.'/'The man shot himself accidentally.'

However, applicative constructions (cf. (*34b) and (*35b)) cannot.⁸

- (34) a. ni yəθ-əs-t-əs
 aux tell-adv-tr-3erg
 'He told her about it.'
- b. *ni yəθ-əs-nəxw-əs
 aux tell-adv-l.c.+3obj-3erg
 'He happened to tell her about it.'
- (35) a. ni ʔiləq-ət-t-əs
 aux buy-ben-tr-3erg
 'He bought it for him.'

- b. *ni ʔiləq-ət-nəx^ω-əs
 aux buy-ben-1.c.+3obj-3erg
 'He managed to buy it for him.'

This fact is easy to capture in Mapping Theory, given the analyses in (29): applicatives do not involve the mapping of a 2. Therefore, a rule of limited control marking can be given as in (36).

- (36) **Limited control:** a GR other than the first one, specifically a 2, is mapped.

We see then that transitive marking and limited control marking differ in a crucial way: transitive marking is blind to which GR is mapped, as long as it is not the first GR, while 2-hood is crucial for limited control marking.

5. Causatives

Mapping Theory has only one level of relational structure at its disposal. Thus, causatives present a special challenge, since most theories analyse them as multi-level structures in order to accommodate the arguments of both the causative and the base predicate. I will assume, following Alsina (1992) and others, that a lexical rule is responsible for morphological causatives of the type found in Halkomelem, where there is no evidence that the causative morpheme is a higher verb. This rule will provide for the concatenation of the arguments of the causative event and base predicate. The core claim of this rule is that one of the nominals has a double function. For Halkomelem, a single nominal is both the causee and the agent of the base predicate.⁹ Within Mapping Theory, this can be captured by assigning this nominal a dual grammatical relation even though it is linked to only one MAP. Thus, a causative based on an intransitive stem, as in (37), is represented as in (38).

- (37) ʔi cən ʔəmʔi-stəx^ω tθə swiwʔləs
 aux 1sub come-cs+3obj det boy
 'I made the boy come.'/'I brought the boy.'

- (38) θ-Rs: causer causee/agent
 GRs: 1 2=1
 | |
 MAPs: A B

Causative marking requires the mapping of this double-function nominal, which is necessarily not the first GR:

- (39) **Causative:** a 2=1 is mapped.

As with limited control marking above, causatives where the causee is not linked, either due to cancellation (e.g. in an antipassive) or the linking of another GR (e.g. in an applicative) are predicted to be impossible. To my knowledge, the relevant constructions are unattested. However, constructions involving reflexive or passive and causative are possible, as predicted by Mapping Theory. An example of the latter is given in (40).

- (40) ʔi ʔəmʔi-st-əm tθə swiwʔləs
 aux come-cs-intr det boy
 ‘The boy was made to come.’

The structure for (40), given in (41), shows that conditions for both passive and causative are satisfied.

- (41) 1 2=1
 |
 A B

We see then that causative marking correlates with the mapping of a causee.

Although it is beyond the scope of this paper to give a thorough treatment of causatives, it can be quickly shown that (39), together with the claim that Halkomelem constructions have a maximum of 2 MAPs, makes a number of predictions concerning the interaction of causative and other marked associations. First, since a causative based on a transitive stem would involve three lexical arguments (the causer, the causee/agent, and the theme of the basic predicate), we would expect a structure such as (42).

- (42) θ-Rs: causer causee/agent theme
 GRs: 1 2=1 2
 | | |
 MAPs: A B C

However, since Halkomelem is a 2 MAP language, (42) is ruled out. In fact, causatives built on plain transitive stems are unattested in Halkomelem. But if some marked association cancels the C MAP, e.g. antipassive (43) or reflexive (44), then the structure meets the threshold requirement.

- | | |
|---|--|
| <p>(43) 1 2=1 2</p> <p style="text-align: center;"> </p> <p style="text-align: center;">A B C</p> <p style="text-align: center;"><i>antipassive/causative</i></p> | <p>(44) 1 2=1 2</p> <p style="text-align: center;"> /</p> <p style="text-align: center;">A B C</p> <p style="text-align: center;"><i>reflexive/causative</i></p> |
|---|--|

As predicted, causatives based on antipassives (cf. (43)) and reflexives (cf. (44)) are possible:

- (45) ni cən q'ʷəl-əm-stəx^ω θə sténi? ʔə tθə səplɪl
 aux 1sub bake-intr-cs+3obj det woman obl det bread
 'I made the woman bake the bread.'
- (46) ni cən k'ʷələǵ-θət-stəx^ω tθə Mary
 aux 1sub shoot-tr+ref-cs+3obj det M.
 'I made Mary shoot herself.'

Of course, other rule combinations that satisfy the requirements of more than one marked association without violating the linking principles of (6) will also be possible. These are too numerous to detail here, but, to give one example, (47) involves antipassive, causative, and passive, as represented in (48).

- (47) ni q'ʷəl-əm-st-əm θə sténi? ʔə tθə səplɪl
 aux bake-intr-cs-intr det woman obl det bread
 'The woman was made to bake the bread.'

- (48)
- | | | |
|---|-----|---|
| 1 | 2=1 | 2 |
| | | |
| A | B | C |
- antipassive/causative/passive*

In sum, the Mapping Theory account of Halkomelem causatives not only accommodates the basic data but also correctly predicts the range of co-occurrence of the causative and other marked associations of the language.

6. Conclusion

The Halkomelem data show that transitive marking does not straightforwardly align with either semantic or syntactic notions of transitivity. Mapping Theory, however, provides a simple and unified account of the three Halkomelem transitive suffixes. One of the transitive suffixes appears whenever a grammatical relation other than the first one is mapped. The three suffixes differ subtly. The general transitive marker *-t* is blind to the grammatical relation of the mapped nominal. Limited control marking, however, stipulates the 2-hood of the mapped nominal. The causative suffix indicates the mapping of the 2=1 nominal, i.e. the causee.

In conclusion, the three transitive marking rules are language-specific marked associations. These interact with universal marked association rules for applicatives, passives, antipassives, and reflexives. The resulting structures are also subject to the general principles for linking grammatical relations to MAPs. In this fashion, Mapping Theory accounts for a significant array of Halkomelem data.

Footnotes

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²The Halkomelem data are from the late Arnold Guerin, a speaker of the Island dialect. My fieldwork on Halkomelem was supported by the Canadian Consulate, the Jacobs Research Fund, the Phillips Fund, and the National Museum of Man.

The data are presented in standard Northwest orthography. I do not mark stress when it falls on the first syllable of a word. The following abbreviations are used in glossing the data: *adv* advancement marker, *asp* aspect, *aux* auxiliary, *ben* benefactive, *cs* causative, *det* determiner, *dir* directional, *erg* ergative, *intr* intransitive, *l.c.* limited control, *obj* object, *obl* oblique, *ref* reflexive, *ser* serial, *sub* subject, *tr* transitive, *1* first person, *3* third person.

³This paper gives only a brief look at Mapping Theory and does not compare it with other similar theories. The approach taken by Woolford (1986) is perhaps the closest in its notation and intention.

⁴See Gerdtz (1988) for details of the presentation structure of Halkomelem. The presentation level will also involve co-occurrence restrictions which may reference the semantic and grammatical properites of the mapped elements. For example, Halkomelem has the following constraint: *A = 3rd person, B = 2nd person.

⁵Such principles are fairly typical in linking theories. See, for example, Ostler (1980), Woolford (1986), and Yip et al. (1987).

⁶In addition, individual languages may place further stipulations on their Mapping grammars. For example, in Halkomelem it is possible to exclude all crossing lines.

⁷However, the forms in the active and passive are not always transparently related, although it is clear that they are always objective—and not subjective—in nature. See Gerdtz (1988, 1989a) for discussion.

⁸See Gerdtz (1988) for additional examples.

⁹Since “agent” is specifically mentioned here, causatives on unaccusatives, which do not have an agent nominal, will be ruled out. This is basically correct for Halkomelem, as Gerdtz (1991) discusses.

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The syntax of Tzotzil auxiliaries and directionals: the grammaticalization of "motion"

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The problem to be considered arises from the (Zinacantec) Tzotzil encoding of simple motion, which leads to a syntactic puzzle. The syntactic puzzle in turn leads back to the linguistic expression of motion and space, now understood as results of a process of grammaticalization.

Consider first a group of English words like *up*, *above*, *ascend*, *climb*, *lift*, and *raise*. There is clearly no etymological connection between them, although a semantic analysis might well try to connect their meanings in some systematic way. Perhaps, for example, the words would figure in a definitional circle: *up* captures some notion of vertical trajectory; *ascend* means 'go up'; *raise* means 'cause to ascend'; and so on. But there would be no MORPHOLOGICAL or GRAMMATICAL reasons to make these interconnections, and each word would deserve its own separate lexical entry.

Now consider, by contrast, the Tzotzil root *muy*. It gives rise to a number of lexical forms, of which those of interest are exemplified in (1-6).¹

(1)-(3) illustrate the root as a normal intransitive verb stem. Like all main verbs in Tzotzil, it must be inflected for both aspect (*ch-* marking incompletive, *l-* completive) and person. (*i-* is a 1st person absolutive prefix, and *-otik* is a 1st person inclusive plural absolutive suffix.)

(1) CK:127

ch- i- **muy** ta ba k'atal toj
ICP-1A-ascend PREP top sideways pine
I would climb up the leaning pines.

(2) CK:127

ch- i- **muy** j- tuch' i tajchuche
ICP-1A-ascend lE-cut ART mushroom_sp.
I climbed up to pick the lentinus mushrooms.

(3) SSS:91

l- i- **muy-** otik te yo'- e,
CP-1A-ascend-1PLINCL there where-CL
We went up there [on an observation tower].

In (2), the fully inflected intransitive verb *chimuy* 'I ascend' has what appears to be a purposive adjunct, *j-tuch' i tajchuche* '(in order that) I cut mushrooms' where the transitive verb *j-tuch'* bears NO aspectual inflection but only person marking (here a 1st person ergative prefix with a presumed zero 3rd-person absolutive). The absence of aspectual inflection is characteristic of various purposive constructions in Tzotzil, and is normally labelled 'subjunctive'.²

(4) SSS:91

muy j- k'el-tik k'u s- muk'ul li mejiko-e
ascend(AUX) lE-look-1PLINCL what 3E-size ART Mexico-CL
We went up to see how big Mexico City was.

(5) {constructed}
 ch- **muy** ve`-ik- on ta jol na
 ICP-ascend(AUX) eat-SUBJ-1A PREP head house
I will go up to eat in the attic.

(2) contrasts rather sharply with (4) and (5), which illustrate the use of *muy* as an AUXILIARY verb. Here the auxiliary itself is NOT inflected for person, though it bears aspectual affixes. (The bare form illustrated in 4 is understood as completive; 5 shows an incompletive prefix.) Following the auxiliary is again a 'subjunctive' verb, marked for person but not for aspect. (5) shows that when this second verb (which following Aissen 1993 I will call V2) is intransitive, it bears an explicit subjunctive suffix *-ik*. The auxiliary-V2 construction thus distributes the morphology of the simple Tzotzil verb over two different elements which are tightly bound together, being separable only by a small set of clitics.³ The auxiliary bears aspect, and V2 inflects for person. The combination auxiliary-V2 has been called a 'Motion-cum-purpose' construction (Aissen 1984, 1987:16) to reflect the characteristic gloss.

Finally, (6) illustrates a further DIRECTIONAL form derived from the same root *muy* by suffixing *-el*.

(6) CK:398
 ta la s-jipulan **muyel** yi` ta vinajel
 ICP CL 3E-throw ascend(DIR) sand PREP heaven
He would keep tossing the sand up into the sky.

The directional closely follows a main verb as a kind of locative adverb. Here neither the verb *jip* 'throw' nor the all-purpose preposition *ta* 'at, on, to, from, etc.' conveys any information about the path involved. It is instead the directional *muyel* that expresses the upward trajectory.

By contrast with the English words mentioned at the outset which were SEMANTICALLY relatABLE but UNrelated at the level of morphology and syntax, it is clearly desirable to connect these different uses of the Tzotzil root *muy*. How must a lexical entry for this Tzotzil root be constructed so as to reflect the various syntactic guises it can assume and also their underlying commonality of meaning?

Muy 'ascend' is one of a small set of Tzotzil roots which display these different forms. All are ordinary intransitive verb roots, mostly verbs of 'motion'. The entire set of roots which produce AUXILIARY verbs is shown in (7), arranged into semantic classes that include deictically anchored motion, point-oriented motion, enclosure- or region-oriented motion, and motion on a vertical axis.⁴ There are also two roots in the set with an aspectual meaning.⁵

DIRECTIONALS are derived by suffixing *-el* to virtually the same verbal roots that yield auxiliaries. (In (7) those roots which produce only auxiliaries are shown in square brackets, and those which produce only directionals are shown in parentheses.)

(7) Tzotzil auxiliary and directional roots

Deictically anchored motion

ba(t) 'go' (as directional "from time to time")
 tal 'come'

k'ot 'arrive there'
 yul 'arrive here'

Point-oriented motion

'ech 'pass by' (as directional, 'away')
 sut 'return'
 kom 'stay'

(jelav 'pass by')
 [a(y) 'go and return']

Enclosure or region oriented motion

'och 'enter'

lok' 'exit'

Vertical axis motion

muy 'ascend'

yal 'descend'

Aspectuals

[la] 'finish'
 (vay 'sleep')

lik 'arise, start'

All these roots directly produce intransitive verb stems, which in their ordinary incarnations require a syntactic subject, cross-indexed by an absolutive person affix. When the verb expresses motion, the subject in such cases (as in 1-3 above) is the entity in motion. However, in sentences like (4)-(6) there are no person markers attached to the forms of the motion-verb root. The syntactic puzzle posed by the use of these roots as auxiliaries and directionals is this: if the underlying roots are verbs of motion, who or what is doing the moving? How do we identify what Aissen (1993) calls the 'Mover'?

Auxiliaries

On first examination the motion associated with an auxiliary verb patterns as if the logical subject of the auxiliary motion verb were coreferential with the S (intransitive subject) or A (transitive subject) argument of V2. Such a pattern is parallel to an example like (2) where the motion verb--not an auxiliary--IS inflected for person.

When V2 is intransitive, it has only a subject argument which seems naturally to be associated with the auxiliary's motion (or lack of motion in the case of *kom* 'stay'). Thus, in (5), the 'I' who will eat in the attic (shown by a 1st person ABSOLUTIVE suffix *-on*) is the 'I' who will go up to the attic. (8) and (9) are further examples with auxiliaries 'stay' and 'arrive (there)'.

(8) Chichspn:78:

kom to 'abtej-uk.
 stay(AUX) still work-SUBJ(3A)
He stayed on to work.

(9) T130:329

naka xa la ch-k'ot cham-uk z-na.
 just already QUOT ICP-arrive(AUX) die-SUBJ(3A) PREP+3E-house
She just reached home and died. (Laughlin 1977:318)

In these cases there seems to be both a causal and a temporal link between the motion encoded in the auxiliary and the action of the main verb: a protagonist's action follows (or is contemporary with) a preparatory (if not literally purposive) motion by the same protagonist.

When V2 is transitive, again its subject (or agentive argument) appears to be associated with the motion of the auxiliary. In (4) above, 'we'--the people cross-indexed by the 1st person plural inclusive ERGATIVE affixes on the verb 'look'--are the ones who ascend.

Auxiliary constructions can also appear in the imperative, as in (10). The auxiliary element bears a zero aspectual affix, and V2 shows normal morphology for a transitive imperative.

(10) LOL6:120
 `ech' `ak'-on ta sintalapa
 pass(AUX) give-1A PREP Cintalapa
Pass by Cintalapa and drop me off (there).

The logical subject or A argument of V2 (in this case an unstated 2nd person) is also understood to be the Mover.

Such facts seem to provide evidence for a Nominative/Accusative style Subject relation in Tzotzil, despite the ergative/absolutive agreement morphology. This result would coincide with an intuitive view of the purposive relation between the motion encoded by an auxiliary, and a 'goal' or 'purpose' described in V2. Here some willing agent moves (and the motion is encoded in an auxiliary) in order to bring about some intentional result (captured by V2). Corresponding claims have been advanced about some sister Mayan languages and their ancestors.⁶

However, a more careful look at the behavior of auxiliaries suggests that interpreting the motion denoted by the auxiliary cannot be strictly a syntactic matter. One sort of evidence is provided by examples in which V2 is passive. The details of such constructions are too complex to describe here,⁷ but (11) will illustrate the problem. One passive form that appears with auxiliaries has the suffix *-el* and bears formally ergative prefixes that cross-index the logical PATIENT.

(11) T84.TXT:226:
 tal- em k- ik' -el z- na `a li rey
 come(AUX)-STAT 1E-take-PASS PREP+3E-house PT ART king
They've come to take us to the King's house. (CK:208).

An example like (11) is difficult to gloss; it means something along the lines of 'there is coming for us to be taken to the King's house'. Laughlin's translation indicates that the Mover--the entity that 'comes'--is understood as an indefinite 'they', which appears neither in the sentence nor, indeed, in the surrounding discourse. The 'we' who are to be taken have not 'come' anywhere, since we were already there. (The root *tal* denotes motion towards 'here', the speaker's deictic center.)

A simpler non-passive case appears in (12):

(12) T109:116
 ba nox ech'-uk ak'ubal yo`-e
 go(AUX) only pass-SUBJ(3A) night there-CL.
Just go spend the night there. (CK:82)

Here the auxiliary bears no overt aspect marker, and the overall construction must be interpreted as imperative. The preceding context makes clear that the ADDRESSEE is meant to be the one to go [to a graveyard]. The V2 involves an idiomatic expression *ech' ak'ubal* 'lit., the night passes'. A person who, in

English, would 'spend a night' can appear in such an idiom only as an oblique argument introduced by the relational noun *-u'un*.

(13) {constructed}
 vokol i'-0- 'ech' k- u'un ak'ubal
 difficult CP-3A-pass 1E-ABIL night
I had a hard night. (Lit., I managed with difficulty for the night to pass.)

There appears to be no argument of V2 in (12) which can provide a logical subject to the auxiliary *ba* 'go'.

A similar problem arises with example (14).

(14) MONOL:3:
 ch-ba lok'-uk `akta noxtok
 ICP-go(AUX) exit-SUBJ(3A) document too
(We) will go to have a document issued also.

The free translation here obscures the problem, for the original Tzotzil sentence has no 'we'. The sentence

(15) {constructed}
 ch-0-lok' akta
 ICP-3A-exit document
A document will come out (i.e., be issued).

shows an expression used to describe the issuing of a signed, written declaration which often serves to settle civil grievances in Zinacantán. The sentence is intransitive, *akta* being the grammatical subject of the intransitive verb *lok'* 'exit'. However, it is clearly not possible for such a document *first* to go (to the townhall, in this case), *in order then* to be created and issued. It is the complainants who do the going, with the issuing of the *akta* the proposed result. This is made clear by the wider conversational context in (16): a man describes his continuing disputes with a relative, and how they ultimately went to the magistrate for settlement.

(16) MONOL:

(a) chibatikótik ta jteklum che'e,
 ICP-1A-go-1PLEXCL PREP Zinacantán Center then
We'll go to Zinacantán Center.

(b) ch-ba j-k'opon-tikótik preserente
 ICP-go(AUX) 1E-talk to-1PLE president
We'll go to talk to the (municipal) president.

(c) ch-ba lok'-uk `akta noxtok
 ICP-go(AUX) exit-SUBJ(3A) document too
(We) will go to have a document issued also.

The sense of the auxiliary paired with *lok'* in (16c) derives in part from the auxiliary *ba* occurring in the previous sentence (16b), which has a transitive V2 (*-k'opon* 'talk to'). The DISPUTANTS will go to have the *akta* issued. The fact remains, however, that there is no argument available in (14) (= 16c) which can correspond to the 'logical subject' of the auxiliary verb 'go'.

(17) is a last example. As I was about to leave Chiapas, a Zinacantec promised to repay a loan when I returned:

(17) PV0492

ja` to ch-(y)ul k- ak'- b- ot
! still ICP-arrive here 1E-give-BEN-2A
Just then I will give it to you arriving here.

If the Mover involved in the auxiliary *yul* 'arrive here (i.e., in this case, to the Chiapas village)' must co-refer with the ergative argument of the V2, (17) would have meant that this Zinacantec, not I, would be leaving the village to return sometime in the future--the exact reverse of the actual situation. It is almost as though the speaker is transposing himself (Haviland 1991b) into my shoes, to say in effect: 'you have only to arrive here for me to repay you'. But now the understood Mover corresponds to the object of V2.

Aissen (1992, 1993) uses such facts to motivate a syntactic account of Tzotzil auxiliaries in which the auxiliary is the functional head of a VP, selecting for a subjunctively marker complement clause, but in which the auxiliary has no nominal arguments, in particular no subject. Thus in a sentence like (2) *muy* functions as a normal intransitive verb with a cross-indexed subject, whereas in (4)-(5) *muy* is an auxiliary which cannot have its own subject, imparting instead only its idealized spatial trajectory to the resulting purposeful action. The auxiliary thus represents a GRAMMATICALIZATION of the parent verbal root: it loses its ability to have a nominal argument, and it may, as I will argue briefly at the end of the paper, undergo both semantic generalization and formal erosion.

The Mover in an auxiliary construction is the entity that proposes, or is in a position to bring about the result expressed in V2. The auxiliary conjures a scene, in interaction with the wider discursive context, and motion must be assigned to arguments (explicit or implicit) by inference rather than by syntax. What pragmatic parameters operate to allow the combination of understood motion, coded in an auxiliary, with a purposive result coded as V2 requires further investigation.

Directionals

The same verb roots from which Tzotzil auxiliaries derive provide the source for the separate class of directionals, illustrated in (6) above. Unlike the auxiliary, which comes at the beginning of the verb complex and inflects for aspect, directionals immediately follow the main verb and are free of inflection, verbal or otherwise. Indeed, multiple directionals can be combined in a single Tzotzil sentence.

(18) t9007a1:805:

`al-a-ka`-ike `ich'-ik muyel tal `un
ART-2E-horse-PL take-(IMP) PL ascend(DIR) come(DIR) CL
As for your horses, bring them up.

In (19) the combination of a main verb of motion (the transitive *-otes* 'insert' derived from *och* 'enter') with the motion directional *tal* 'coming' and the aspectual *batel* 'now and then' requires an idiomatic English translation that mixes motion and deictic elements in a way strikingly different from the Tzotzil.

(19) t9007a1:791:

ta x- otes- ik onox tal batel
ICP ASP+3E-put in-PL anyway come(DIR) go(DIR)
They bring [their horses] here to put in [the corral] from time to time.

There is an apparent layering of the different categories, with the deictic directionals *tal(ɛl)* and *ʼechʼel* following all other directionals except the aspectuals. The ideal ordering seems to be as in (20):

(20)				
ENCL.		VERT.		DEIC.
ochel		muyel		ech'el
lok'el		yalel		tal
	(jelavel) ⁸		(komel)	(k'otel)
				(yulel)
				ASP.
				likel
				batel
				(vayel)

If a directional particle can be construed as a reduced reflex of its parent motion verb, we can ask, as we did with auxiliaries, how to construe its putative logical subject? In (6) it is the sand which ascends towards heaven. (21)-(24) show further directionals in action.

(21) t9007a1:254

ta kaʼ ch-0-muy ʼechʼel li y-ajval
 PREP horse ICP-3A-go*up go(DIR) ART 3E-owner
It is on horseback that the owners will go up away from here.

(22) t9006a1:241

i-0-lokʼ talel
 CP-3A-exit come(DIR)
It came out towards here.

(23) LOL1:807:

ta j-kʼan sutel noxtok ti j-pasajel ʼune
 ICP 1E-want return(DIR) again ART 1E-fare CL
I (would) ask for my fare-money back again.

(24) LOL6:309:

ta j-nakʼ komel
 ICP 1E-hide stay(DIR)
I would hide it away [equipment left at a distant market].

In these cases there is an apparent association between the directional and the Absolutive argument of the main verb: either the S(ubject) of an intransitive main verb (the ascending or exiting entities in (21) and (22)), or the O(bject) of a transitive main verb (the fare returned in (23) or the hidden equipment left behind in (24)). Even with passive main verbs, the syntactic S--the logical patient--is clearly understood to be following the trajectory of the motion encoded in the directional.

(25) T154:198

netʼ- e yalel ta ʼolon
 press-PASS(3A) descend(DIR) PREP below
[H]e was pursued down (Laughlin 1977:117).

Once again, such a pattern has been claimed to obtain for analogous constructions in sister languages. In classical Quiché, for example, according to Dürr (1990:4), '[i]n transitive sentences [directionals] indicate the direction of the patient in accordance with the general ergative pattern of the language'.⁹ An alternative formulation would associate the motion of the directional with that argument of the main verb occupying some sort of 'Theme' semantic role: an entity construed as moving or changing.

However, this putative syntactic characterization also fails in Tzotzil. Consider first directionals with derived antipassives. From most transitive verb stems in Tzotzil it is possible to derive an intransitive stem by suffixing *-van*. Typically, if the transitive stem fits in the frame 'X does Y to Z' the suffixed *-van* form fits in a corresponding intransitive antipassive frame 'X does Y-ing (typically to people)'. Hence, from the transitive *-toj* 'pay for' one derives the intransitive *tojvan-* 'pay for someone (e.g., pay a salary or a brideprice)'. (26b) shows what happens when intransitive verb stems in *-van* co-occur with directionals.

(26) T145:198

- a. lok' to la tal ti y-ajñile,
 (CP+3A)exit CL CL come (DIR) ART 3E-wife
- b. ja` xa la tojvan lok'e! tal
 ! CL CL (CP+3A)pay+van exit (DIR) come (DIR)
- c. ti y-ajñil bankilal `une
 ART 3E-wife brother CL

(a.) [The other one] got a wife. (c) The wife of the older brother (b) paid [the bride price] (Laughlin 1977: 195-6). Literally (jbh): (a) [the other one's] bride came out to here. (c) The wife of the older brother (b) paid [for the new bride's] coming out.

The story concerns a man who managed to get a bride only through the good offices of his older brother's wife. In clause (a) we are told that he got the bride (she 'exited' 'coming'); in lines (b) and (c), which form a single clause, we learn that the sister-in-law 'paid for [the new bride]', also with directionals 'exiting' and 'coming'. Here, the Mover who 'exits' her old house and 'comes' to her new husband's compound is the underlying, but syntactically unexpressed (or lexically incorporated), logical patient of the intransitive main verb *tojvan* 'pay [brideprice] for someone'. But this bride corresponds to no argument in the sentence.

Such examples suggest that the motion implied by directionals is also a matter of inference and not of syntax, that directionals like auxiliaries have no nominal arguments. The motion or trajectory is encoded as an adverbial augmentation of the scene described in the overall clause. Such an analysis seems especially pressing when we turn to examples in which the verb modified by directionals contains no hint of motion in its ordinary meaning. In such cases, the presence of directionals INJECTS motion into the action portrayed, and the resulting inferred trajectory must be attributed to elements which find no overt linguistic expression.

With verbs of speaking and perception, directionals can impose an orientation, both deictic and non-deictic, on a scene, with no suggestion of a literal moving argument.

(27) anvask4:96:

- ja` taj lo`il i-y-a`i tal ta s-na
 ! DEM gossip CP-3E-hear come (DIR) PREP 3E-house
 That's the gossip that he heard at his house.

In (27) the deictic *tal* 'coming' transposes the perspective adopted by the speaker onto that of the receiver of words: the gossip came HERE to him. In (28) the directional adds an upward trajectory to the looking.

(28) T152:62:
 xi ta j-k'el **muyel** `une
 thus ICP 1E-look **ascend(DIR)** CL
I was looking up (Laughlin 1977: 202).

With other sorts of main verbs more inferential ingenuity is required to construe the meaning of the directional. (29) exhibits the directional *komel* 'staying' whose non-motion must accrue to the object of the main verb 'burn' (here a cornfield).

(29) T162:196
 j-chik' xa **komel**
 1E-burn CL **stay(DIR)**
I've burned it (Laughlin 1977: 390).

This line is spoken by a lazy husband after he has gone home after burning off fields in preparation for planting. The directional *komel* implicates the fact that the man himself is no longer *in* the fields (they 'stayed behind', after he departed), and that he has finished burning them. The overall effect of the directional is thus partly aspectual.

Further varieties of motion are implied in (30)-(34), all of which have the directional *tal* 'coming'.

(30) T61:234:
 t'om **tal** volkan
 (CP+3A)explode DIR volcano
The volcano erupted [and then its ashes] came.

(31) L0L1:875:
 ta j-ch'ak **tal** j-pasajeb `une
 ICP 1E-divide DIR 1E-fare CL
*I will separate out (from the rest of the money) my bus fare
 [before bringing my money back home].*

(32) BARIL:175:
 l-i-laj **tal** `un
 CP-1A-finish DIR CL
I was injured [on my way back here].

(33) t9007a1:988:
 mi ja` lek ch-a-ve`-ik **tal** che`e?
 Q ! good ICP-2A-eat-PL DIR PT
Should you then eat [before you come here]?

(34) T86:352:
 mi`n a-toj **tal** a-ka?
 Q 2E-pay DIR 2E-horse
"Did you pay for your mule [before bringing it back here]? (Laughlin 1977: 284).

One common element in all these inferred trajectories is that the action of the main verb takes place either BEFORE or SIMULTANEOUSLY with the motion implied in the directional. (For example, in (33) the question suggests that the addressee should eat first and come here afterwards.) Apart from such a temporal sequence, though, there is rather little consistent patterning. The directional depends on the overall scene evoked by the verb and the rest of the context of situation to supply a Mover.

Directionals can also accompany stative adjectival predicates. De León (1991) reports the frequent use of egocentrically anchored directionals combined with positional adjectives in an experimental interactive game in which Zinacantecs

offered verbal descriptions of photographs. (35) is an example from de León's transcripts.

(35) tape2a1:26
 cha` kot ich j-moj cholol **ech'el**
 two NC chile one-blow lined up(+3A) **pass (DIR)**
(These are) two chiles lined up [pointing away from me].

Similar examples abound in conversational and textual materials.

(36) LOL3:921
 ja` tey tzakal **ech'el** x-chi`uk
 ! there joined **pass (DIR)** 3E-with
It [went away] attached to him.

(37) T75:53
 chukul **komel** ta te`el alampre
 tied up(+3A) **stay (DIR)** PREP post wire
[He had] left [the cow] tied to the fence post (Laughlin 1977: 228).

Directionals also accompany non-verbal expressions of location. These may be formed with 'relational nouns' (which denote parts or regions of their grammatical possessors).

(38) T9006a1:46:
 y-ak'ol **tal** Nachij
 3E-above **come (DIR)** place name
(It is) above Nachij on this side (i.e., above coming).

More surprising, perhaps, is the use of the directionals *tal* and *ech'el* to modify ordinary locative phrases of the form PREPOSITION+NP.

(39) LOL2:222:
 le` ta **ach'eltik** **ech'el** s-na-e
 there PREP muddy-expanse DIR 3E-house-CL
His house is over there on the far side of the muddy place.

Here a whole scene is broken into deictic, locational, and trajectory elements by the Tzotzil syntax. There is first a distal demonstrative *le`* 'there' (which also serves as the predicate that can bear absolutive suffixes, in this case a zero third person). It is complemented by a prepositional phrase, whose preposition *ta* is semantically empty, 'at/near/in a muddy place'. The directional *ech'el* in turn suggests the image of, say, walking from the muddy place in a direction away from 'here'. The same scene must be rather more statically re-packaged in the English translation.

In both the auxiliary and directional cases, then, inference rather than syntax assigns putative logical arguments to the underlying (or perhaps 'fictive' [Talmy 1985]) motion expressed. This suggests that the auxiliary and directional uses of a root like *muy* are no longer fully verbal: the argument structure available to *muy* as a motion verb has been eroded away from *muy* the auxiliary (although it is still enough of a verb to carry aspect) and still more from *muyel* the directional which now involves only schematic motion, direction, or orientation.

AUX + DIR

Despite differences in detail, auxiliaries and directionals are formed from the same motion roots. How do the two slots combine?

First, we have seen that there is an association between the motion of the auxiliary and an understood (though possibly unexpressed) purposive agent in the overall action. Similarly, we have seen that the directional specifies a trajectory that is construed as simultaneous with or subsequent to the action of the main verb. The ordering of auxiliary and directional also suggests iconically the temporal sequencing of the two different phases of motion: the motion of the auxiliary comes first, that of the directional afterwards. Thus, apparently redundant combinations of semantically equivalent auxiliary and directional can be understood to have non-redundant force.

(40) LOL3:150:
 ja' ch-ba s-man `ech'el le' `une
 ! ICP-go (AUX) 3E-buy pass (DIR) that CL
He'll go to buy that (and take it away).

In (40) *ba* 'go (AUX)' is paired with '*ech'el* 'going (DIR)'. The sequence implied is: 'he goes to buy [and afterwards take away] that thing'.

The combination of auxiliary and directional is thus perfectly designed to encode a ROUND-TRIP.

(41) LOL4:143:
 ch-ba j-sa' tal k-ikatz ta jobele
 ICP-go (AUX) 1E-search*for come (DIR) 1E-cargo PREP San_Cristóbal
I'll go to find my goods in San Cristóbal (and bring them back here).

Moreover, since two sorts of motion or trajectory can be grammatically incorporated into every verb phrase by using both auxiliary and directional positions, the main verbs themselves can be lexically specific, and the overall topology of an action can still be economically encoded. The lexicalized character of the main verb is also, thereby, distributed over the entire scene--the action and both its preparatory and resulting paths. Thus consider the distribution of the action of 'grabbing' in (42).

(42) LOL1:348:
 pinchi `alvanil ba s-tzak-on `ochel
 damned mason go (AUX) 3E-grab-1A enter (DIR)
The damned mason just went and grabbed me [and hauled me] inside.

The grammaticalization of motion

Heine (1992:40-44) proposes a Motion schema--'X moves to/from Y'--as one starting point for a grammaticalization chain in which a verb evolves into a tense/aspect marker (TAM). An auxiliary, on Heine's account, is simply 'a linguistic item covering some range of uses along' (1992:93) such a chain. The grammaticalization process comprises a sequence of diagnostic linguistic shifts that include desemanticization, decategorialization, cliticization, and erosion (68ff.). For each shift, Heine posits an 'Overlap model' that involves a three step progression from a source stage to a target stage, with an intermediate stage where constructions are ambiguous between the source and target patterns (66ff.).

Recent work by Zavala (1992) and Craig (1992) explores the grammaticalization of auxiliary and directional elements in a Mayan comparative context in considerably more detail than can be accommodated here. Tzotzil auxiliaries and directionals are clearly consistent with Heine's scheme, falling near

the start of the chain when compared with, say, Akatek (Zavala 1992) or Sakapultek (du Bois 1992) auxiliaries or Mam post-verbal directionals (England 1976). How do we understand the synchronic grammatical categories that result from such a putative grammaticalization process?

1. Erosion

The verbal roots that give rise to AUX and DIR elements show incipient phonological reduction of a characteristic kind. Thus *bat* 'go' frequently appears as AUX *ba*, and 'ay 'go and return' yields AUX 'a.¹⁰ Similarly, the suffixed DIR *talel* 'coming' is often shortened to *tal*; moreover, where Zinacantec Tzotzil has directionals 'ech'el 'passing, away' and *batel* 'going, from time to time', nearby Chenalhó Tzotzil uses 'el and *bel*.¹¹

2. Decategorialization and cliticization

AUX and DIR elements are formally unlike verbs despite their verbal provenance. The results of decategorialization have been the primary focus here: for example, the Mover is not a syntactically governed argument of AUX and DIR elements. AUX and DIR also have restricted clitic-like positions of occurrence around a main verb (or other predicate).

The same roots that produce AUX and DIR elements also give rise to normal intransitive verbs. Synchronic lexical rules must thus specify that from a root like *muy* one can produce both a lexical verb and an auxiliary, differing minimally as lexical vs. functional heads of VPs, along lines suggested by Aissen (1993). The DIR arises from still more severe decategorialization, since it functions as an adverbial enclitic. How exactly to represent such lexical relations and the grammatical categories expressed by a single underlying root is a problem still to be resolved.

3. Conceptual generalization.

Although as full lexical verbs, the roots in question are often extended to a variety of metaphorical or non-motion senses,¹² as auxiliaries their meanings are highly schematized, limited to the sorts of trajectories and paths (Talmy 1985) expressed by closed class grammatical elements in other languages (for example, English verbal particles and prepositions).

The sense of literal motion may be generalized onto non-spatial domains in characteristic and familiar ways. For example, the auxiliary *ba(t)* 'go' in the incomplete aspect can have a clear future meaning, as in (43).

(43) CHID:27:

j-tak ta k'anele, yu'un ch-ba tal-uk
 1E-send PREP wanting because ICP-go (AUX) come-SUBJ(+3A)
 (However much [liquor]) I send for, it's going to come.

Given the mutually inconsistent meanings of *bat* 'go' and *tal* 'come' as MOTION verbs the only apparently possible reading of the auxiliary construction *ch-ba tal-uk* is, as in the idiomatic English translation, 'it's going to (i.e., will) come'. *Bat* thus stands at a rather standard point along the path from motion verb to tense/aspect marker.

As an extension of the Tzotzil aspect system, auxiliaries exceptionally combine with predicates which without auxiliaries could NOT bear aspect directly at all. (44) shows that surface adjectives which derive from 'positional' roots (see Haviland 1992) can combine with auxiliary verbs.¹³ Uniquely, such normally stative predicates can in an auxiliary construction bear aspect.

(44) T83:32

ch-tal chotl-ik-on ta y-olon `one
 ICP-come (AUX) sitting-SUBJ-1A PREP 3E-underneath avocado
I'm coming to sit under the avocado tree. (CK:197)

Such a construction is possible with positional adjectives denoting normal human positions (e.g., *va'al* 'standing', *puch'ul* 'lying prone', even *nakal* 'at home, residing') when the subject argument can be construed as a volitional agent.

With DIR elements, there are also semantic shifts and reanalyses. For example, the DIR *batel*, which should mean 'away, going' (and DOES mean exactly this in neighboring Tzotzil dialects) in Zinacantan has come to have more of an aspectual flavor: 'from time to time'. In its place *ech'el* 'passing' has been recruited to fill the deictic 'away from here' slot in the directional paradigm (as in (21), (36), (39), (40)).

Nonetheless, such shifts do not simply represent a dogged progression towards a TAM target, bleached of motion entirely. The highly schematized trajectories or paths encoded in AUX and DIR elements seem to be a target in themselves. Thus the gap left by reinterpreting *ech'el* is in turn refilled by inventing the otherwise idiosyncratic DIR *jelavel* 'passing'.¹⁴

Here Tzotzil and, indeed, languages across the Mayan family represent a minor challenge or addition to Heine's view of auxiliaries as necessarily involving a progression from Verb to TAM. Mayan languages seem to use AUX constructions to encode not only tense and aspect, but also path and trajectory. They use auxiliaries and directionals to build space directly, as it were, into grammar.

¹ Except where noted, examples are drawn from recorded conversations or from Tzotzil texts published in Laughlin 1977 (abbreviated as CK), or Laughlin 1980 (abbreviated SSS).

² See Haviland (1981), pp. 224-227, Aissen (1987), pp. 15-18, 214-229, and Aissen (1993), sect. 2.1, for Tzotzil 'subjunctive' form and usage. Aissen (1993) bases much of her argument about the syntax of auxiliary constructions on parallels with a causative construction in which a fully inflected form of *ak'* 'cause' combines with a dependent clause whose verb exhibits the same subjunctive morphology. Also involving subjunctive form are desiderative constructions with *chak* 'want' or *-o'on-uk* 'would like'.

³ In recent work, Judith Aissen (1992, 1993) proposes a syntactic account of why the morphology is distributed in exactly the way it is, though that will not be a direct concern here.

⁴ The classification is presented in Haviland 1991a.

⁵ The root *lik* can mean both 'arise' and 'start'.

⁶ For example, Dürr (1990) states that in classical Quiché motion auxiliaries when combined with a transitive main verb 'indicate the movement of the agent, contrary to the general ergative pattern' of the language.

⁷ More detailed argument about passive V2s is given in Haviland 1991a:16-19, and especially Aissen 1984, 1993.

⁸ The positions of *jelavel* and other parenthesized directionals in this table are provisional.

⁹ Similarly, Craig (1979:37) argues that cardinal directionals in Jakalteek 'express the movement of the actor/subject' with intransitive main verbs but with transitive

verbs 'refer to the movement of the object/patient'. Jakaltek deictic directionals 'toward/away' are calculated from the perspective of the actor/subject. In languages with more highly schematized directionals, no obvious pattern of association is evident. See, e.g., England 1976 on Mam.

¹⁰ Indeed, in the neighboring Tzotzil dialect of Chamula, the apparent AUX *la(j)* 'finish' now functions as the completive prefix in the normal verb paradigm.

¹¹ Aissen (1993) points out that the CV shape of the reduced auxiliaries is quasi-canonical for functional elements in the language, so that the apparent phonological erosion has a kind of phonotactic target.

¹² Consider, for example, the extended meanings of *'ech'* 'pass' and *lok'* 'exit' as main verbs in (12) and (14). See Haviland 1991a:43-55 for further semantic details.

¹³ Such cases in which the complement selected by the auxiliary is not (formally) a verb at all represent a problem for Aissen's (1993) analysis of auxiliaries as functional heads in which, following Abney 1987, she takes it as a defining characteristic of functional heads that they select unique complement types. Positional predicate adjectives cannot ordinarily bear aspect, although they do have a number of verb-like properties (see Haviland 1992). Note that AUX is NOT possible with fully verbal stems derived from such roots.

¹⁴ This form is unique in both phonological shape and lexical provenance, since it is the only directional derived from a disyllabic stem, and indeed, from a DERIVED stem formed by suffixing an intransitivizer *-av* to the root *jel* 'change, exchange'.

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Diversity in morpheme order in several Alaskan Athabaskan languages: Notes on the *gh*-qualifier

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Recent discussion of the verb in the Athabaskan languages has centered on the role of position class analyses of the verb complex. Studies such as Rice 1991, 1993 and Speas 1990 have sought to account for verb forms in terms of general morphosyntactic principles without recourse to a templatic statement of the verb complex. Rice (1991, 1993) states that among the reasons to abandon the position class model is that it is typologically aberrant, seemingly arbitrary, and theoretically weak. Rice has sought to show that 1) within the Athabaskan languages morpheme order of the verb prefixes is fairly congruent, and that 2) morpheme order in the prefix complex can be predicted by cross-linguistic scopal principles.

On the other hand, in recent papers I (1989, 1992) have expanded the role of the verb complex. I state that if consistent criteria are applied, the languages tend to have over twenty distinct prefix positions or zones with subpositions before the stem and three or so suffix positions after the stem. The model I call *stacking templatic word formation* requires that the morpheme order and the inventory of affixes in the verb complex be fully specified for each Athabaskan language. Underlying verb themes, which tend to be quite congruent in structure and meaning across the language family, are modified by string-like derivations. As the strings apply, they stack and interdigitate upon an inherited base structure. In this model a fully specified verb complex serves as a template that parses surface and underlying forms and filters the string-like derivations that apply to underlying verb themes.

Stacking templatic word formation must be based on an active research effort on the composition of the verb complex. In fact, this has been attempted only for a very few Athabaskan languages. In the Ahtna study (Kari 1990:37-38) I noted that at one point I had done seventeen drafts of the verb complex. The general and schematic verb complexes, such as those usually invoked for Navajo (e.g. Sapir and Hoijer 1967), will not suffice as a mechanism in the model of stacking templatic word formation.

In this paper I summarize some facts on ordering in the 'qualifier prefix zone' in several Alaskan Athabaskan languages. We find that there are some major differences in the verb complexes. The differences are most conspicuous in the languages of Western Alaska which, as a general trait, have more distinct positions and little or no drift toward levelling in the prefix complex. This is not to say that there is not merit in Rice's position regarding congruences and predictability. However, the similarities among the languages are general and are best captured at the 'zone level' (in the sense of Kari 1989).

One prefix that is particularly interesting is the one that Jules Jetté in 1906 termed 'the Ra[*gh*] qualifier' (Kari 1989:433). In Ahtna this *gh* prefix requires its own subposition as the rightmost prefix in the 'qualifier prefix zone' (Kari 1989:449-450; 1990:41, 202). This *gh* prefix is distinct from the *gh* progressive/future mode prefix. I also noted in Kari 1989:450 that in Koyukon this same '*gh* qualifier' is several positions further to the left, just to the right of the *uu* 'conative' prefix. Investigation of the *gh* qualifier is useful in several ways. The *gh* qualifier can clarify ordering relationships especially when combined with the *z/s* or *dh/th* negative prefix and other qualifier or mode prefixes. *Gh* qualifier verbs produce some interesting phonological rules. It is also a good test of my model to

see what happens with cognate forms in languages that may have **gh** in distinct positions or that may lack the **gh** qualifier entirely. Table 1 has cognate forms in Ahtna and Koyukon. The **gh** qualifier prefix is noted in boldface. Morphologically conditioned prefix vowels and epenthetic prefix vowels (other than schwas) are double underlined.

Table 1. The **gh** qualifier in Ahtna and Koyukon

<i>Ahtna</i>	<i>Koyukon</i>
a. 'it is frozen solid'	
<u>nghel</u> ten	<u>ghenee</u> ltenh
/n+ gh %z+l+ten=0/	/gh+n%l+l+ten=0/
qua+qua%prf+cls+stem=sf //	qua+qua%prf+cls+stem=sf
b. 'he will freeze it solid'	
in <u>ghaa</u> ti:t	yeghiitenaattenh
/y+t+n+ gh %gh+t+ten=t/	/y+gh+t+n%gh+t+ten=0/
obj+inc+qua+qua+mod+cls+stm=sf //	sbj+inc+qua+qua+mod+cls+stm=sf
c. 'I will freeze it solid'	
tin <u>ghaa</u> ttiit	ghiiiteneeghtltenh
/t+n+ gh %gh+es+t+ten=t/	/gh+t+n%gh+es+t+ten=0/
inc+qua+qua%mod+1sg+cls+stem=sf //	qua+inc+qua%mod+1sg+cls+stem=sf
d. 'I won't freeze it solid'	
'ele' tin <u>ghaa</u> ttiile	ghiiitenleeghtltenee
/ 'ele' t+n+z+ gh %gh+es+t+ten=t+e/ /gh+t+n%l+gh+es+t+ten=0+ee/	
procl	
inc+qua+qua%neg+mod+1sg+cls+stem=sf+sf // qua+inc+qua%neg+mod+1sg+cls+stem=sf+sf	

The **gh** qualifier is the rightmost qualifier, as it is in Ahtna here, in most of the Alaskan languages. However the prefix is several positions further to the left in Koyukon, as well as in Holikachuk and in the Outer Inlet dialect of Dena'ina. Also note that a distinguishing feature of prefixes at the right-hand edge of the qualifier zone are various epenthetic or morphologically conditioned vowels, e.g. Koyukon **ee** in a, c, and d. I use the symbol % to mark the boundary between the qualifier zone and the inflectional zone to its right. Stem suffixes are distinguished here by the symbol =. Also note that the Koyukon forms retain all the prefixes on the surface whereas Ahtna, in d, has **gh** and **z** deletion rules in the future forms of verbs with the **gh** qualifier.

Lower Tanana, a language of the Fairbanks area, is a good language for surveying some of the functions of the **gh** qualifier. Lower Tanana and Upper Kuskokwim have, I would speculate, the most conservative verb prefix morphology and morphophonemics in the language family. Lower Tanana only occasionally alters **gh** via phonological rule. (Whereas Ahtna and the three other Tanana River languages have numerous rules that alter **gh**, or they have restructured paradigms with the **gh** mode prefix such as the future.) In Table 2 I show an array of cognate or parallel forms in Lower Tanana and in Upper Tanana, the latter of which lacks the **gh** qualifier. Only the **gh** qualifier is in bold. Other **gh** prefixes, e.g. in 1a and 1b, are the **gh** mode prefix.

Table 2. Some cognate verbs in Lower Tanana and Upper Tanana

	<i>Lower Tanana</i>	<i>Upper Tanana</i>
1. 'freeze O solid'		
a. I will freeze it	teng <u>ha</u> aghetltenh	tinaktänh
b. I won't freeze it	tendhe <u>gha</u> aghetltenęę	k'aa tinaktän
2. 'to work'		
a. I am working	ghesdenaa	ishnah
b. I worked	<u>gha</u> aghesdenaa'	ghishna'
c. I will work	te <u>gha</u> aghesdenaat	tishnaat
d. I won't work	tedhe <u>gha</u> aghesdenaalęę	k'aa tishnaal
3. themes referring to tethered or resistant subjects/objects		
a. he aimed sth.(at it)	niich'eg <u>he</u> eniitaanh	nitaach'eniitąą
b. the clock stopped	niitaadeg <u>he</u> eniighet	nitaaniixat
c. one end of rope fell	naang <u>ha</u> aghiideek	nařaniideek
d. a coiled rope fell	naanghiideek (no gh-qual)	naniideek

In Lower Tanana the **gh** qualifier seems to be quite common and multifunctional just like the other prefixes in the highly interesting 'qualifier prefix zone'. Sets of verbs such as these with congestion in the qualifier zone can establish the ordering in the qualifier zone quite definitively. Compare the verb forms in c. and d. In c. **gh** qualifier + **gh** mode trigger an **aa** epenthesis. Also this seems to be a rare case in which the **gh** qualifier is used similarly to **n** and **d** in gender agreement (**n** = 'rope-like', **gh** = 'tethered'). Note the levelling and simplification in Upper Tanana to one syllable before the stem as opposed to the several syllables in both Lower Tanana and Koyukon. The ordering is summarized in Table 3. Note that the uncommon qualifiers such as **dh/z/l** in the themes 'kill' and 'listen' and **q/x** in 'talk' are not shown here but they are of importance to the model.

Table 3. The qualifier zones in Ahtna, Lower Tanana, Koyukon, and Upper Tanana

<i>Ahtna</i>	qo	u	t	d	n	z ²	gh
<i>Lower Tanana</i>	xu	uu	t	d	n	dh	gh
	area	cona	incp	qual	qual	neg2	qual
<i>Koyukon</i>	xu	uu	gh	d	t	n	l
	area	cona	qual	qual	incp	qual	neg2
<i>Upper Tanana</i>	hu	uu	t	d	n		
	area	cona	incp	qual	qual		

In Lower Tanana and also in Ahtna, the **dh/z** negative prefix is immediately to the left of the **gh** qualifier. In Koyukon, as can be seen in Table 1(d) the negative prefix **l-** (where **dh** > **l**) is the rightmost prefix in the zone and can occur as the onset consonant of a syllable with an epenthetic vowel. Also of note is the fact that

Koyukon and Lower Tanana differ in the ordering of the **t** inceptive and the **d** qualifier. Upper Tanana lacks both the **gh** qualifer and the **dh** negative positions.

The Dena'ina language of Cook Inlet seems to have a particularly productive **gh** qualifier. For years I have noted that it occurs in different positions and with differing morphophonemic alternations within the four dialects. Table 4 contains themes with **gh** qualifiers with dialect markings noted:

Table 4. Verbs with **gh** qualifer in Dena'ina dialects

no mark=all dialects, *I*=Inland, *Il*=Iliamna, *U*=Upper Inlet, *O*=Outer Inlet

1. 'make O (shavings), carve on, whittle O'
 - a. he made shavings yeghishak (*gh-durative*) (*no gh-qual*)
 - b. he carved it into a shape yed~~gh~~ashak *IUII* (*z-conclusive*)
 yeghd~~ash~~ak *O*
 - c. he carved it to a point xeyedn~~gh~~ashak *IUII* (*z-conclusive*)
 xeyeghdn~~ash~~ak *O*
2. he loosened it (line) xeyetdengha~~t~~datl' *IUII*
 xeyeghdenta~~t~~datl' *O*

These examples suggest that the Dena'ina dialects may have at least two distinct prefix orderings. Preliminarily (without yet examining the negative), note the forms in 2, where there appears to be a reversal in the positioning of **gh** and **t** prefixes in the Outer Inlet dialect with respect to the other dialects. When we pursue the placement of the **z** negative prefix in verbs with the **gh** qualifier, such as 'to work', we find that there are even further differences within the dialects. Compare forms of the verb theme 'to work' in the Dena'ina dialects with those of LT and UT in Table 2.

Table 5. 'Work' in the Dena'ina dialects

- a. I am working gheshtnu
- b. I worked gh~~igh~~eshtnu *I,Il*
 gh~~agh~~eshtnu *U*
 ghgheshtnu *O*
- c. I will work tgh~~igh~~eshtnu *III*
 tagheshtnu *U*
 ghetgheshtnu *O*
- d. I won't work nch'u tezgh~~igh~~eshtnu *I*
 nch'u eztgh~~igh~~eshtnu *Il*
 nch'uk'a eytagheshtnu *U*
 kusht'a ezhgetgheshtnu *O*

Notice the varying placement of the negative prefix **z** (or **y** in *U*). Whereas the future positives are the same in *I* and *Il*, the negative forms are distinct. Of special note is that the Inland dialect is the only one which has an ordering for the **z** negative and **gh** qualifier akin to that of Lower Tanana and Ahtna. Also note the differences in surface phonology in the forms in b: *i* epenthesis, *a* epenthesis, and

when preceded by the **t** prefix. Table 6 summarizes the Dena'ina qualifier orderings.

Table 6. The qualifier zones in the Dena'ina dialects

1. <i>I</i>	q	i	t	d	n	z	gh
	<i>area</i>	<i>cona</i>	<i>incp</i>	<i>qual</i>	<i>qual</i>	<i>neg2</i>	<i>qual</i>
2. <i>II,U</i>	q	i	z,y	t	d	n	gh
	<i>area</i>	<i>cona</i>	<i>neg2</i>	<i>incp</i>	<i>qual</i>	<i>qual</i>	<i>qual</i>
3. <i>O</i>	q	z	gh	i	d	n	t
	<i>area</i>	<i>neg2</i>	<i>qual</i>	<i>cona</i>	<i>qual</i>	<i>qual</i>	<i>incp</i>

Even though the Upper Inlet dialect has some **gh** deletion rules and a **z > y** rule, it seems that verb forms can be obtained with a verb complex like that of the Iliamna dialect. Now compare Outer Inlet Dena'ina and Koyukon in Table 3, the two languages with leftward positions for the **gh** qualifier. The Outer Inlet dialect of Dena'ina has the negative prefix placed out to the left of its leftward **gh** qualifier but in Koyukon the negative prefix is an inner prefix.

To illustrate the model of stacking templatic word formation, I present in Table 7 layered derivations of two examples for four languages from Tables 2 and 3: a) 'I will freeze it solid' and b) 'I won't freeze it solid'. See Kari 1992 for further details on the model.

I assume that the templates of the verb complexes are distinct in each language and are accessible at all levels. The basic root involved here is **ten** meaning 'ice'. An intransitive verb theme 'freeze solid' is formed from the root **ten** and a theme formation string that contains the **n** qualifier and the **l** classifier in all of the languages and the **gh** qualifier in three of the language (excluding Upper Tanana). The facts about the positioning of the qualifiers are in the templates of the verb complexes. Next, at level 3, the causative string applies yielding, at level 5, the fully specified verb theme.

The first inflectional string, at level 5, the 1sg future, with three prefixes and a suffix, interdigitates simultaneously with the other prefixes and the root of the verb theme. The four phonetic forms of a) are shown beneath the fully specified underlying forms.

At level 6 the negative strings apply. Note that the negatives are distinct: Lower Tanana and Koyukon have prefix + suffix, Ahtna has proclitic + prefix + suffix, and Upper Tanana has proclitic + suffix (voicing). Also note that the phonology is very different in each of these languages. Classic Athabaskan radical allomorphy is illustrated where the 1sg subject pronoun /es(h) + **t**/ classifier are realized as **-tl**, **ɬ**, and **k**. Note the differences between Lower Tanana with one epenthetic vowel: **aa**, and Koyukon with two: **ii** and **ee**.

In summary, the general similarities in the orderings of morphemes in Athabaskan languages are best stated at the 'zone level' (See Kari 1989). When looking in detail at the prefix complexes, we find differences in ordering of prefixes, e.g. as in the qualifier prefix zone in the Alaskan languages. These differences are not obviously predictable. It is particularly significant that at the level of the dialect or language, the orderings of the positions are consistently maintained, i.e. they are rigid. For example, many thousands of Koyukon verbs contain the prefix ordering shown in Table 3. Variant forms with different prefix orders are not found.

For an operational model of Athabaskan word formation, it appears that distinct

Table 7. Two derivations in four languages:

- a) 'I will freeze it solid'
b) 'I won't freeze it solid'

	Lower Tanana	Koyukon	Ahtna	Upper Tanana
<u>theme formation</u>				
1. root 'ice'	ten	ten	ten	tän
2. theme formation string	n+gh+l	gh+n+l	n+gh+l	n+l
3. causative	O+†	O+†	O+†	O+h
4. verb theme 'freeze O solid' (<i>conv</i>)	O+n+gh+†+ten	O+gh+n+†+ten	O+n+gh+†+ten	O+n+h+tän
<u>inflection</u>				
5. 1sg future	t+gh+es=0	t+gh+es=†	t+gh+es=†	t+ih=0
a) underlying forms	/t+n+gh%gh+es+†+ten=0/	/gh+t+n%gh+es+†+ten=0/	/t+n+gh%gh+†+ten=†/	/t+n%ih+h+tän=0/
a) phonetic forms	tenghaaghetltenh	ghii ^u teneghtltenh	ng ^u haati†	tinak ^u tänh
6. negative	dh+ =ëë	l+ =ee	'ele' z+ =e	k'aa =V
b) underlying forms	/t+n+dh+gh%gh+es+†+ten=0+ëë/	/gh+t+n+†%gh+es+†+ten=0+ee/	'ele' t+n+z+gh%gh+†+ten=†+e/	/k'aa t+n%ih+h+tän=0+V/
b) phonetic forms	tendheg ^u haaghetltenëë	ghii ^u tenleeghtltenee	'ele' ng ^u haatiile	k'aa tinak ^u -tän

position class models are involved. This seems preferable to rules that reorder or switch affixes. In fact, the position-class models reflect a natural property of Athabaskan: that ordering relationships among strings of morphemes are consistent at deep lexical levels, at intermediate levels, as well as surface levels.

A fully specified position class model that orchestrates interdigitation is more than a heuristic device. Nevertheless, it is only one component in the word formation process in the Athabaskan languages. The significant congruencies in the languages are in the underlying structures of verbs (theme formation and transitivity patterns), in affix orderings at the zone level, and in the general properties of string-like derivations. On the other hand, the significant disparities in the languages are in the language-specific details of the verb complexes, the batteries of string-like derivations, and, analogously, in the wide variety of radical morphophonemic alternations.

Notes

1. The orthographies in this paper are presented with maximal congruence. Cardinal vowel qualities are **ii** (high front), **ee** (low front), **uu** (high back), and **aa** (low back). Long or full vowels are doubled; **e** is schwa in most of the languages, except for Upper Tanana where schwa is **ä**.

2. I have been vacillating on the placement of the **z** negative in Ahtna. The model in Kari 1990:37-38 treated **z** negative in a single position identical with the **z** perfective position. While this works most of the time, it now seems that in the other languages we must consider the **z** negative to be separate from the **z** perfective. Thus this table refers to a 'negative2' position in Ahtna.

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Hixkaryana word order

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Hixkaryana has come to the attention of typologists for its highly unusual object initial word order. I propose that this OVS word order in main clauses developed from an earlier SOV ergative stage of the language due to a decrease in the rate of new information and the grammaticalization of presentative constructions.

1. Background.

Hixkaryana is a Carib language spoken in the Amazon rain forest of northern Brazil. The Hixkaryana are still extremely isolated, their main language contacts being the closely related Waiwai and Sherew. They have almost no contact with Portuguese. Hixkaryana is the first language recognized as having a basic word order of OVS. There are now 12 languages identified as object initial; 7 are in the Carib language family, and all are in the Amazon linguistic area.

The language has only recently been studied. The first work recognizing its unusual word order was published in 1977 (Derbyshire 1977a, 1977b). The basic word order for a sentence with two full NPs is OVS. Until that time it had been maintained that no language would have an object-first word order. Greenberg claimed that of the six possible orders of constituents, only three normally occur: 'The three which do not occur at all, or at least are excessively rare, are VOS, OSV, and OVS' (1966:76). These are the cases where O precedes S. This observation led Greenberg to his first universal claim: 'In declarative sentences with nominal subject and object, the dominant order is almost always one in which the subject precedes the object'. Keenan (1976) demonstrated that Malagasy has a dominant word order of VOS, but it was still believed that initial O was not possible. Pullum (1977:269) claimed that OSV and OVS do not occur at all.

In Derbyshire 1977b, 1979b, 1985, 1986a, and Derbyshire & Pullum 1978, 1981 evidence is presented for OVS in Hixkaryana. Regarding OV full NPs, the object almost never follows the verb. In a sample text, Derbyshire (1986a:278) found the only occurrences of VO to be after first or second person subjects, although even for first and second person subjects the most common order is OV. For third person subject OV has almost no exceptions (D 1979a:40,76). Rigid OV is characteristic of many languages in the Carib family (D 1981a:215), like Carib (Hoff 1978:21). Regarding VS full NPs, the same sample text gives 99 occurrences of VS and 22 of SV. Due to its greater topic continuity (Givón 1987), VS is more evenly spread with respect to referential distance than SV (D 1986a:253), which implies it is a more neutral word order. VS is the most generally used order, occurring even in SV functions. SV is the pragmatically marked order (279) for NPs, but not for the 1st and 2nd person independent pronouns. Except for signaling continuity (277), the basic position of 3rd person independent pronouns parallels full NPs, but 1st and 2nd have a basic preverbal variable (D 1981a:218), suggesting an earlier SOV order (see 20 for 3rd), preserved by an animacy split of the speech act participants (Silverstein 1976). Regarding clauses with both full NP subjects and objects, only 4% of transitive clauses in the sample text and 1% of the total narrative clauses have two full NPs. There are three OVS and one SOV. The unmarked position of indirect objects is after subjects: OVSI.

1.1. Word order variations.

Hixkaryana is a pronominal argument language with obligatory portmanteau verbal prefixes expressing subject and object. For this reason there is considerable freedom for variation in word order. Constituents may be fronted for emphasis (D 1985:74), including subjects of transitive, intransitive and copular clauses, indirect objects, adverbs, and subordinate clauses. Only one constituent may be fronted. The fact that SOVI and IOVS may occur, but not *ISOV, confirms again the basic OVS order, since I could be fronted before S if S were already initial (D & Pullum 1978).

In addition to fronting there is left and right dislocation (D 1985:76), the function of which with regard to emphasis overlaps that of fronting. A dislocated constituent is set off from the rest of the clause by a pause and a separate intonation pattern. In left dislocation the constituent may be an entity already fronted for emphasis, a subject, direct or indirect object, or a copular complement. Left dislocation applies to single NPs, although it applies more often to complex items such as derived nouns or subordinate clauses. There is no constraint against left dislocating more than one constituent. Left dislocation of the direct object or copular complement is rare. There are two situations in which the direct object may be right-dislocated: when it occurs with a speech act participant subject (postverbal O occurs only with 1st, 1st+2nd, or 2nd person S, although even here most occurrences are preverbal), or when it is a complex construction. The postverbal object NP may be incorporated into the sentence intonation pattern. Any constituent already to the right of the verb may either remain there before the 'moved' item, or it may be fronted. Subjects, indirect objects, and adjuncts may be right dislocated. Subjects of transitive and intransitive subordinate clauses may also be right dislocated to the end of the clause, or they may be dislocated to the right of all main clause constituents. Intonation pattern distinguishes right dislocated subjects from unmarked postverbal subjects (D 1985).

Contrary to main clauses, the basic word order in subordinate clauses is SOV (D 1985:38), and subordinate clause verbs are non-finite, either derived nouns or adjectives. Also contrary to main clauses which are morphologically accusative, subordinate clauses are ergative, a split considered rare (Dixon 1979). The subjects of intransitives and copulas and the objects of transitives are possessors of the derived forms. The subjects of transitives are expressed as obliques, usually marked by the postposition *wya*, which is the same marker used to designate indirect objects in main clauses. The number of constituents is limited in subordinate clauses to two; O or Si, and *Swya* or *Iwya*. The ambiguity between *Swya* and *Iwya* is resolved by context (D 1985:42). Derbyshire (142) considers the possibility that occurrences of *Iwya* in main clauses as indirect objects are actually *Swya* of truncated subordinate clauses:

- (1) *otweto* *yimyakoni* *rohetxe* *totokomo* *wya*
 hammock she-gave it my-wife people to
 'My wife used to give hammocks to the people.'
- ... *totokomo* *wya* *ahosnr* *me*
 people by taking-hold-of-it *denomlɜr*
 '... people receiving it.'

Deletion of potentially redundant items in subordinate clauses corresponds to their relative lack of redundancy compared with main clauses; paratactic constructions almost never occur in subordinate clauses (D 1985:130). Paratactic constructions are sequences of clauses or sentences in juxtaposition, and are the primary means of using redundancy to slow the rate of new information. Thus oblique objects, the only kind in subordinate clauses, are the only type of clause constituent to occur more often than agreement (D 1986a:261). One function of subordinate clauses might be simply to introduce a new, usually minor, protagonist. This would comply with Vennemann (1974) and others who suggest that topicalization plays a smaller role in subordinate clauses than in main clauses.

1.2. Redundancy.

Redundancy is a characteristic of Hixkaryana discourse which functions to slow down the rate of introduction of new information (D 1977c), and to allow reference to progress from general to specific. Although introductory sentence clusters may have several items of new information, the average of new items per sentence is well under one. One function of this redundancy is to allow the introduction of background material while keeping the foreground active. In discontinuous paratactic sequences an item will be introduced and then repeated, with only background material in between. Thus in bringing a secondary participant into accessibility, the activities of the secondary participant are described between redundant sentences about the main participant. Quotations, background interpolations, and episodes are bracketed by redundant opening and closing sentences, or sentence clusters. Repetition of the same word or clause iconically represents continuity of action as well. But 'the most general function of sentence clusters seems to be emphasis' (D 1985:170), that is, establishing a particular constituent in the short term memory of the listener.

1.3. Backwards anaphora.

There is a pattern of referential redundancy in Hixkaryana which is the opposite of the hierarchy of relative strength of identification of a participant as described by Grimes (1975). Grimes ranks identifications of the same participant in clauses such that no identification is stronger than the one before it. In Hixkaryana 'backwards anaphora', however, a series begins with the weakest identification: the person-marking verb prefix, followed by ellipsis, independent pronoun, general noun, descriptive noun, kinship term, and personal name (D 1977c:43):

- (2) . . . **kekonà ymo hatà, noro, horykomotho ymo**
 he-said-it *aug* *hearsay* 3rdpron old-chief-man *aug*
 '... said the big bad old chief.'

The four items of reference in 2 are: 3rd person subject prefix, modifying particle *ymo* augmentative, an ellipsed NP, 3rd person independent pronoun, and the *ymo* NP.

The sentence cluster may switch this pattern of identification in lexical reiteration to indicate thematic discontinuity such as an episode boundary (D 1977:179):

- (3) **nomokyatxkon** **hatà** **hawana**
 they-used-to-come *hearsay* visitors
 'Visitors used to come.'
- (4) **hawana** **me** **nomokyatxkonà,** **àhpo**
 visitors as they-used-to-come *action of arriving*
 'They used to come as visitors.'
- (5) **amna** **nomokno** **ketxkon** **ha**
we-excl have-come they-said *emphasis*
 "'We've come." they said.'

The first sentence has the unmarked word order and strength of identification pattern. The second sentence is almost completely redundant, but the word order and identification pattern are reversed. This device is used to separate two episodes. The thematic boundary between the first and second sentences marks a change in location of the action and in the number of participants (D 1986a:249). This example of reversed pattern conforms to the tendency for preverbal subjects to occur theme-initially. Cross-linguistically, the prototypical subject is high in topicality, but a topic preceding the verb displays a greater thematic discontinuity than one following (Givón 1987). Thus in Hixkaryana, topic reactivation motivates subject fronting to iconically bridge the discontinuity, while the topicality induced by redundancy would encourage the postverbal subject. Subject fronting for topic discontinuity is not in competition with subject fronting to the marked (in OVS) position for emphatic focus (DuBois 1985); in fact, the two motivations may augment each other. In the above cluster, the last sentence fronts the less topical exclusive 1st+3rd person pronoun obligatorily in the quoted clause (D 1985:9, 65). This is the normal way to introduce one's arrival and adds no semantic content to the two previous sentences.

Introduction or reintroduction of entities often makes use of a two sentence sequence. In the first sentence below, the object constituent is expressed by an anaphoric device, and the full noun phrase is not used until the second sentence (D 1986a:283). Again, the less predictable topic is preverbal:

- (6) **kurumu** **n-** **anotometxkoni**
 vulture king 3S3O employ+coll+dist. past
 'The vulture king employed him.'
- (7) **kurum-yana** **komo, xofrye heno** **y-** **anotometxkoni**
 vulture kin group coll sloth now dead 3S3O employ+coll+d.p.
 'The vultures employed sloth, now dead.'

The 3S3O *n-* is used when there is no object NP. The subject NP is fronted in the first sentence, and left dislocated in the second. The two sentence sequence tends to obscure the focus of an item (270), in this case of *xofrye*, 'sloth'. By the time he is named, sloth has already become somewhat topical. Derbyshire (1986a) suggests that perhaps rather than old information, topic here relates to a frame of reference that restricts the domain of the predication (Chafe 1976). What sentence sequencing does accomplish, however, is a relatively active state for all participants at the onset of an episode. The motivation for presenting all the

participants as active in short term memory is in competition with topic and focus considerations.

2. Preverbal object due to postverbal subject.

Hixkaryana is considered to have developed into OVS from SOV (D 1977a,b,c, 1979a,b, 1981a, 1985, 1986a, 1990, D & Pullum 1981). Rigid OV is a characteristic of many Carib languages (D 1981a, 1986a, Hoff 1978). OV is not typologically inconsistent with Hixkaryana, which has postpositions. The repositioning of S is reflected in Hixkaryana by the lack of an agentive passive, for example, since O is already in the topic position and cannot be fronted further (D 1985:114). Vennemann (1974) suggests that OVS might develop from SOV by way of a passive construction whose passive character has subsequently been lost. Regarding a possible passive origin for OVS, it is interesting that the closely related Carib language Makúxi is morphologically ergative, the ergative being marked by a postposition *ha* analogous to the Hixkaryana *wya*. The word order is OVS_t and S_iV (D 1981a). Passives are one source of ergativity (Anderson 1977 and others).

Overwhelming statistical evidence (D 1986a:279) of the rigidity of OV and the preponderance of VS over SV is the argument for OVS in Hixkaryana. Of the few occurrences with two NPs, OVS outnumbers SOV. The rigidity of OV compared with the pragmatically conditioned variations in VS/SV is the argument for the development of OVS by movement of the subject.

2.1. Motivations for postverbal subject.

Derbyshire (1981a) considers a modification of Vennemann (1974) who suggests that a loss of overt morphology separating S from O in an OV language will motivate a change to VO, so that V will separate the NP arguments by its position. Derbyshire assumes Vennemann did not consider the possibility of changing to OVS because at the time there were no known object initial languages. Applied to Hixkaryana, the main clauses have no case marking and the subject and object are separated by the verb. The subordinate clauses have case marking: *wya* for ergative and possessive for absolutive. They maintain SOV. Looking at other Carib languages, however, Surinam Carib has no case marking and is SOV, and Makúxi has OVS (for two NPs) and has case marking as well.

Li & Thompson (1974) argue that syntactic systems tend to change from complex to noncomplex, and that this is a motivation for word order change. In Hixkaryana dislocation works particularly on complex structures in that isolation of these structures simplifies the remaining nuclear sentence. Derbyshire points out a similarity between Hixkaryana and Fijian (D 1981a:216). In Fijian when a 3rd person marker appeared initially, the initial subject NP shifted to final position. Eventually the marker lost its 3rd person characteristics. Now in Fijian, only 1st and 2nd person pronouns occur initially. The similarity extends even further considering that in Hixkaryana 1st and 2nd person independent pronouns are commonly sentence initial.

One possible mechanism for this sort of right dislocation is the grammaticalization of afterthought (Hyman 1975). In languages of the Niger-Congo, the topicality of object constituents may have motivated a shift from OV to VO. The object is right dislocated as an afterthought. As this process becomes more neutral pragmatically, the object is grammaticalized in the final position by being incorporated into the sentence intonational pattern. Hyman suggests, however, that only new information is a likely candidate for afterthought

movement. Also, single, non-conjoined direct objects are not likely to be forgotten during a sentence and added as an afterthought. The items most likely to be forgotten in this context are adverbs, adverbial phrases, prepositional phrases, conjoined nouns, relative clauses, and oblique cases. But in both Fijian and Hixkaryana the dislocated constituents are specifically not new information. They are information that could be expressed by pronouns because they are recoverable.

3. Presentative constructions.

That new information may be right dislocated is widely attested among the world's languages (Lambrecht 1986). When referents are introduced or reintroduced, or promoted from a non-active to an active state in the discourse, there are pragmatically motivated grammatical devices which give them prominence. Lambrecht claims that the cognitively preferred unmarked topic is an unstressed pronominal. Right dislocation is a device used to establish the entity as new information so that anaphora in the following sentence may use the unstressed pronominal as an unmarked topic. A similar device is the presentative sentence. This sentence places the referent in prominence, usually sentence-finally, so that the following sentence may use the unmarked topic. An example is given in Lambrecht (126) from Givón (1976):

- (8) Once there was a wizard. He was very wise, rich, and was married to a beautiful witch.

The first sentence pragmatically activates the referent, or 'presents' it. It is now ready for recall in the subsequent text. Two clauses must be used because 'an empirical fact of natural language use' (126) prohibits new information sentence-initial lexical subject NPs if information about them is conveyed as well. Therefore the sentence in 9 sounds strange because it introduces the entity and talks about it:

- (9) (*)Once there was a wizard who was very wise and rich.

The presentative function was first introduced by Hetzron (1975). A presentative construction considers an entity on the basis of its communicative strength. It must be strong enough to be worth remembering in subsequent text. The item in focus is placed in final position to assist short term memory. In the following sentences taken from Bolinger (1970), Hetzron (1975:348) claims that the first is incorrect because the clause in final position contains trivial information:

- (10) *That it was an easy victory has been claimed.
 (11) It has been claimed that it was an easy victory.
 (12) That it was an easy victory has been pretty generally claimed, but I am of the contrary opinion.

The second sentence has undergone 'presentative movement', a class of presentative constructions which place important information finally. This is because 'was claimed' is too weak. The speaker takes no responsibility for the quoted clause, and it is the quoted clause which has the most important information. In the third sentence, the claim, not the victory, has become important information, and the contrary opinion is the strongest entity.

Regarding presentative movement, Givón (1976:173) suggests that for existential *there*-clauses there is a strong tendency to isolate the topic by removing control of grammatical agreement of existential verbs in favor of neutral or locative agreement, as well as by moving the constituents. Presentative movement in this case also represents a tendency to place given information in sentence initial position, and givenness may apply to verbs (Chafe 1976:28). In Hixkaryana sentence clusters, the repeated transitive VP might also be considered given information.

3.1. Presentative devices in Hixkaryana.

Presentation of information in Hixkaryana is accomplished by redundancy, word order, and dislocation. In the narrative style, the sentence cluster itself serves to present information. At the onset of a thematic unit the sentence cluster provides a continuing focus for the subsequent comment, iconically reactivating by repetition. At the close of a thematic unit the sentence cluster repeats the focus again to establish its presence and to signal the end of the comment.

3.1.1. Sentence Clusters.

Examining the following sentence cluster from the story of Sloth and the Vultures (D 1965, 1986a), 'The sloth was upset.' is repeated twice, with a different position for the subject NP. The first sentence marks the close of the preceding episode, with the highly topical subject right-dislocated, and backwards anaphora from the preceding sentence. In theme final sentences postverbal or right-dislocated subjects predominate. The second sentence introduces a new episode and has the identical but less topical subject fronted, since almost all preverbal subjects occur as introductions to thematic units. The most general function of the sentence cluster is simply emphasis, an obvious aid to short term memory. Juxtaposition of identical constituents enhances the emphatic quality of the focus:

- (13) **poo,** **Ø-** **kekoni** **hati**
 dismay 3S3O say+*dist past* hearsay
 'He expressed dismay.'
- (14) **n-** **oseryehokekoni,** **xofrye**
 3S be-upset+*dist past* sloth
 'The sloth was upset.'
- (15) **xofrye** **heno** **n-** **oseryehokekoni**
 sloth now dead 3S be-upset+*dist past*
 'The sloth, now dead, was upset.'
- (16) **n-** **omokye** **hati** **Ø-** **txemxe**
 3S come+*dist past* hearsay 3S3O poison+*purp. mot*
 'He came purposing to poison them.'

In the first episode the action is in the village. There are three participants, and the episode is mostly dialogue. In the following episode the action is at the river, there is one participant, and the narration describes an action sequence. In the 19 sentences following the introduction, Sloth is mentioned only three times. All other references are by agreement prefixes, in the spirit of the preferred

expression of the unmarked topic as an unstressed pronominal. One of the functions of redundancy bracketing the episode is to assist short term memory by presenting the full NP.

It is common to use juxtaposition of identical items in a sentence cluster, particularly where the topic continues into a new episode, as a means of refocusing and re-presenting (D 1985:146):

- (17) **tomyarke rma ti nehxakoni, watma hninkahra**
 carrying *same hsy* he-was club not-putting-it-down
 'He was still carrying it, not putting down the club.'

- (18) **watma hninkahra nehxakoni**
 club not-putting-it-down he-was
 'He did not put down the club.'

Anaphoric reference in 20) (D 1985:147) provides a presentative construction for the subject within the sentence cluster, while presenting the object using backwards anaphora:

- (19) **ito ti nehxakon ha kamara yohi**
 there *hsy* he-was *intns* jaguar chief-of
 'The jaguar chief was there.'

- (20) **noro ti nonyetxkon ha**
 he *hsy* he-ate-them *intns*
 'He used to eat them.'

- (21) **hawana heno komo yonyetxkoni**
 visitor now dead *coll* he-ate-them
 'He used to eat the visitors.'

The 3rd person nondeictic pronoun *noro* occurs preverbally only if the antecedent is in the preceding sentence. Otherwise it is postverbal. Its preverbal position iconically signals a two sentence presentative construction. Derbyshire claims (1986a:277) that initial position for pronouns indicates greater continuity, the reverse of the full NP pattern. As noted already, this suggests a previous SOV word order, preserved by speech act participant pronouns and perhaps others which participated less in the word order change due to an animacy split with full NPs.

In oral narrative style, a further presentative device is the echo response (D 1985:72). During a narration or monologue, listeners respond by repeating parts of the previous statement, and with particles such as *hami* 'deduction'. The echo response occurs after nearly every sentence.

3.1.2. Dislocation.

Competing with postverbal subject presentative constructions is a need to focus or emphasize new or reintroduced information. Since the subject initial position is marked in Hixkaryana, contrary to English, fronting or left dislocation are commonly used for subject emphasis, in 22 (D 1985:146), or to recall and highlight accessible information, in 23 (155):

- (22) **okomkurusu** **biryekomo** **heno** **yoskeko**
 bushmaster(snake) child now dead it-bit-him
 'It was bushmaster that bit the child, now dead.'

- (23) **koseryehakoni,** **romryeni**
 I-was-afraid my-boyhood
 '(With reference to) my boyhood, I was afraid.'

Only one item may be fronted (D 1985:74). But this item may be fortified by left dislocation, although this device applies more often to complex constructions (155):

- (24) **txokororowe,** **txokororowe** **kekon** **hati**
 stomach-gurgling stomach-gurgling it-did-it hearsay
 '(They knew) their stomachs were gurgling.'

There is no constraint on left dislocations limiting this process to a single item (85):

- (25) **iwahathiyamo,** **aknyohnyenyhiyamo,** **oske** **nketxkoni**
 his-killers ones-who-had-burned-him thus they-said-it
 'His killers, the ones who had burned him, said thus.'

Right dislocation is also used for emphasis. When the subject is right dislocated, it is distinguished from the unmarked subject only by being excluded from the sentence intonational pattern (D 1977c:182):

- (26) **xofrye** **heno** **yanotometxkonà,** **kurumyana** **komo**
 sloth now dead they-made-a-servant buzzard coll.
 'The buzzards used to make sloth, now dead, their servant.'

- (27) **tànotxhàrà** **yaheye,** **noro**
 his-sister he-seduced 3rd pronoun
 'He seduced his own sister.'

3.1.3. Reiteration.

Interpreting the presentative function as an aid to short term memory, redundancy itself could be considered presentative. A typical sentence cluster simply repeats the same information in the same order (D 1977c:171):

- (28) **noseryehyakoni** **mak** **hati**
 he-was-afraid advers hsy
 'But he was afraid.'
- (29) **noseryehyakoni** **mak** **hati,** **ihona**
 he-was-afraid advers hsy towards it
 'He was afraid of it.'
- (30) **tehurkaniri** **hona** **nenyakoni**
 his-own-falling towards he-was-seeing-it
 'He was afraid (watching against) his falling.'

3.2. Presentative strategy.

These discourse-related phenomena indicate a strong tendency in Hixkaryana towards establishing a presentative construction, that is, creating or promoting a topic to an active state so that in subsequent text it may be referred to by the cognitively preferred grammatically unmarked pronominal. The presentative construction in English is usually only two sentences. One presents the topic, which occurs in final position, and the next uses anaphoric reference. In Hixkaryana the presentation may take many sentences, using repetition of sentences as a presentative strategy. Following the presentation the topic is referred to anaphorically. One common presentative sentence cluster expresses a new entity anaphorically in the first sentence and uses the full NP only in the second sentence (D 1965:24). This conforms to the backwards pattern Hixkaryana displays in reference to Grimes' relative strength hierarchy:

- (31) **ta, átosá hakahpa ma kaye hatá**
subj ch 1S-go-away temp thus he-said hsy
 "I will go away for a time." he said.'
- (32) **átosá hakahpa ma**
1S go-away temp thus
 "I will go away for a time."
- (33) **kahe yaka ha átosá, kekoná hatá**
sky to intens 1S go-away he-said hsy
 "I will go to the sky." he said.'
- (34) **kahe hona átosá hama, kekoná hatá, nuno**
sky to 1S go ver he-said hsy moon
 "I will go to the sky." said the moon.'

This sentence cluster is followed by 18 sentences describing the activities of 'moon' anaphorically, the NP being used again at the end of the episode. Although Derbyshire (1986a:270) claims that the pattern of backwards anaphora tends to obscure the degree of topicality of the entity, it actually appears to enhance its presentative function. The initial anaphoric reference creates suspense, intensifying the impact on memory when the NP is finally mentioned. In the example above, 'moon' is further intensified, occurring at the onset of an episode, by being right-dislocated.

Considering that redundancy may be a presentative device alongside word order and dislocation, not to mention echo responses from listeners, Hixkaryana has developed a considerable capacity for presenting topics. Also considering that subjects are natural constituents to become topics (Keenan 1976, and others), Hixkaryana is well suited to present these topics with its postverbal subject basic word order. Derbyshire declares that Hixkaryana is a subject-prominent language (1985:155). Givón (1976:154) claims that in subject-prominent languages, the subject NP holds most of the topic functions. Dislocated subjects are so prominent that they are mentioned before they can be smoothly integrated into the sentence (Chafe 1976:52). Dislocated subjects are usually complex or derived NPs in Hixkaryana, although noncomplex NPs are not uncommon. Dislocation is always for emphasis (D 1985:74). Emphasis, a focusing device, functions to establish the topic.

4. Presentation as motivation for postverbal subject.

It may be that the tendency in Hixkaryana for presentative constructions has been a motivation for creating the postverbal subject. By continually using redundancy, word order variations, and dislocation, an unmarked postverbal subject could emerge and be grammaticalized in sentence clusters and spread to other contexts by analogy.

If Hixkaryana had an earlier word order SOV, there could be sentence clusters with identical constituents:

(35) [S O V]_Σ [S O V]_Σ [S O V]_Σ

For emphasis, S could be left-dislocated. This would leave S outside the sentence intonational pattern:

(36) [S] [O V]_Σ [S] [O V]_Σ [S] [O V]_Σ

In this configuration, it would be impossible to distinguish the left-dislocated S in one sentence from a right-dislocated S in the preceding sentence. In modern Hixkaryana, dislocated constituents may be incorporated by extending the sentence intonational pattern; left dislocations become fronted constituents, and right dislocated S fills the unmarked subject position. Historically, a left-dislocated S could be reinterpreted as a right-dislocated S:

(37) [S] [O V]_Σ [S] [O V]_Σ [S] [O V]_Σ → [S] [O V S]_Σ [O V S]_Σ [O V]_Σ

This reinterpretation would increase the presentative quality of the sentence cluster by creating a presentative word order in each of the sentences.

At episode openings, the creation of an emphasized focus could be the motivation for dislocation. Additional emphasis could be gained if the dislocated item were to occur in a marked position. At the SOV stage of this language, this marked position for S would be postverbal. Reinterpretation as a right-dislocated S would satisfy both emphasis and presentation. Eventual incorporation into the sentence intonational pattern would decrease the emphasis function as postverbal S became less marked. To compensate, fronting and left-dislocation could use the increasingly marked initial position, for example, at episode boundaries:

(38) [OVS]_Σ [S] [OV]_Σ

Parallel to the development of preverbal emphasized S could be the development of 'backwards anaphora'. For presentation without emphasis, a sentence could be preceded by a copy with S agreement only. This would ensure that the presentation could not begin with a potentially emphatic S no matter what reinterpretations occur in subsequent sentences. For those sentence clusters with initial anaphora, the reinterpretation would leave no initial left-dislocated S:

(39) [O V]_Σ [S] [O V]_Σ → [O V S]_Σ [O V]_Σ

If 'backwards anaphora' functions to enhance presentation by postponing naming, then reinterpretation of the left-dislocated S as postverbal encodes this into unmarked word order. By reinterpreting the dislocations, presentative

constructions have been created without actually 'moving' any constituents, that is, without presentative movement (Hetzron 1975).

One question not addressed by Derbyshire is: Why is Hixkaryana like this? The association of the inception of an action and imperfectivity with agent, and the completion of an action and perfectivity with patient (DeLancey 1982, and others) may be used to explain the tendency for subjects to precede objects. Repetition iconically obscures perfectivity, perhaps weakening the association of completion with the prototypical object. The speaker's interpretation of the listener's short term memory (Chafe 1976:27) may be one pragmatic motivation for repetition. If a discourse device is too weak or too powerful for the context, it is inefficient or wasteful (Givón 1976:154). But an apparently infelicitous structure may be used to overcome difficulties such as noisy surroundings, or to include a narrative style in which repetition and echo responses ensure the involvement of the entire audience as a device for enhancing believability. In the case of Hixkaryana, the apparently infelicitous pattern of reiteration itself has become grammaticalized.

5. Information pressure in subordinate clauses.

The discourse redundant features described for Hixkaryana apply only to main clauses. The characteristic features of main clauses, namely redundancy and subject final word order, are not as predominant in subordinate clauses. The basic word order in subordinate clauses is SOV (D 1985:38), although the subject may be postverbal.

Regarding redundancy in subordinate clauses, there is almost no parallel to the redundant sentence clusters in main clauses. That subordinate clauses are seldom repeated might be expected considering the presentational function of repetition in main clauses. An entity is presented first, and talked about next. Subordinate clauses tend to 'talk about'. Even new mentions are background and psychologically less salient (DeLancey 1987). Subordinate clauses are rare in polysynthetic languages. Nouns may be incorporated into verbs which are then nominalized, and these nominalizations are juxtaposed using intonation patterns to suggest links between clauses. Relative pronouns are not as crucial because of the obligatory reference system. The Hixkaryana subordinate verbs are nominalizations, which in main clauses are obligatorily marked for pronominal reference. Because the subordinate non-finite nominalized verbs are not marked for person, independent pronouns may be used. In cases where the subject of the main clause is the same as the subject of the subordinate, or *Equi*-NP, the subordinate subject is deleted, leaving zero anaphora (D 1985:48):

- (40) **Waraka wya honyko wonir xe wehxaha**
 Waraka by peccary shooting-of desirous-of I-am
 'I want Waraka to shoot peccary.'

but:

- honyko wonir xe wehxaha**
 peccary shooting-of desirous-of I-am
 'I want to shoot peccary.'

not:

- *rowya honyko wonir xe wehxaha**
 'by-me . . .'

The *Equi*-NP deletion suggests that there is indeed subordination in Hixkaryana, rather than juxtaposed nominalizations.

A corollary to the reduced repetition of subordinate clauses is the nature of their new information. This new information is primarily minor participants or props, which tend to be introduced as direct or oblique object NPs (D 1986a:270). This relates directly to another characteristic of Hixkaryana subordinate clauses, namely that they are morphologically ergative, while main clauses are accusative.

The ergative is marked by the postposition *wya* which is a common oblique marker in superordinates. The direct object and intransitive subject have a possessor relationship with the nominalized verb, and so are also obliques. Minor participants and props are low in persistence, that is, they do not require a good deal of comment after their introduction and so tend not to be repeated by anaphora or NP. Major participants are never introduced with obliques. As already noted, oblique objects are the only clause constituents in Hixkaryana which occur more often as NPs than as agreement affixes. Since subordinate NPs are entirely obliques, there should be a higher percentage of new information in subordinate clauses than in main clauses.

Split ergativity between main and subordinate clauses is extremely rare in the languages of the world. An explanation for this split in Hixkaryana relies on the low rate of new information in main clauses. According to DuBois (1987), new information tends to occur as the subject of an intransitive verb or as the object of a transitive verb. Intransitive clauses are particularly prevalent when introducing human referents which can later be referred to anaphorically. DuBois considers one of the functions of the intransitive verb to be management of information flow. For introductions, the speaker chooses an intransitive verb for its compliance with constraints on information flow, rather than for its semantic content. These constraints are that clauses prefer only one introductory item, and that agents prefer not to be introduced lexically. These constraints correspond to the absolutive in an ergative/absolutive system. Having no agentive capability, the absolutive function in introductions is to serve as a 'staging area' (834) to put new mentions on stage for presentation.

Considering the introduction of potential protagonists, usually human, DuBois relates the number of new protagonists to the number of clauses in the discourse. A higher number of new mentions in a given number of clauses is defined as a higher 'information pressure'. Discourse involving 1st and 2nd persons will tend to have a low information pressure, since a great deal of the discourse will relate to the common knowledge of the participants. 3rd person narration about strangers will have a high information pressure. As the information pressure rises, S_i and O roles will begin to fill with new arguments, but S_t will not. At low information pressure, S_i and O will have fewer new mentions, and will therefore be more similar to S_t . It is the situations with high information pressure that most resemble the ergative pattern. This tendency of language to distribute new information ergatively is defined as the 'preferred argument structure' (817). The preferred argument structure is best observed in discourse with high information pressure. DuBois claims that the preferred argument structure motivates languages to become ergative (839). When the information pressure is highest, the motivation is greatest. With low information pressure, however, competing motivations for accusativity are more effective (DuBois 1987). Topic continuity, for example, particularly for human referents, is high for both S_i and S_t , and low for O, Obl, and other categories. This link between

S_i and S_t exists even in highly ergative languages, and can motivate the accusative alignment $S_i : S_t$ when low information pressure weakens the ergative alignment $S_i : O$.

Low information pressure characterizes Hixkaryana main clauses. Not counting evidentials, sentence clusters are entirely main clauses. Relative to the main clauses, subordinate clauses have high information pressure. The difference in information pressure can be seen as a motivation for maintaining the system of split ergativity in Hixkaryana,

6. Indications of earlier Ergativity and SOV.

Ergative-accusative splits by 1st and 2nd person are common. Tsimshian (Dixon 1979:97) shows ergative marking in subordinate clauses and split ergativity in main clauses; 1st and 2nd person subjects are marked accusatively. Even the extensively ergative language Dyirbal (87) has accusative 1st and 2nd person marking. One explanation for the split by speech act participant subjects is the animacy agency hierarchy of Silverstein (1975). Subjects which are semantically likely to be agents do not need to be marked for agency, and so fall into accusative patterning where the nominative case is unmarked. Speaker and hearer are the most likely agents in this hierarchy, a third person is less likely, and an inanimate entity is least likely. Another explanation for this split is that conversations involving speakers and hearers contain a larger percentage of given or mutually understood background information than narrations in the 3rd person (DuBois 1987).

In Hixkaryana, 1st and 2nd person independent subject pronouns are distinguished in main clauses by commonly occurring initially, and 1st and 2nd person subjects will sometimes allow a postverbal direct object. These phenomena are reminiscent of an accusative pattern for pronouns that might be expected in the closely related ergative language Makúxi, where the ergative order is OVS_t , and the absolutive order is S_iV . If an earlier Hixkaryana had ergative main clauses, it is possible that the 1st and 2nd person S_t pronouns would lean towards accusativity by forming a pivot with S_i and adopting the absolutive word order. In the subsequent development of accusative main clauses, the $S_i : S_t$ pivot would adopt the ergative word order, leaving the optional 1st and 2nd pronoun order.

The 1st and 2nd pronoun phenomena suggest an earlier ergative main clause in Hixkaryana. An intermediate word order for the ergative main clause might have been the Makúxi $OVS_t : S_iV$. This is a plausible word order for an ergative system because it parallels an accusative system by placing the unmarked constituent preverbally. The development of presentative devices and subsequent loss of ergativity would induce the postverbal $S_i : S_t$ pivot.

If the earlier 1st and 2nd pronouns were morphologically accusative, then as subjects they would be nominative, and unmarked. Similarly, earlier ergative NP objects would be absolutive, thereby also unmarked. A Vennemann-style word order change from SOV to SVO would place the verb between the two unmarked constituents in the basic order to avoid confusing them in orders marked for topicality or focus. This could explain the unique postverbal object with 1st and 2nd subject. This pattern would have been particular to the earlier ergative-accusative interface, and so never generalized to other NPs.

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Argument Status and Constituent Structure in Chalcatongo Mixtec¹

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0. Introduction

Over the last fifteen years or so there has been a notable increase in research on the status of clitics, especially clitic pronouns. One of the questions that has been addressed is the argument status of such pronouns: do they count as arguments, or are they somehow linked to an NP (empty or filled) which has this function? This paper explores the argument status of clitic pronouns, free pronouns, and full nominals in Chalcatongo Mixtec ('CM'), in light of one proposal concerned with this problem, Jelinek's (1985) Argument Type Parameter. Jelinek argues that while in some languages NPs fulfill argument roles, in others clitics or even affixes have this function, and full NPs serve only as adjuncts.² In violation of this parameter, in CM either a full NP *or* a clitic pronoun may serve as the external argument, subject to certain distributional restrictions. In this paper I present an analysis of CM constituent structure which accounts for observed variations in word order, and also allows for a principled explanation of the clitic/NP argument alternation. Finally, I briefly consider analyses of two other languages, and suggest a revision of the Argument Type Parameter as two parameters, attempting to retain the original insight of the proposal while also accounting for languages like CM.

1. The Data and the Problem

CM is basically VSO, as illustrated in (1), and manifests all of the expected word order correlations noted by Greenberg (1963:62) for a type I (VSO) language: it has (some) prepositions, nouns precede modifying adjectives, and the genitive follows the head noun in possessive constructions. Furthermore, the alternative order SVO is fairly common (this is discussed further in the next section).³

- (1) íkú ní-xáá María ndo?ò 'Yesterday Maria bought a basket'
yesterday CP-buy Maria basket

As (2)-(5) show, the subject may also be marked by one of a large set of pronominal enclitics. These are distinguished by person, and in third person, by noun class.

- (2) a-ni-ndatu=rí uù órá 'I've already been waiting for two hours'
TEMP-CP-wait=1 two hour
- (3) ká-xĩnũ=ro 'You (pl) run'
PL-run=2
- (4) na-kúci=ðe 'He should/must bathe'
MOOD-bathe=3M
- (5) Mexico ká-žàà=to 'They live in Mexico City'
Mexico PL-live=3POL/OLD

The full set of subject clitics is given in Table I.

TABLE I: CM SUBJECT CLITICS

PERS	GENDER	FREE	CLITIC
1	FAMILIAR	rùʔù	=rí
	POLITE	naʔa	=na
	INCLUSIVE (PL)	žóʔó	=žó
2	FAMILIAR	roʔo	=ro
	POLITE	níʔí	=ní
3	MASCULINE	čàà 'man'	=če
	FEMININE	ñàʔà 'woman'	=ña
	POLITE: OLDER	toʔò 'Señor'	=to
	ANIMAL	kìtì 'animal'	=ì
	SUPERNATURAL	íʔa, íža 'God'	=ža
	YOUNGER, DECEASED, etc.	(žii 'man')	=ži
	UNMARKED		=Ø

As the table shows, full pronouns exist only for first and second persons; the full forms shown for third person in Table I are corresponding nouns with generic reference. While in many cases the clitic is transparently related to the corresponding noun, note that in some cases it is not (e.g. third person masculine). CM does have a very conspicuous set of rapid speech reduction rules, and the clitics which are transparently related to the corresponding nouns do conform to these rules (e.g. the form of the third person feminine clitic would be the regular rapid speech contraction of the word for 'woman'). However, the clitics which do not show a regular relationship to the full form provide evidence that these clitics are not synchronically formed by contraction of the full forms. In addition, there are differences in the distribution of the clitics and the full forms (to be discussed immediately below), which further indicate that the clitics are forms which require a distinct lexical entry from the entry for the corresponding full form.⁴ That is, there is clearly a historical relationship in many cases, but we do not want to analyze it as a synchronic relationship resulting from application of the rules of rapid speech contraction.

Furthermore, we can see that these forms are in fact clitics—and not affixes—in examples like (6)-(7), in which the pronominal element attaches to a postverbal adverb, rather than to the verb itself.⁵

- (6) ni-žéé šàà=rí stàà 'I ate a lot, I ate excessively'
 CP-eat much=1 tortilla
- (7) ma-kúʔni niʔi=ró 'Don't tie it tightly'
 NEG/MOOD-tie tight=2

Finally, also note that there is a zero clitic, which marks third person, as in (8):

- (8) nì-žee=Ø 'S/he ate'
 CP-eat=3

We turn now to distributional facts about clitics and full NPs in CM, as illustrated in (9)–(12). In (9) we see that a clitic may occur with no overt NP subject present; in (10) we find that a postverbal NP may occur with no overt clitic present; in (11) we see that the subject NP may be preverbal, again with no overt clitic; and in (12) we see that a preverbal NP and a clitic pronoun may also cooccur:

- | | | |
|------|--------------------------------------|-------------------------|
| (9) | xínɿ=ñá
run=3F | 'She's running' |
| (10) | xínɿ ñáʔa wá
run woman that | 'That woman is running' |
| (11) | ñáʔa wá xínɿ
woman that run | 'That woman is running' |
| (12) | ñáʔa wá xínɿ=ñá
woman that run=3F | 'That woman is running' |

The distribution of the full first and second person pronouns differs from this in one important way, which is that the full pronouns cannot occur postverbally:

- (13) *nì-zee rù?ù [cf. (10)] ('I ate')
CP-eat I

Given these data, the central question that this paper seeks to answer is whether the NPs and full pronouns on the one hand, or the clitics on the other satisfy the external argument position in a CM clause. We can represent these alternatives as follows:

- (14) Hypothesis A: CM is a pro-drop language. The full NPs and pronouns are the arguments, and the clitic pronouns are agreement. When there is no NP or full pronoun, an empty pronominal, *pro*, is present in subject position.
- (15) Hypothesis B: CM is not a pro-drop language. The clitic pronouns serve as the arguments, and the NPs are adjuncts. When no overt clitic is present a zero clitic serves as argument.

Precisely these alternatives have been examined by Jelinek (1984, 1985), and form the basis of her Argument Type Parameter (see below). This was developed to account for the fact that clauses without overt NPs are the norm in so many languages, especially languages of the Americas.⁶ For example, she gives the Navajo data shown in (16)–(19), and explains their frequency and markedness as noted:

- (16) *yiyiitsǎ* 'He/she saw him/her ' (unmarked)
- (17) *ashkii at'ééd yiyiitsǎ* 'The boy saw the girl'
boy girl 3Sg-3Sg-saw
(highly marked; used when the referent of neither argument is clear in context)

- (18) at'ééd yiyiitsá 'He/she saw the girl'
 girl 3Sg-3Sg-saw
 (used when the referent of the patient argument is unclear or new information)
- (19) ashkii biitsá 'The boy saw him/her/it'
 boy 3Sg-3Sg-saw
 (used when the referent of the agent argument is unclear or new information)
 [Jelinek 1985:4, examples (10)-(13)]

In formulating the Argument Type Parameter, Jelinek was reacting to Chomsky's (1982) Extended Projection Principle, which states (in part) that every clause must have a (structural) subject. This stipulation motivates the existence of an empty category when no overt subject is present. In languages such as Navajo, where a lack of overt NPs is the norm, the Extended Projection Principle forces us to include an empty subject in virtually every sentence. This is clearly not a desirable result, and so Jelinek argues that the Extended Projection Principle should be reinterpreted to allow pronominal clitics and affixes to serve as subjects in such languages. Under this hypothesis, full NPs in such languages are adjuncts, and their appearance is controlled by discourse/pragmatic factors. Jelinek achieves this reinterpretation of the Extended Projection Principle by positing the Argument Type Parameter, as follows:⁷

- (20) The Argument Type Parameter (Jelinek 1985):
 (a) In Lexical Argument languages, lexical items serve as arguments.
 (b) In Pronominal Argument languages, only pronominal clitics and affixes serve as arguments.

The question posed earlier can now be recast as the following: Is CM a Pronominal Argument language or a Lexical Argument language? We will consider each of these possibilities in turn, and conclude that in fact, it is neither. The only way to account for the full range of data is to say that in CM, sometimes the clitics fulfill the external argument role, and sometimes the full NPs and pronouns do. In the next section, a constituent structure will be motivated which allows for exactly this result.

First, then, let us consider the possibility that CM is a Lexical Argument language (hypothesis A). If it is, then the clitics function as agreement. But recall examples (1), (10), and (11), which have no overt clitics, and therefore under this hypothesis would be lacking agreement. We could attempt to solve the problem by saying that a zero clitic is present as the agreement marker, reanalyzing e.g. (11) as in (21):

- (21) ñáʔa wá xínɣ=Ø 'That woman is running'
 woman that run=3

However, this solution will not work for an example like (22), below, because we cannot add a zero clitic to a sentence with a first-person subject. The zero clitic unambiguously marks third person, never first (or second). The zero clitic is a meaningful member of the clitic paradigm which just happens not to have phonetic content, and is *not* equivalent to no marking at all.⁸

- (22) rùʔù nì-žee 'I ate'
I CP-eat

The Lexical Argument hypothesis, then, cannot explain the appearance or non-appearance of the clitics; thus CM must be a Pronominal Argument language (hypothesis B). But the reverse problem arises here: in (1), (10), and (11) we could say that a zero clitic fills the argument position, but in (22), again, this will not work. There is no candidate for subject in (22) under this hypothesis (i.e. assuming that only clitics can satisfy argument requirements), and so the Pronominal Argument hypothesis fails too.

Jelinek (1985) also provides a list of characteristics that Pronominal Argument languages have and Lexical Argument languages do not have. There is not space here to go into these in detail, but it should be noted that CM splits on the criteria; that is, it shows some of the characteristics of Pronominal Argument languages, as well as some of the characteristics of Lexical Argument languages.

What is needed is a solution which will allow us to say that either the clitic *or* the NP can be the argument. In order to find such a solution, we must first consider the clause structure of CM.

2. Clause Structure in CM

Any constituent may occur clause-initially in CM. (23)-(25) show an initial subject, object, and oblique, and (26) shows that the initial constituent does not have to be an argument of the clause.

- (23) ñǎʒiɥ wǎǎ nì-ka-xáʔa ñɥu 'Those people went to the town'
people that CP-PL-pass+by town
- (24) statilá nì-saʔa Miguel 'Miguel made the bread'
bread CP-make Miguel
- (25) ɕii zuò wǎ ʒáá ʒǎ kòò 'Under that rock lives a snake'
belly rock that live one snake
- (26) íʔa zòò=ʒó úʔu ndučì=tó 'As for our God of the moon, her eye hurts'
god moon-1PL hurt(vi) eye=3POL/OLD

Adverbials may also appear in preverbal position, as shown in (27):

- (27) nù zòò nù ʒo kǐʔi=rí nuʒáʔu 'Every month I will go to the market'
face month face month go=1 market

Prepredicate adverbials and initial NP constituents occasionally cooccur:

- (28) ñáni=rí ʒǎǎ kǎʔa 'My brother talks a lot/too much'
brother=1 much talk

Finally, there can also be *two* NP constituents preceding the verb:

(29) *kaxá wá tenáná ñúʔu* 'This box contains tomatoes'
 box this tomato contain

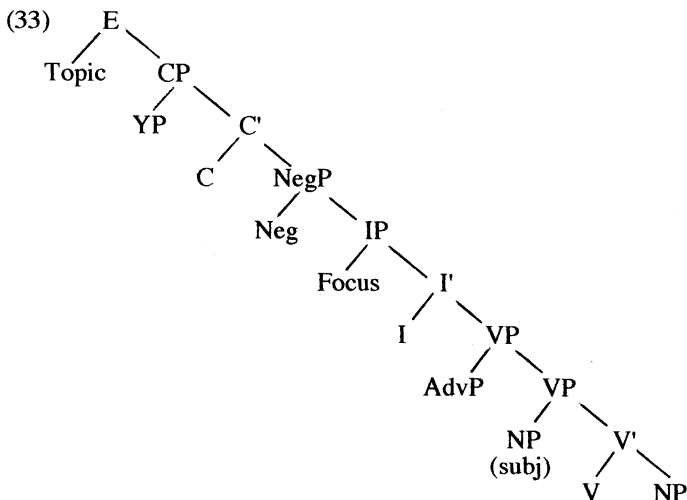
(30) *burrú=ró wá nužáʔu xíndee* 'Your burro is in the plaza'
 burro=2 that plaza be+in

In order to account for the range of data shown in (23)-(30), I suggest, following Aissen's (1992) proposals for Mayan, that Mixtec sentences have both a clause-internal focus position as well as a clause-external topic position. These two positions are semantically distinguished as in (31) and (32), respectively. Focus can be informally characterized as the XP in 'It is XP who/that ...'; topic is more loosely what the sentence is 'about'.

(31) *rùʔu kúʔu* 'It's *me* that's sick; *I* am the one who is sick'
 I be+sick

(32) *roʔo tú=kúʔu=ro* 'As for you, you aren't sick'
 you NEG=be+sick=2

Following Aissen 1992, I propose an underlying structure for CM as in (33), where 'E' stands for 'Expression'.⁹



Topic, in this framework, is base-generated *in situ*, never moved from another position. Thus this constituent does not fill an argument role, although it may be coreferential with something that does. However, the constituent in focus position is always an argument of the verb, because it is moved to focus position from within VP (this is elaborated on below).

Aissen finds certain morphosyntactic and prosodic cues in Mayan which serve as evidence in favor of the constituent structure which she proposes, in particular for making the distinctions between topic and focus. CM, however, is largely lacking in such cues. There are no particles, clitics, or other elements which can appear with one but not with the other (as there are for Mayan). Furthermore, CM is a tone language, and as such, intonational cues are—to say the least—hard to discern. The one prosodic cue of which I am aware is pause, which appears to follow topic, but not focus. However, this is a sporadic enough phenomenon that it is not very reliable in making the distinction that we would like to make.

There is, however, one syntactic fact about CM which can serve as a test for topic vs. focus, and this is a special form which is used for focus negation, and which is distinct from normal sentence negation. Consider first (34) and (35), which illustrate simple negation in CM:

- (34) $tu=ni-xí\acute{z}aa=r\acute{o}$ 'You weren't there'
NEG=CP-be+located=2
- (35) $tu=\acute{n}\acute{i}\acute{?}m\acute{i}=\emptyset$ 'It's not hot'
NEG=hot=3

In these examples, we see that the negator $tu=$ is a proclitic which attaches to the left of the verb or adjective which forms the predicate. (36)-(37) further illustrate that at least one preverbal constituent can precede $tu=$:

- (36) $\acute{c}\acute{a}\acute{a} \acute{t}\acute{u}=\acute{z}\acute{o} se\acute{?}e$ 'That man has no children'
man NEG=exist child (LT: 'As for that man, children don't exist')
- (37) $mde\acute{z}u \acute{t}\acute{u}=\acute{z}a\acute{?}u=\emptyset$ 'The food is not expensive'
food NEG=expensive=3

We can tell from (36) that the preverbal constituent is a topic, because it does not fill an argument role in the sentence. Thus we know that clausal negation must follow topic. When we look at negative examples with focus constituents, however, we find a more complicated situation. Consider (38)-(39):

- (38) $ni\grave{a}s\grave{u} \acute{c}\acute{u}\acute{?} \acute{l}\acute{i} \acute{k}\acute{a}-ku \acute{c}\acute{i} \acute{k}\acute{a}-ku k\acute{o}n\acute{i} \acute{l}\acute{u}\acute{l}\acute{i}$
NEG/FOC chicken chick PL-COP but PL-COP turkey+hen small
'They're not *chicken* chicks, they're *turkey* chicks'
- (39) $ni\grave{a}s\grave{u} ru\acute{?}\acute{u} ni-ka-s\acute{a}\acute{?}a$ 'It wasn't *us* who did it; *We* didn't do it'
NEG/FOC I CP-PL-do

In these examples we see that there is a special focus negator, $ni\grave{a}s\grave{u}$, which always immediately precedes the focused constituent. Example (40) further shows that $tu=$ may not negate a focused constituent:

- (40) (a) $ni\grave{a}s\grave{u} ro\acute{?}o k\acute{u}\acute{?}u$ 'It's not *you* who is sick'
NEG/FOC you be+sick

- (b) **tu=roʔo kúʔu* (It's not *you* who is sick')
NEG=you be+sick

Thus, *niàsù* can provide us with a test for topic vs. focus status in a preverbal NP: if the NP is negated with *niàsù* (as in (38), (39), and (40a)), we know that it is in focus position; if the only negation allowed is sentence negation with *tu=* (as in (36) and (37)), it must be a topic.

It might be objected that (40b) is a counterexample to the structure in (33), in which negation is located to the left of focus. If (33) is correct, why are sentences like (40b) ungrammatical? To answer this, first note that other examples show that the plain negator *tu=* *can* occur before a preverbal NP, as in (41)-(42):

- (41) *tú=kʷi xísiki=Ø* 'He doesn't play (at) anything'
NEG=little+bit play=3
- (42) *ni-kexaʔá=rí xǽ=rí nuʒáʔu te tú=ʃuʔy ñábaʔa=rí*
CP-start=1 buy=1 market and NEG=money have=1
'I started to buy (things) in the market, but I didn't have any money'

The reason that (40b) is ungrammatical is that focus negation cannot be created with *tu=*. The pronoun *roʔo* 'you' is in focus position in this example, and the existence of the focus negator *niàsù* blocks the use of *tu=* in this construction. How then would a speaker of CM say simply 'you are not sick', without the contrastive emphasis of focus? (43) illustrates the answer—in that case either there would be no preverbal NP (as in (43a)), or the preverbal NP would be a topic (as in (32), repeated here as (43b)).

- (43) (a) *tú=kuʔu=ro* 'You're not sick'
NEG=be+sick=2
- (b) *roʔo tú=kúʔu=ro* 'You're not sick'
you NEG=be+sick=2

Thus, it is possible to create normal sentence negation with *tu=* and a preverbal NP in focus position (as in (41) and (42)), but the relative rarity of such sentences attests to the somewhat peculiar semantics that they have.

Now that we have established the structure of the CM clause, we can return to the problem posed in §1; that is, accounting for the fact that in some cases NPs and full pronouns function as subject, while in other cases pronominal clitics function as subject.

3. Accounting for the CM Facts

(33) assumes a VP-internal subject, as developed in e.g. Kuroda (1988) and Koopman and Sportiche (1991).¹⁰ In the simplest of cases, V raises to I, creating the unmarked VSO word order (shown in greatly reduced form in (44)). It is the claim of this paper that clitics, pronouns, and full NPs may be generated in subject

position. If the subject is a clitic (as in (45)), it stays in Spec of VP, attaching leftward to the verb or, if there is one present, to a postverbal adverb (recall examples (6) and (7)).¹¹

- (44) [IP ni-xáá_i [VP María t_i ndoʔò]] 'Maria bought a basket'
 CP-buy Maria basket
- (45) [IP ni-t̪̪_i [VP =ʒí t_i rùʔù]] 'He [my late husband] grabbed me'
 CP-grab =3POL/DEC me

If the subject is a full NP, it can stay in place (as in (44)) or be raised to [Spec, IP], which is focus position. If it is a free pronoun (as in (46), below), it *must* raise to Spec of IP, for discourse/pragmatic reasons (in a nutshell, the only reason to use a full pronoun for a non-topic in CM is to bring the relevant participant to the foreground).

- (46) [IP rùʔù_j [I' kúʔu_i [VP t_j t_i]]] 'It's *me* that's sick;
 I be+sick I am the one who is sick'

Since a clitic and a full NP cannot both be generated in subject position, this analysis correctly predicts two things: first, that it is impossible to have both a clitic and a post-verbal subject (as in (47)), and second, that overt coreferential pronominal clitics may never cooccur with focus (as in (48)).¹²

- (47) *xínu=ñá ñáʔa wá (That woman is running)
 run=3F woman that
- (48) *rùʔù kúʔu=rí ('It's *me* that's sick;
 I be+sick=1 I am the one who is sick')

Another alternative for a CM clause is to have a topic generated under E. When there is a coreferential clitic generated in subject position (as in (49)), we get clitic doubling, and the clitic counts as the argument, the topic as adjunct:

- (49) [E ñáʔa wá [IP xínu_i [VP =ñá t_i]]] 'That woman is running'
 woman that run =3F

Finally, in the cases with two preverbal constituents, the first is generated as a topic under E, and the second is moved to focus position, as in (50)-(51). It should be noted that these examples are quite rare, and (50) is the only one that I have found with a subject in focus position. All of the others have non-subjects in focus position (as in (51)), and have a zero clitic as subject.

- (50) [E kîñ=ʒó [IP soʔo=t̪̪_i [I' úʔu_i [VP t_j t_i]]]
 animal=1PL ear=3AN hurt
 'Our horse's ear hurts' [LIT: 'As for our horse, its ear hurts']

- (51) [E kaxá wá [IP tenánáj [I' ñúʔu_i [VP =Ø t_i t_j]]]
 box this tomato contain =3
 'This box contains tomatoes'

We have seen, then, that there is a straightforward solution to the problem of argument status in CM. It is provided both by the structure in (33) and by the idea that anything generated in subject position satisfies the external argument, whether that element is a clitic, a full pronoun, or an NP. This solution exploits the fact that while clitics do have morphophonological characteristics (that is, they are bound elements), they also have syntactic characteristics (the fact that their distribution is syntactic, rather than lexical). It is this distribution by the syntax which allows them to be generated in exactly the same place in a CM clause as a full subject would be.

4. The Argument Type Parameter

One of the results of this analysis is that Jelinek's Argument Type Parameter cannot be maintained in its present form. Here I briefly discuss two other examples of 'mixed' languages. I then return to the Argument Type Parameter, and sketch out a suggestion about how it could be modified to allow for languages like CM.

First, CM is unlike many other languages with subject clitics, because in CM the clitic appears in the same location as a full (non-clitic) subject would, and thus its complementary distribution with both postverbal and focused NP subjects follows automatically. In contrast, Safir (1986) concludes that Romance languages have a structural subject position *and* a slot in the VP for a subject clitic.¹³ In his discussion of Trentino (pp. 306-337), he finds the same distribution of clitics and full NPs as we find in CM: either a subject clitic appears, an NP appears, or both appear. Safir handles these data by proposing that subject clitics can receive theta-roles when the structural subject position is filled by an 'empty expletive pronominal' (the details of which do not matter here). In Safir's analysis, then, the subject clitic may fill the external argument requirement, but the expletive pronominal fills the structural subject slot required by the Extended Projection Principle.

Another language which patterns even more like CM is Standard Arabic, although it shows affixal morphology rather than clitics. Standard Arabic is VSO, and like CM, it shows what Borer and Tuller (1985) call 'nominative/agreement complementarity'; that is, 'if there is full agreement, the subject must be empty, while if the subject is overt, the agreement is empty or incomplete' (1985:27). Furthermore, a preverbal subject may cooccur with full agreement, parallel to the topic constructions of CM. To account for these data, Borer and Tuller propose that AGR has the category feature [\pm N], and that VSO languages have [+N] AGR. If this [+N] AGR is generated with phonological content, it counts as subject (and the structural subject position must be empty); if AGR is generated without phonological content, the structural subject must be overt, and it counts as subject.

What both of these treatments have in common is the distinction between a locus for bound subject features (clitic or affixal) and a structural subject position. In Trentino (and other Romance languages), Safir shows that clitic pronouns can function as arguments. In Standard Arabic, Borer and Tuller show that affixes can function as arguments. These two studies provide us with further examples in

which the binary nature of Jelinek's Argument Type Parameter does not capture the range of data. Instead of two types, there appear to be three, as shown in (52):

- (52) (a) Languages which only allow structural subjects
 (b) Languages which allow structural and morphological subjects
 (c) Languages which only allow morphological subjects

I am using the term 'morphological' here to mean either affixal or clitic, and implicit in this is the notion that a morphological subject occurs in a position other than the structural subject position. A language like English is an example of the first type, with only structural subjects. CM is also of this type, since its subjects are likewise only generated in structural subject position. Thus structural subjects may be bound or free; the critical point is that they occur in subject position. Trentino and Standard Arabic are of the mixed type: they alternate under very specific conditions between a morphological subject (verbal affixes or clitics which do not appear in subject position) and a structural subject. Finally, the languages mentioned by Jelinek (Navajo, for example) are of the last type, with only morphological subjects, and no structural subject required.

Since we have two overlapping categories, it may be the case that there are really two interacting parameters here—call them the 'Structural Subject Parameter' and the 'Morphological Subject Parameter'. The three language types in (52) would thus represent three different combinations of values for these parameters.¹⁴ I leave elaboration of this as a direction for future research. Clearly, to justify this suggestion, it would be necessary to examine many more languages than I have in this short paper, and to consider such problems as markedness and acquisition in order to determine the range of variation. In addition, the instantiation of morphological subjects would have to be examined across languages, to discover what kinds of generalizations could be made about this topic.

5. Conclusion

In conclusion, then, we have seen that CM provides us with a counterexample to the binary typology proposed in Jelinek's Argument Type Parameter. In CM, either a full NP or pronoun, or a clitic may fulfill the subject requirement of a predicate. A constituent structure has been proposed that not only handles the variation in word order and argument status found, but also correctly rules out ungrammatical possibilities. Finally, I have suggested that Jelinek's Argument Type Parameter should be recast as two independent but interacting parameters, the Structural Subject Parameter, and the Morphological Subject Parameter.

Footnotes

¹Mixtec is an Otomanguan language spoken in south-central Mexico by approximately 320,000 people (Garza Cuarón and Lastra 1991). It is made up of a large number of mutually unintelligible varieties, called "dialects" by Mixtecans. Chalcatongo Mixtec is an Alta dialect spoken by a few thousand people. I would like to thank Amy Dahlstrom, Wynne Janis, Joe Salmons and Ronnie Wilbur for their help and comments on this paper.

²Mithun (1992/1987) makes essentially the same argument.

³Abbreviations used in this paper are as follow: 1, 2, 3 – 1st, 2nd, 3rd persons, AN - Animate, COP - Copula, CP - Completive, DEC - Deceased, F - Feminine, FOC - Focus, M - Masculine, MOOD - Deontic Mood, NEG - Negative, OLD - Older than speaker, PL - Plural, POL - Polite, TEMP - Temporal. High tone is marked with acute accent (´), mid tone is unmarked, and low tone is marked with grave accent (`).

⁴This kind of clitic has been called a "special clitic" by Zwicky (1977:3-5), and is defined as follows: "cases where an unaccented bound form acts as a variant of a stressed free form with the same cognitive meaning and similar phonological makeup." In addition, such clitics may show what Zwicky calls "special syntax," by which he means that they often exhibit different distributional characteristics than the corresponding free forms do.

⁵Example (6) has a direct object in the Mixtec version, but is translated into English without one to reflect the fact that the phrase zée staà is interpreted as the generic "eat."

⁶She also gives as evidence the fact that in many such languages full NPs are often separated from the verbal complex by a pause (1985:3).

⁷As Jelinek (1984) points out, Hale (1983) also addressed this problem with his "Configurationality Parameter." However, since Mixtec is not a non-configurational language, his solution would not apply in this case.

⁸Cf. the discussion of the Warlpiri zero clitic in Jelinek (1984:47).

⁹Aissen adopts this notion from Banfield (1973) and Emonds (1985). I should note that a number of other works besides Aissen (1992) have posited an external topic position (e.g. Chomsky 1977:91). I am using Aissen's category label "E" here because her work on Mayan provides such a good model for Mixtec, but I want to emphasize that I attach no great significance to the name for this category. The important point is that it is a position external to the clause proper.

Also note that Aissen proposes two topic positions for Mayan: one external (daughter of "E"), and one internal (in [Spec, CP] position). I have found no evidence that CM makes use of an internal topic.

¹⁰"Exploded" INFL is not directly relevant here, and so that aspect of Mixtec clause structure has been ignored in the present analysis.

¹¹One result of this is that such clitics are no longer treated as phrasally affixed to their hosts in an adjunction structure. I'm not sure that this is a desirable result; we may want to appeal to some kind of restructuring in such cases. I leave it an open question.

¹²Of course (48) would be perfectly grammatical as a clause with a topic; in that case it would have the reading 'As for me, I am sick'.

¹³Safir considers French, Italian, Spanish, Portuguese, and Trentino in this article.

¹⁴What of the fourth possibility—a language with neither structural nor morphological subjects? On the one hand, it may simply be a logical impossibility: a language has to make use of one option, or both, but cannot fail to have subjects. On the other hand, there have been claims in the literature about the non-universality of the notion 'subject' (e.g. Schachter 1976), and this may provide us with an example of the fourth possible language type.

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Prosodic Determinants of Syntactic Form: Central Pomo Constituent Order
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Constituent order has often been dismissed as an arbitrary syntactic variable, since it varies both across and within languages. An alternative approach is to hypothesize that the diversity of orders that occur reflects the multiplicity of forces that can shape them. Different languages may show the effects of different forces. Even within a single language, different constructions may reflect different motivations. In what follows, constituent order will be examined in Central Pomo, a language indigenous to Northern California. Material will be drawn from the spontaneous speech of Mrs. Frances Jack of the Hopland rancheria, and Mrs. Salome Alcantra and Mrs. Florence Paoli of the Yokaya rancheria. Although a basic, pragmatically unmarked constituent order can be discerned, a number of syntactic constructions exhibit quite different orders. It will be shown that the variability of word order within the language can be understood in terms of two kinds of motivations: one cognitive, the other physiological. The physiological factor becomes clear when we look at prosody.

Basic constituent order in Central Pomo is SOV, as in (1).

(1) Basic SOV: full NP's

s		o		v
<i>čá·ʔ-yem=ʔel</i>		<i>meʔ</i>	<i>sómle·lo=šké</i>	<i>dá·ʔ-du-w-an.</i>
man-old=DEF		such	hat=only	want-RFL-IMPRF-PRF-IMPRF
'The old man only liked that kind of hat.'				

Clauses with pronominal arguments show the same SOV order, as in (2).

(2) Basic SOV: pronouns

s		o		v
<i>ʔa·</i>		<i>mú·tu</i>	<i>p^h-wí-w</i>	<i>ɬ^hin.</i>
1.AGT		3.PAT	visually-perceive-PRF	NEG.IMPRF
'I never saw her.'				

Central Pomo also shows other features typical of verb-final languages, such as postpositions.

(3) Postposition

		N		POSTPOSITION	
<i>mu·l</i>	<i>qóʔti</i>	<i>hínɬil</i>	<i>lá·la</i>	<i>wá·ʔw-an</i>	<i>ɬ^hin.</i>
that	at.all	Indian	among	go-around-IMPRF	not
'He doesn't mix with Indians.'					

Dependent clauses typically precede main clauses.

(4) Dependent clause - main clause

COMP		V	
[<i>k'hum</i> =ʔel	<i>ba</i> =čʰé-m-ka-w]	<i>dá</i> ·-ʔ-č-w-ač	<i>č'ow</i> .
root=DEF	INDEF-dig-COOP-CAUS-PRF	want-RFL-IMPRF.PL-PRF-IMPRF.PL	NEG

'They don't want [people to dig for sedge roots].'

Yet not all sentences exhibit SOV order. A number of syntactic constructions are characterized by alternative orders.

1. Initial position

In one set of constructions, a usually sentence-medial constituent appears initially.

1.1. Simple pragmatic ordering

Particularly newsworthy constituents often appear in initial position. The sentence in (5) was part of a discussion of an area a few miles away. As a whole, the sentence conveyed a new idea: the proposition was new to the discourse, not presupposed. Within the proposition, however, the object 'lots of acorns' was more newsworthy than the subject 'we', which was accessible from context. The newsworthy constituent appeared at the beginning of the clause.

(5) OSV: newsworthy object

O	S	V	
<i>p'dú</i>	<i>ʔúda</i> ·w	<i>ya</i>	<i>ša</i> ·ʔá-m-a·č-ač
acorn	much	1.PL	pulling-gather-COOP-IMPRF.PL-IMPRF.PL

hdúw ʔe.

HAB COP

'We used to pick lots of acorns [there].'

1.2. Focus of contrast

Initial position is also used to highlight a focus of contrast. The contrast may involve any syntactic category: subjects, direct objects, indirect objects, adverbials, even predicates. During a discussion of the difficulty of obtaining government funding for services on the rancheria, Mrs. Paoli made the remark in (6). Here the contrast was overtly specified.

(6) Focus of contrast

<i>dú</i> ·	<i>čá</i> ·č=yačol	<i>pé</i> ·su,	<i>ʔó</i> ·t-a·q-an
other	person=PAT	money	give.many-M.E-PRF.PL-IMPRF

'Other people they're giving money to;

ya-l pé·su čʰó-w ške hí-č-a·q-aʔ-ya-w ...
 1.PL-PAT money NEG-PRF only say-SML-PRF.PL-IMPRF.PL-DEFOCUS-PRF
 to us, they're always saying they have no money.'

Contrastive constituents are usually set off from the remainder of the sentence, sometimes intonationally as in (6) above, sometimes with the copula *ʔe* as in (7) below. One day when Mrs. Alcantra, Mrs. Paoli, and Mrs. Jack gathered to record a Central Pomo conversation, Mrs. Alcantra slipped into English without realizing it. Mrs. Paoli pointed out the shift, then turned to Mrs. Jack and recalled a previous occasion when the same thing had happened to the two of them. Her initial pronoun 'we' (referring to Mrs. Jack and Mrs. Paoli) in the second line of (7) contrasts with the implied subject (Mrs. Alcantra) of the first line.

(7) Focus of contrast with copula

masá·nya čanó··d=a.
 White talk.SG-IMPRF.SG=IMM
 'You're talking English!

yá=kay ʔe me·n ʔi-m-ma-w ʔe, member?
 1.PL.AGT=too COP SO do-M.E-COOP-PRF COP
 We did that too, remember?'

Constructions like that in (7) are somewhat similar to the stressed focus it-clefts of English. As characterized by Prince 1978 and others, these English clefts consist of an initial strongly stressed constituent plus following clause: *It was gólf that killed her*. The initial focused constituent represents new, often contrastive information, while the following clause conveys a presupposition, information the speaker assumes is known or can be deduced (something killed her). Like the English it-cleft, the Central Pomo focus construction can contain a copula, but the clause that follows need not represent a presupposition. It is thus less marked pragmatically and accordingly more frequent. The English cleft 'It was **us** that did that too' would be inappropriate in the context surrounding (7).

1.3. Question formation

Another syntactic construction that deviates from basic SOV order is question formation. In Central Pomo questions, an interrogative marker =*wa* is encliticized to the first major constituent of the clause. In yes-no questions, this constituent is normally the focus of the question, the element called into question.

- (8) *dalóm=wa* *ší=ʔel?*
wildcat=Q name=DEF
'Is Dalóm the name?'
- (9) *kúči·* *tʰédu·=wa* *mú·kʰeʔ?*
child.PL lots=Q 3.POSS
'Does she have a lot of children?'
- (10) *táwhal* *yhé·n=wa* *mú·l?*
work do-IMPRF=Q 3.AGT
'Does he work?'
- (11) *mʔi·=wa* *mu·l* *mé·n* *yhé-t-a č?*
true=Q that so do-M.E-IMPRF.PL
'Is it true they're going to do that?'

In question-word or lexical gap questions, the question-word usually appears initially.

- (12) *qó=wa* *ʔa·* *mú·tu* *qaté·-č=ya ...*
what=Q 1.AGT 3.PAT give.PL-SML.PRF=PERSONAL.EXPERIENCE
'What did I give him?'
- (13) *bá·=to=wa* *napʰó-w?*
INDEF=PAT=Q marry-PRF
'Who did she marry?'
- (14) *sí·n* *ší=wa=ka* *mu·l* *míya* *báya-l?*
how name=Q=INFERENTIAL that 3.POSS man-PAT
'What was her husband's name?'
- (15) *ʔé·y=hɔw=wa* *mu·l* *táwhal* *yhé·n?*
where=from=Q 3.AGT work do-IMPRF
'Where was she working?'

Unlike the focus constructions described in 1.2, the lexical gap questions do contain a presupposition, that I gave him something in (12), that she married someone in (13), that her husband was named something in (14), and that she was working somewhere in (15).

1.4. Topic shift

As in many other languages, initial constituents in Central Pomo may signal a shift in topic. The new topic is not normally brand new; it is generally a

participant that has been mentioned previously in the discourse, or one that is somehow related to one mentioned previously, or one present in the extralinguistic context. It is accessible in the sense of Chafe (to appear).

The reintroduction of a previously mentioned referent can be seen in (16). Mrs. Jack was explaining that her father had been married to another woman before her mother. That couple had had three children. The woman had also had another son by a different man. The remark in (16) draws the aforementioned son into the center of attention.

(16) Reactivation of previously mentioned referent

^o	^s	^v	
<i>mú·tu</i>	<i>ʔa·</i>	<i>p^h-wí-w</i>	<i>ʔ^hin.</i>
3.PAT	1.AGT	visually-perceive-PRF	NEG.IMPRF
'Him I never saw.'			

The initial nominal is typically separated from the rest of the sentence by an intonation break and/or a clitic such as an evidential. Mrs. Jack was telling friends about a visit to another Central Pomo community on the Coast, where she and two Coast women had spent the day speaking Central Pomo. One of the women was singled out for the remark in (17). The initial nominal 'Eileen' is set off by the evidential 'I guess' and a slight pause.

(17) Prosodic and evidential separation of accessible referent

<i>Eileen ʔa·,</i>	<i>t^hédu·</i>	<i>hín̩til</i>	<i>čanó·-n</i>	<i>ʔ^hin.</i>
feel	lots	Indian	talk-IMPRF	not
'Eileen, I guess, doesn't talk Indian much.'				

A distinction has been drawn between two somewhat similar English constructions: preposing and left-dislocation (Ross 1967, Prince 1981, Geluykens 1988, Ward 1988, and others). In both, a constituent appears at the left of a sentence instead of in its usual sentence-internal position. In preposing constructions, the internal position is vacant (*John, I know*), while in left-dislocation constructions, the internal position is occupied by a pronoun coreferential with the initial constituent (*John, I know him*). In Central Pomo, coreferent pronouns may be present or not, but the conditions under which they appear are not the same as in English.

Central Pomo sentences need not contain any overt noun phrases or pronouns at all to be grammatical, so long as reference is clear. Pronouns sometimes serve functions other than simple reference, however. Resumptive pronouns can indicate number and/or case. This is the effect of the pronoun *mú·tu* 'her' in the second line of (18).

(18) Resumptive pronoun

ʔel ʔelya, ba=ʔánhaw qǎi š-bú-w=ʔel,
 DEF DEF INDEF=SUPERLATIVE good pulling-weave-PRF=DEF
 'The one that weaves the best,

mú·tu ʔ=dóma ʔúda·w --
 3.PAT COP=QUOT lots
 she, it is said,

lóq maná·=ʔ-ya-w=ʔkʰe.
 thing pay-IMP.F. PL-DEFOCUS-PRF=FUT
 will be paid a lot.'

Topic shifts are of course contrastive themselves, always signalling a contrast in topic and sometimes a contrast with others in a group, as in (17). Their discourse function differs from that of the focus of contrast constructions in 1.2, however, where the point of the whole sentence is the contrast.

A shift in topic may be combined with a question. As Aissen notes for Mayan (1992), and Dahlstrom for Fox (this volume) the constituent representing the new topic precedes the focus of the question. On one occasion, the three women were exchanging stories about how they had first met their husbands. Mrs. Paoli noted that she had been sixteen years old when she married. At this point, Mrs. Alcantra shifted the talk to Mrs. Jack with the sentence in (19).

(19) Topic shift with question formation: topic - focus

TOPIC FOCUS
má=wa sí·naw=da bá=na·pʰó-č?
 2.AGT=Q how.many=when INDEF=marry-INCH.PRF
 'How old were you when you got married?'

The constructions described so far differ in their pragmatic functions. In the first, a constituent is highlighted because it is especially newsworthy. In the second, a constituent is highlighted because it is a focus of contrast. In the third, a constituent is highlighted because it is the focus of a question. In the fourth, a constituent is highlighted because it signals a shift in topic. Yet all share a formal feature: the highlighted constituent appears in initial position.

2. Final position

In a second set of constructions, constituents that typically occur sentence-initially or medially appear sentence-finally, following the main verb.

2.1. Final nominals: confirmation

Nominals sometimes appear postverbally when they confirm the identity of already established referents. Similar constructions in English and other languages have been termed right-detached nominals, right dislocations, antitopics, or (less felicitously) ‘afterthoughts’. The most common postverbal noun phrases in Central Pomo are subjects, not surprising since subjects are typically identifiable referents. Such a construction can be seen in (20). Mrs. Jack had reported that a cousin had sold all of her mother’s baskets.

(20) Final subject

FJ *ma-tʰé·=kʰeɬ* *lóq-ay*,
 own-mother=POSS thing-DISTR
 ‘Her mother’s things,

hín̥ɬil *lóq-ay=ʔel* *kʰmú*,
 Indian thing-DISTR=DEF all
 all the Indian things,

ʔ=dóma *mu·l* *bá=ʔelši-w*.
 COP=QUOT that INDEF=sell-PRF
 she sold.’

FP, SA Oh. Mmm.

FJ *ǰaléya·* *kú·č* *ǰa·* *dé··ʔw-an*,
 bead little guess carry-around-IMPRF
 ‘She had a few beads,

matúl=ʔel
old.lady=DEF
the old lady.

mu·l=kay *ʔe* *mu·l*,
 that=too COP that
 Those too

bá=ʔelši-w.
 INDEF=sell-PRF
 she sold.’

The sentence-final nominal ‘the old lady’ was uttered as a separate prosodic phrase or intonation unit, as is typical of such constructions. It clarifies the

identity of the subject of the clause ‘she had a few beads’, useful since it could have been either the mother or the cousin. It does not announce a topic shift, however. The cousin was the unspecified subject of the following clauses ([the cousin] sold those too’), and no more was said about the mother.

Object nominals also appear finally. The pragmatic difference between preverbal and postverbal nominals can be seen in (21). When Mrs. Jack first commented that she had forgotten a name, the object ‘name’ appeared in the unmarked position before the verb ‘forget’. When she elaborated that she never could remember it, the object appeared after the verb.

(21) Preverbal and postverbal objects

		O	V	
<i>mú·tu</i>	<i>to·</i>	<i>ši</i>	<i>ʔ=ná·=ya.</i>	
3.PAT	1.PAT	name	mentally-hide=PERSONAL.WITNESS	

‘I forgot her name.

		V	
<i>to·</i>	<i>qó=ʔti</i>	<i>yá·q-adu-h-du-w</i>	<i>čʰó-w</i>
1.PAT	what=even	KNOW-IMPRF-PRF-IMPRF-PRF	NEG-PRF

I never remember (it) at all,

O	
<i>mú·tu</i>	<i>ši=ʔel ...</i>
3.PAT	name=DEF

her name.’

Such final nominals need not be the only reference to a participant within the sentence. Final position is sometimes used to further elaborate the identification of a referent overtly identified preverbally. As the ladies were discussing Central Pomo words for various animals, Mrs. Jack made the remark in (22). Each intonation unit after the initial clause served to further identify the referent of *mei* ‘that stuff’.

(22) Successive elaboration

<i>ʔa·</i>	<i>mei</i>	<i>tʰédu·</i>	<i>šá·tʰ-a·ʔ-du-w</i>	<i>tʰin</i>	<i>tʰa·;</i>
1.AGT	such	lots	knowledge-sense-RFL-IMPRF-PRF	NEG	guess

‘I don’t know that stuff too well;

loq *mei*
 thing such
 that kind of thing

<i>qó·=ʔk^he</i>	<i>loq'</i>	<i>šī-tay.</i>
wild=from	thing	name-DISTR
wild animal names.'		

The entity reidentified at the end of a sentence need never have been mentioned at all if extra-linguistic context has established reference. When Mrs. Jack's dog began to bark loudly, she made the comment in (23), although the dog had not been discussed.

(23) Confirmation of extra-linguistic identification

<i>ʔúda·w</i>	<i>qamáí</i>	<i>íá·-d=a</i>
really	angry	feel-IMPRF=IMM
'He's feeling pretty mad,		

háyu.
dog
that dog.'

The postverbal nominal may be a pronoun. The sentence in (24) was part of a story about a mother bear who took her children out to hunt for food. The plural pronoun was sufficient to confirm that it was not just the mother who liked fish.

(24) Postverbal pronoun

<i>šá</i>	<i>qa·-wá-č</i>	<i>ʔúda·w</i>	<i>dá·-ʔ-č-w-ač</i>
fish	biting-go-IMPRF.PL	really	like-RFL-IMPRF.PL-PRF-IMPRF.PL
'They really liked to eat fish,			

<i>ʔ=doma</i>	<i>mú·tuya.</i>
COP=QUOT	3.PL.AGT
those (guys).'	

As can be seen from examples (20) - (24), final nominals generally function to confirm established information, occurring most often when there is potential for confusion among various participants under discussion. These constructions sometimes serve stylistic functions as well. Often they are used to reinforce a statement, as in (22). They can also structure discourse, frequently closing a turn in conversation or an episode in narrative.

Similar constructions are not uncommon cross-linguistically, with generally similar functions, although details of use may differ slightly, as in French as described by Ashby (1988).

2.2. Final dependent clauses

Dependent clauses exhibit similar alternations in position. The pragmatically unmarked position of dependent clauses in Central Pomo is before main clauses. Mrs. Jack remarked that a certain man in the Coast community was a spiritual doctor who gave ceremonial speeches. Her statement in (25) illustrates the basic initial position of adverbial clauses.

(25) Basic clause order: adverbial clause - main clause FJ 19.101

[čá-č ʔbú-ya-w=da]
 person bury-DEFOCUS-PRF=when
 'When they bury a person],

matú· ma· yhé-·n.
 speech thing do-IMPRF
 he makes a speech.'

Mrs. Paoli responded with the comment in (26). In her response, the adverbial clause appears sentence-finally. The adverbial contributes little newsworthy information, since it is identical to that of the previous sentence.

(26) Main clause - adverbial clause FP 19.103

íá-yí'o=š'ke ʔa· mí· wá-q'
 once=only 1.AGT there go-to.PR
 'I've only been there one time

[čá-ʔ ʔbú-ya-w=da].
 person bury-DEFOCUS-PRF=when
 [when a person was buried].'

Similar alternations can be seen with purpose clauses. In (27), which followed (24) above in the bear story, the dependent clause appears in unmarked position, before the main clause.

(27) Purpose clause - main clause FJ 6.68

bal ʔ=doma [maʔá hʔél-ma-w=ʔkʰe],
 this COP=QUOT food seek-COOP-PRF=FUT

qó·=l hlí-w.
 wild=to go.PL-PRF
 'So they went out [to hunt for food].'

On another occasion, Mrs. Paoli was discussing the death of an old man in her community. In (28), the purpose clause follows the main clause. The fact that the man was taken to town was newsworthy. The information that he was buried was not.

(28) · Main - Purpose clause: FP 22.93

<i>mu·l</i>	<i>mú·tu</i>	<i>péo·lu=l=il</i>	<i>š-dí·ya-w</i>
that	3.PAT	town=at=to	dragging-carry-DEFOCUS-PRF

‘Then they took him to town

<i>[ʔ=mi=·</i>	<i>ʔbú-w=ʔkʰe].</i>
COP=that=at	bury-PRF=FUT

[to bury him].’

The two Central Pomo constructions, those with final nominals and those with final dependent clauses, resemble each other both functionally and formally. Information that is less newsworthy appears last in the sentence.

3. Some explanations

The syntactic constructions described so far exhibit a variety of constituent orders. There is a basic, pragmatically unmarked SOV order within clauses, with the expected dependent-main clause order in complex sentences. At the same time, constituents that are pragmatically newsworthy, whether because they are generally significant, they represent a focus of contrast, the focus of a question, or shift in topic, may appear initially, often disturbing the basic order. Constituents that are pragmatically less newsworthy, because they represent previously identified participants or established information, may appear finally. The variety of patterns is understandable in terms of two kinds of factors: one cognitive, the other physiological.

3.1. Basic SOV order: a cognitive motivation

The basic SOV order exhibited by Central Pomo is shared by large numbers of languages. As is well known, subject-object orders are strikingly more common cross-linguistically than object-subject orders. Motivation for them can be seen in basic cognitive processes.

Prague School linguists and others have observed that the normal pragmatic ordering of constituents (in European languages) seems to be theme-rheme. In 1939, Mathesius defined the theme as ‘that which is known or at least obvious in the given situation, and from which the speaker proceeds’ in his discourse (cited in Firbas 1964:268). The syntactic category most closely coinciding with Mathesius’ theme is the subject. Subjects in most languages typically represent ‘that which is known or at least obvious in a

given situation'. In a large sample of spoken English, for example, Chafe discovered that 99% of the subjects were identifiable, that is, definite nouns, pronouns, or proper names (Chafe to appear: Chapter 8). Objects contrast sharply in newness. Givón (1979) finds that English objects are roughly evenly divided between identifiable and new. He notes, furthermore, that indefinite objects constitute 'the bulk of the indefinite nouns in the text ... The accusative or direct object position is thus the major avenue for introducing new referential arguments into discourse, at least in English' (1979:52).

The predominance of subject-object order is thus understandable in terms of general cognitive principles, a tendency to move from the familiar to the new. As Lyons remarks, 'to many scholars it has seemed natural that the cognitive point of departure and the communicative point of departure should coincide' (1977:508).

3.2. Pragmatically marked constructions: a physiological motivation

The identification of a tendency to position established information before new raises questions about the form of the other constructions discussed here. In these, sentence-initial position is used to highlight important constituents, those that convey the most significant information of the sentence, while final position is used to background unimportant ones, those that contribute little. The structures appear less unmotivated, however, when another dimension is considered: that of prosody.

We know that natural speech is not usually produced in a steady, homogeneous stream. Rather, prosodic phrases or intonation units (also referred to as intonation groups or tone units) can be distinguished on the basis of several features. They are generally characterized by an overall decline in pitch. In addition, there may be a progressive decrease in the size of individual pitch movements within the phrase. Central Pomo intonation units are typically characterized by a decrease in volume as well. Intonation units may also exhibit an initial acceleration and/or final deceleration. Certain other characteristics may appear at the ends of phrases, such as creakiness. Although all of these features are characteristic of intonation units, all are not necessarily present in every one, nor do they always coincide exactly.

Of all the features, pitch appears to be the most central. Cruttenden (1986:167-8) points out that a general fall in pitch, or declination, seems to be a language universal. He cites physiological motivations for the phenomenon.

The explanation for declination has often been related to the decline in transglottal pressure as the speaker uses up the breath in his lungs. A more recent explanation suggests that an upward change of pitch involves a physical adjustment which is more difficult than a downward change of pitch, the evidence being that a rise takes longer to achieve than a fall of a similar interval in fundamental frequency.

Of course speakers are not incapable of raising pitch at the middle or end of an intonation unit. It simply requires special effort.

A sample pitch contour of a Central Pomo intonation unit can be seen in Figure (1), produced with CECIL, a speech analysis system. The pitch (of F_0) of the stressed syllables decreases steadily, as does the size of the pitch change in each: 208-161 ('she'), 177-149 ('her mother's'), 162-132 ('place'), 125-118 ('there'), 108 ('now'), 96-92 ('lives'). The creakiness and lower tone at the end of the phrase is reflected in the diminishing clarity of the pitch trace in the right third of the figure.

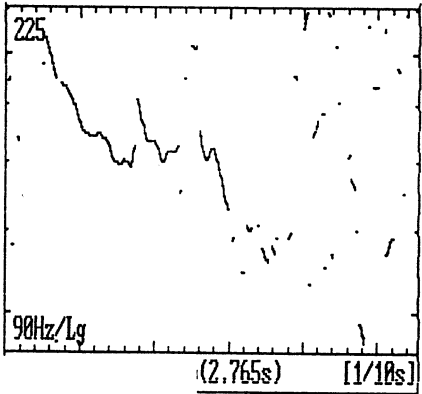


Figure 1: A basic intonation contour

208-161	177-149	162-132	125-118	108	96-92
<i>Mu·l</i>	<i>ma^hé·k^het</i>	<i>má·</i>	<i>?mí·</i>	<i>ʒto</i>	<i>?č^há·w.</i>
3.AGT	her mother's	place	there	now	lives
'She's living in her mother's house.'					

The general fall in pitch is not limited to single intonation units; a global contour may extend over a group of several intonation units. Each unit in a group begins on a lower pitch than the preceding one. A global contour of this kind can be seen in Figure 2, which represents a sentence consisting of three intonation units. The comma and semi-colon mark the boundaries of the units.

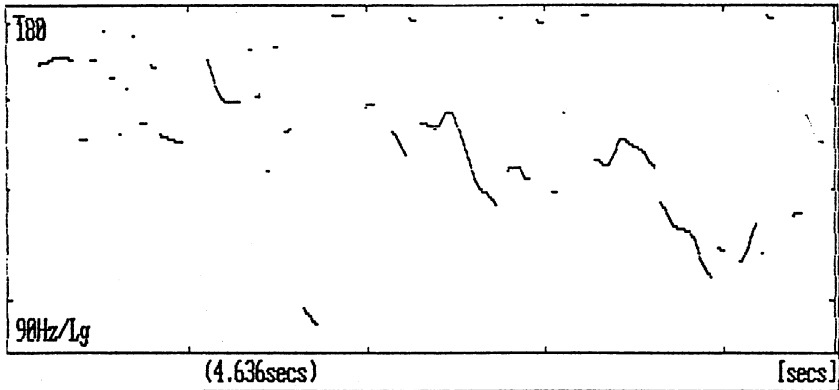


Figure 2: Global contour

163-138	155-148	147	145-125	124	138-1	111
<i>Ká·ka</i> <i>ʃika mu·l</i>	<i>pá·páto</i>	<i>qóʔti</i>	<i>dá·ʔduw</i>	<i>ʃʰin;</i>	<i>qadálman</i>	<i>hihduwan.</i>
M's.M actually	papa	at all	like	not	hate	say
'Grandma actually, didn't like Papa at all; she said she hated him.'						

The pitch level is reset with the next group of intonation units.

It might be wondered whether these decreases in pitch are actually perceived. Pierrehumbert 1979 found, for example, that when speakers of English were asked to compare the pitch of stressed syllables in a nonsense sentence, they corrected for the expected declination. There is evidence that the downtrend and accompanying pitch reset at boundaries are not disregarded in interpreting intonation, however. Schuetze-Coburn, Shapley, and Weber 1991 compared acoustic measurements of declination units with auditory perceptions of intonation units in American English conversation. In virtually all cases, the acoustic cue of F_0 reset corresponded to the auditory perception of global intonation unit boundaries.

Clearly, the acoustic facts of declination units are directly related to their perceptual equivalents in intonation units. We can point to a specific acoustic measure which correlates with intonation unit boundaries; that is, we may infer that F_0 reset is a salient cue to an auditory identification of boundaries. (Schuetze-Coburn, Shapley, and Weber 1991:225)

The general decline in pitch, typically accompanied by a decline in volume in Central Pomo and by a decrease in the size of pitch change, provides a reasonable motivation for the converging forms of the syntactic patterns described in sections 1 and 2 above. Pragmatic importance is matched by

prosodic salience. In the following sections, the intonation contours characteristic of each of these constructions is examined.

3.3. Initial position

Each of the first four constructions described, general pragmatic ordering, focus of contrast, question formation, and topic shift is characterized by a distinct prosodic contour. All, however, share a common prosodic feature. In each, a pragmatically significant constituent is positioned at the prosodic peak of the intonation unit, where pitch, volume, and pitch change are the greatest. Important elements are pronounced with extra vigor.

3.3.1. General pragmatic ordering

The contour characterizing the OSV sentence in example (5) above can be seen in Figure 3. The newsworthy object 'lots of acorns' precedes the given subject 'we' and consequently appears at the height of pitch and volume.

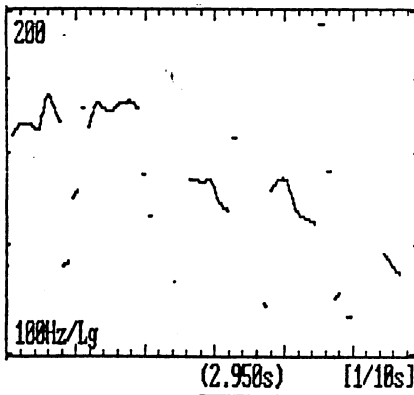


Figure 3: General pragmatic ordering

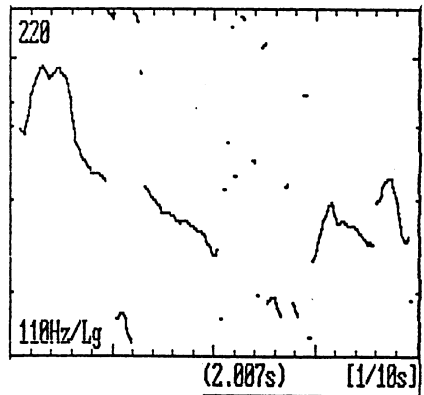


Figure 4: Focus of contrast

168 166 142 142 122
páú ?úda·w ya ša?áma·čáč hduw ?e.
 acorn lots we pick used to
 'We used to pick lots of acorns [there].'

196-156 134
Yákay ?e me·n ?ínunaw ?e, member?
 we too COP so do COP
 'We did that too, remember?'

3.3.2. Focus of contrast

Like the basic pragmatic ordering of Figure 3, constructions highlighting a contrast position the focus of the contrast initially, at the prosodic peak of the intonation unit. While the basic pragmatic ordering constructions show a relatively smooth descending contour, however, the focus of contrast constructions are characterized by extra high pitch and volume on the initial constituent, and, significantly, a more dramatic pitch change. As noted by Cruttenden, a large rise in pitch is easiest physiologically in initial position.

3.3.3. Question formation

Questions resemble general prosodic ordering and focus constructions in positioning an important constituent initially, at the prosodic peak. In addition, they show a special final rise, as might be expected. Figure 5 shows the intonation contour of the yes-no question of example (9). Figure 6 shows the contour of the question-word question of example (13).

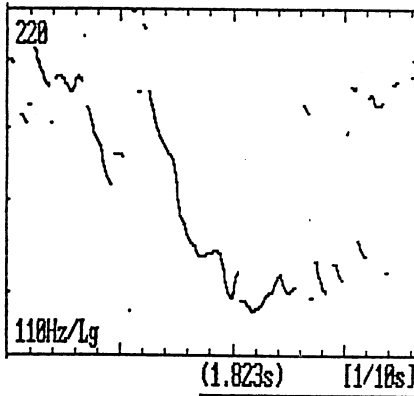


Figure 5: Yes-no question

198	186	123-126
<i>kúčì·</i>	<i>tʰédu·=wa</i>	<i>mú·kʰét?</i>
children	lots=Q	she has
'Does she have a lot of children?'		

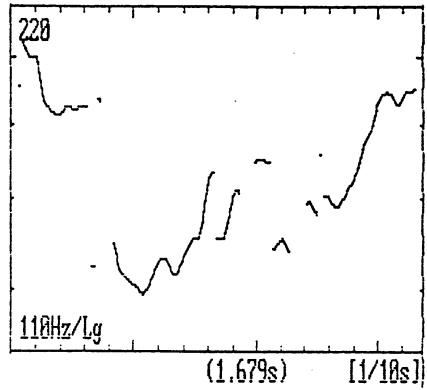


Figure 6: Question-word question

205-181	163	186
<i>Bá·fo=wa</i>	<i>napʰów,</i>	<i>Falles?</i>
whom=Q	marry	
'Who did she marry, Falles?'		

3.3.4. Topic shift

Like the simple pragmatic ordering, focus, and question constructions, topicalization positions an important constituent initially, at the point of greatest prosodic salience. Unlike the others, however, topicalization shows a pitch reset for what follows. An accessible participant is (re)introduced in the first intonation unit, then something is said about it in a second. The contour of the topic shift construction in example (17) can be seen in Figure 7. (The second intonation unit appears to begin with an even higher pitch than the first, here, but the apparent difference is actually due to the aspiration at the beginning of the first word *tʰédu·* 'lots'.)

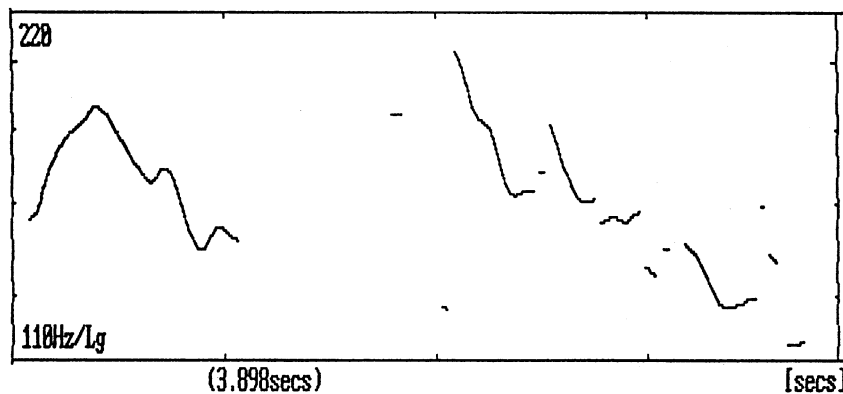


Figure 7: Topic shift

183-157	159-139	196	173-151	138-122	113
Eileen	la·	t ^h édu·	hin̥t̥il	čanó·n	ɬ ^h in.
	feel	lots	Indian	talk	not
'Eileen, I guess, doesn't talk Indian much.'					

The initial position of shifted topics is appropriate both cognitively and prosodically. Cognitively, it is more effective to signal a shift to a new point of departure or starting point before commenting on it, than to make a comment and then alert the hearer to the fact that the comment pertains not to the expected participant, but to a different one. Prosodically, the shift in topic is highlighted with the high pitch, volume, and dynamism of the beginning of an intonation unit. The tendency for shifted topics to precede focused constituents (when the two do coincide) is appropriate both syntactically and prosodically. Syntactically, new topics need not constitute an integral constituent of the clause, but focused elements normally do. Prosodically, the contour of the topicalization construction lends itself well to topic-focus order. The new topic appears at the first prosodic peak then is followed by a pitch reset, allowing the focused element to appear at a second peak.

3.4. Sentence-final position

Both sentence-final nominals and sentence-final clauses are low in newsworthiness, reidentifying established participants or reiterating accessible information. These constituents are positioned at the point of lowest prosodic salience, where pitch, volume, and size of pitch change are minimal.

3.4.1. Postverbal nominals

The prosodic contour of a sentence with a postverbal nominal, example (24) above, can be seen in Figure 8. The final nominal 'those (guys)', represented by the right third of the figure, is low in pitch and monotonous, showing very little pitch change.

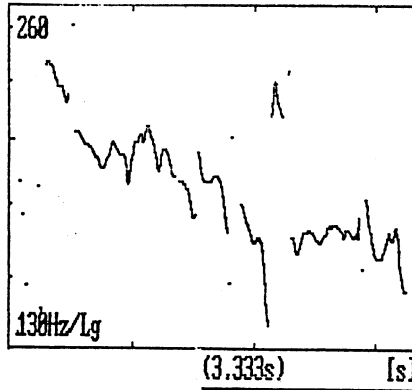


Figure 8: Postverbal nominal

233	198-180	204	190-180		167
šá	qa·wá·č	?úda·w	dá·?čiwač	?doma	mú·tuya.
fish	eat	really	like	they say	they
'They really liked to eat fish, those (guys).'					

3.4.2. Final dependent clauses

The effect of altering the position of dependent clauses can be seen by comparing Figures 9 and 10. In Figure 9 (example (27)), the purpose clause appears in its pragmatically unmarked position, before the main predicate. In Figure 10 (example (28)), the purpose clause, predictable information, appears finally, at the point of lowest prosodic prominence.

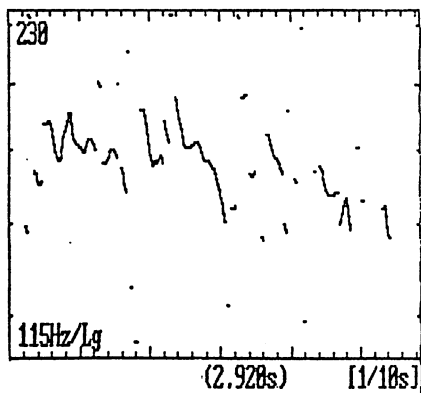


Figure 9: Basic purpose clause

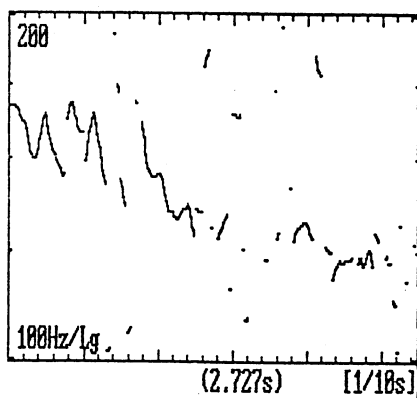


Figure 10: Final purpose clause

189 177 159 146
Bal ʔdoma maʔá hʔélmawʔkʰe, qó·l hliw.
 this HRSY food will seek wild go
 'Now they went out to hunt for food.'

164 164 160 134 132 123
Mu·l mú·tu péo·hulil šdi·yawʔmí· ʔb úwʔkʰe.
 that him to town took there will bury
 'Then they took him to town to bury him.'

4. Conclusion

Constituent order has often been dismissed as an arbitrary variable of language structure, since it varies both across and within languages. An alternative approach is to hypothesize that the multiplicity of orders we find is the result of the multiplicity of forces that shape word order. Different languages may show the effects of different forces. Even within a single language, different constructions may show the effects of different motivations.

The basic SOV order of so many languages, including Central Pomo, is easily understood in terms of general cognitive processes. The often noted prevalence of subject-object orders over object-subject orders can be explained as a reflection of a more general cognitive tendency to proceed from the familiar to the new.

Yet many syntactic constructions in Central Pomo and other languages appear to violate this principle. (Dik 1978, Prince 1978, 1981, Lambrecht 1981, Ashby 1988, Geluykens 1988, Ward 1988, Aissen 1992, Dahlstrom 1993 among others describe similar patterns elsewhere.) In these constructions, constituents representing especially newsworthy information appear sentence-initially, and constituents reiterating established information appear sentence-finally. Another quite different kind of factor may lie behind all of the constructions: that of prosody. In the general pragmatic ordering, focus of contrast, question, and topic shift constructions of Central Pomo, a pragmatically important constituent is positioned at that portion of the intonation unit that is naturally the most salient prosodically. In constructions

with sentence-final nominals or dependent clauses, constituents conveying less important information are relegated to the prosodically least salient portion of the intonation unit, at the point of least pitch, volume, and pitch change.

Central Pomo thus shows the effects of at least two different kinds of motivations in the shape of its syntactic constructions. Its basic, unmarked SOV word order reflects a cognitive tendency for speakers to begin with the familiar as a point of departure. Its marked ordering, focus, question, and topicalization constructions, as well as sentence-final nominals and dependent clauses mirrors natural prosodic salience, the result of physiological factors, for expressing relative pragmatic importance.

Abbreviations

AGT	agent case	NEG	negative
CAUS	causative	PAT	patient case
COOP	cooperative agency	PL	plural
COP	copula	POSS	possessive
DEF	definite article	PRF	perfective aspect
DISTR	distributive	Q	interrogative marker
FUT	future	QUOT	quotative evidential
HAB	past habitual	RFL	reflexive
IMM	immediate	SG	singular
IMPRF	imperfective aspect	SML	semelfactive
INCH	inchoative	1	first person
INDEF	indefinite patient	2	second person
M.E	multiple event	3	third person

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The syntax and semantics of pronominal clitics in Coastal Carib*

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1. Introduction.

The formal properties of pronominal clitics in Coastal Carib¹ reflect a relation between person markers and the tense/mood environment in which they are found. Under standard approaches to bound pronominal morphology this relation is unexpected; person values are not generally analyzed as relating to tense or mood in any systematic way. However, from the point of view that inflectional morphology is information increasing (Steele 1992), the properties of the Carib clitics can be seen as a natural consequence of the grammatical organization of Carib. That is the position taken in this discussion.

Carib grammar is proposed to be organized in part by the epistemic contrast **Certain/Not Certain**. The relative certainty of an utterance reflects an evidential distinction defined by whether or not speaker and hearer can evaluate the facts described by the utterance. The following semantic distinctions provide the parameters along which expressions can be evaluated: **i)** whether an expression refers to events in **This world** or to **Possible worlds**, **ii)** whether an expression is a **Proposition** or a **Nonproposition**, **iii)** whether an expression refers to **Nonpast** or **Past time** and **iv)** whether an expression refers to **Non3rd** person or **3rd** person agent, or **Affector**². The linguistic information associated with Carib tense/mood morphology is proposed to reflect the Certain/Not Certain contrast, and the representation and distribution of Carib clitics are not accidentally related to tense and mood, but in fact derive from the role of the Non3rd/3rd contrast within the larger system.

In the discussion that follows I adopt Steele's (1990, 1992) model of the relationship between features and category labels. I take feature:value pairs to comprise categorial distinctions; they are not simply additions to more basic categories. I also assume that inflectional operations are one-place processes which apply to representations and return modified representations (e.g. Steele 1992, Stump 1991, Anderson 1992, Matthews 1991). I assume, following Steele (1992) that the modification is an increase in the representation's morphosyntactic information³. An information increasing process is schematized in (1):

(1) **FORM:[F1:a F2:b] → FORM:[F1:a F2:b F3:c]**

Under Steele's approach, lexical entries are proposed to be impoverished feature structures, which are enriched by morphological operations. An operation may add a feature:value pair, or fill in a value for an existing feature that does not have a specified value.

2. The data.

All facts are taken from Hoff (1968). As a preliminary analysis, I consider Hoff's account of the Carib bound pronominals:

(2) Carib bound pronominals

appearing on Transitive forms

- | | |
|--------------------------------------|---------------------------------------|
| a. si-"1st p. acts on 3rd p. " | kIni- '3rd acts on 3rd p. " |
| mi-"2nd p. acts on 3rd p. " | ni - '3rd acts on 3rd p. " (irrealis) |
| kIsi- '1&2 act on 3rd p. " | |
| b. k-"1st acts on 2nd p. " <u>or</u> | y- '3rd p. acts on 1st p. " |
| '2nd p. acts on 1st p. " | a- '3rd p. acts on 2nd p. " |

appearing on Intransitive forms

- | | |
|-----------------------|-------------------------|
| c. k- '1st and 2nd p' | kIni- '3rd p' |
| y- '1st p' | ni - '3rd p' (irrealis) |
| a- '2nd p' | |

Note Hoff's analysis of the clitic **k-** (in 2b and 2c). On intransitive forms **k-** translates as 'We (inclusive)', with both participants associated with a single role (2c). On transitive forms the participants are still identified as 1st and 2nd persons, but they are associated with different semantic roles. However, **k-** expressions formed on the basis of transitive verbs do not specify which participant is associated with which role.

Certain distributional facts reported by Hoff are also relevant to the present discussion (158-179). These are summarized in (3):

(3) summary of clitic distribution with respect to tensed forms

- the clitics **si-**, **mi-**, **kIsi-**, **kIni-**, and **ni-** combine only with tensed verb forms; **k-**, **a-**, and **y-** combine with both tensed and untensed forms
- clitics which refer to 3rd person Affectors may not cooccur with one group of tense suffixes (Type 1 suffixes below)
- all clitics may cooccur with a second group of tense suffixes (Type 2 below)
- kIni-** and **ni-**, which both refer exclusively to 3rd person participants, do not have the same distribution with respect to their cooccurrence with a third group of tense and modal suffixes (Type 3 below)

It is clear from the above summary that the Carib tense suffixes can be classified with respect to the set of pronominal clitics which each type may cooccur with:

(4) Carib tense classes

- a. Type 1, e.g. **-ya** 'Present': may cooccur with {si-, mi-, kIsi-, k-, y-, a-}
- b. Type 2, e.g. **-yaŋ** 'Present': may cooccur with {si-, mi-, kIsi-, k-, y-, a-, kIni-, ni-}
- c. Type 3, e.g. **-rI**, 'Irrealis': may cooccur with {si-, mi-, kIsi-, k-, y-, a-, ni-}

This fact about Carib tense suffixes provides the basis of the present account of the formal properties of Carib clitics. If inflectional processes are information-increasing operations, then tense suffixation must add information to an existing information structure. Three types of tense suffixes are therefore predicted to return three types of tensed verb forms, distinguished by differences in the information carried by each type. It remains to be demonstrated whether or not the formal distinctions that define the types listed in (4) also define coherent semantic types, as this paper proposes.

The semantic properties of expressions that include Type 2 suffixes and pronominal clitics provide the evidence necessary for a complete analysis of the Carib tense distinctions and the interaction between Carib clitics and Carib tensed forms. These data are presented in Figure (5):

(5) Carib tensed expressions: Type 2 forms

- | | |
|---|--|
| a. kIni-kupi-yaŋ 'S/he bathes him/her.' | b. ni-ku:pi-yaŋ 'Does he bathe her?'
'(I'm told)He bathes her.' |
| c. si-kupi-yaŋ 'Do I bathe her?'
'(I'm told) I bathe her. ' | d. a-ku:pi-yaŋ 'He bathes you. '
'Does he bathe you?'
'(I'm told)He bathes you. ' |

mi-, kIsi-, and kI- also return type (c)

y- also returns type (d)

Note that while the tense affix and the lexical verb are the same in every example, the possible interpretations associated with the expressions in (5) are not the same in each case. Expressions that include the clitic **kIni-** are always interpreted as propositions(5a). Expressions that include the clitic **ni-** are always interpreted as questions or as reported facts (5b). Expressions with Type Two verbs which refer to Non-3rd Affectors are always interpreted as questions or reported facts, never as propositions asserted from direct knowledge (5c). And finally, expressions which refer to 3rd person Affectors and Non-3rd person Affecteds are indeterminate in their interpretations(5d). These expressions may be interpreted as propositions, as questions, or as reported facts.

The differences in the interpretations of the expressions listed in (5) derive from properties of the pronominal clitics. However, the possibility for varied interpretation must derive from properties of the tense affixes involved. Only

forms which include Type 2 affixes exhibit indeterminacy in their interpretation. If an expression includes a Type 1 or a Type 3 tense affix, it has the same type of interpretation regardless of the clitic involved (Hoff 1968). Any analysis of the Carib facts must account for the semantic asymmetries presented above, as well as the distributional facts and the indeterminacy of **k-** also discussed in this section.

In the rest of this section I develop an analysis of the interaction of Carib tense and person morphology that accounts for all of the facts described above, and treats them as deriving from the same source: the semantics of Certainty.

2. 1. Tensed forms.

The clitics in (2a) above only occur with tensed forms, while those listed in (2b) are found with both tensed and untensed forms, e.g. :

(6)

- | | |
|---|--|
| a. si-ku:pi-ya 'I bathe him/her. ' | b. *si-ku:pi |
| c. y-ene:-yaŋ 'S/he sees me. ' | d. y-e:ne 'be seen, 1st person' |

If tense suffixation occurs prior to cliticization, then the absence of forms like (6b) and the presence of forms like (6a), (6c), and (6d) can be accounted for. The clitics in (2a) require arguments that are type **T(ensed)** and return forms such as those in (6a). The clitics in (2b) may combine with type **T** forms, or with verb forms of type **U(ntensed)**. These return forms such as those in (6c) and (6d). The three types of tense suffixes are presented in (7):

(7) Tense suffixes

- a. Type 1: **-ya** 'Present'; **-e** 'Present'; **-sa** 'Present'; **-take** 'Future';
Type 1 cooccur only with clitics referring to Non3rd Affectors.
- b. Type 2: **-yaŋ** 'Present'; **-no** 'Present'; **-saŋ** 'Present'; **-taŋ** 'Future';
-yakoŋ 'Past'; **-sakoŋ** 'Past'; **-koŋ** 'Past'; **-yaine** 'Durative'; **-saine** 'Durative';
Type 2 cooccur with all clitics
- c. Type 3: **-ri** 'Conditional/Counterfactual'; **-i** 'Emphatic/Optative';
-h 'Emphatic/Optative(counter factual)'; **-ne** 'Emphatic/Optative (same)';
-se 'Purposive';
Type 3 do not cooccur with **kIni-**

Two of the three classes listed above are clearly organized by common semantic properties, as well as the common distributional properties presented in (4) above. Type 1 suffixes (7a) are all 'Nonpast' temporal suffixes, and all cooccur only with clitics that refer to Non3rd Affectors:

(8) Type 1 suffix distribution with respect to clitics

mi-ku:pi-ya 'You bathe her ' kIsi-ku:pi-take 'You and I will bathe him '
 a-tunda-e 'You arrive '

*aku:piya, *yene:ya, *kIni:ku:piya, *kIni:kupi:take, *niku:piya , *niku:piya

Type 3 suffixes (5c) are all nontemporal suffixes. While most of the clitics are found with **Type 3** verb forms, **kIni-** is not, e.g. :

(9) Type 3 suffix distribution with respect to clitics

ni-ku:pi-i. 'Oh, may she bathe him!', also 'She really has bathed him!'
 ni-ku:pi-rI 'She would bathe him'
 si-ku:pi-ri 'I would bathe him'

*kIni-ku:pi-rI, etc.

Type 2 suffixes are all temporal suffixes, but these refer to various temporal and aspectual distinctions, including Nonpast distinctions. However, recall the semantic asymmetries associated with expressions which include Type 2 suffixes. The Type 2 suffixes share the property that expressions formed on the basis of Type 2 tensed forms will be of various subtypes of the same semantic type, a **Realis Nonassertion**.

Any expression which includes a Type 2 suffix and refers to a Non3rd person Affecter is interpreted as a question, or as reported fact. Recall also that Nonpast suffixes occur in both Type 1 and Type 2 classes:

- (10) a. si-ku:pi-ya 'I bathe him/her. '
 b. si-ku:pi-yaŋ 'Do I bathe him/her?'
 '(I'm told) I bathe him/her. '

(10a) and (10b) can be analyzed as different types of expressions which contrast in whether or not the speaker and hearer have direct access to the facts at issue. Of course, having vs. lacking direct knowledge of an event are reasonably characterized as expressing differing degrees of certainty. If the contrast between (10a) and (10b) represents a contrast between an **Assertion**(10a) and a **Nonassertion**(10b), then we can exploit this contrast to account for other differences between the two suffix Types as well. Type 1 suffixes all refer to Nonpast time; Type 2 suffixes include those which refer to Past time. An interesting property of expressions with Past suffixes is that they are indeterminate with respect to whether they express propositions or questions when referring to Non3rd person Affectors, e.g. :

- (11) **siku:piya:koŋ.** 'I bathed him/her. '
 'Did I bathe him/her?'
 '(I'm told) I bathed him/her. '

This fact may be analyzed as a consequence of the semantics of Certainty: any Past event is too removed from the moment of discourse to be expressed with certainty. Questions and propositions about Past events are equally uncertain; both refer to events in this world, but both include some uncertainty about whether one can claim direct knowledge of the events referred to. The fact that Type 1 suffixes never cooccur with clitics expressing 3rd person Affectors is accounted for if all expressions about 3rd person Affectors are inherently uncertain. If certainty is partially defined with respect to discourse participants, then 3rd person is too removed from discourse to be discussed with maximal certainty.

The properties of Type 3 suffixes may also be characterized with respect to the semantic contrast Assertion/Nonassertion. All Type 3 suffixes are nontemporal suffixes, and expressions which include Type 3 suffixes may be analyzed as referring to possible worlds, rather than being restricted to this world. Reference to the possible is inherently less certain than reference to the actual. While expressions that include Type 2 or Type 3 suffixes are labeled Nonassertions, those which include Type 2 suffixes all refer to events in this world that are either realized or realizable. Expressions which include Type 3 suffixes do not entail that the events referred to are realizable. To capture these contrasts, expressions which include Type 2 suffixes are proposed to be *Realis Nonassertions*, while Type 3 suffixes are proposed to be *Irrealis Nonassertions*.

Since tense affixation must precede cliticization, clitics may be analyzed as selecting tensed verbs as their targets. The three types of tense suffixes are proposed to return three types of tensed verb forms:

- (12)
- Type 1, **Assertion** e.g. **ene:-ya** : combine with {**si-**, **mi-**, **klsi-**, **k-**, **y-**, **a-** }
 - Type 2, **Realis Nonassertion**, e.g. **ene:-yaŋ** : combine with any clitic
 - Type 3, **Irrealis Nonassertion** e.g. **ene:-rɪ** : combine with any clitic except **kɪni-**

This analysis of the Carib tensed forms accounts for the contributions of the tense affixes to the semantic properties of complex expressions. It also implies a relationship between the semantic type of a tensed verb form, and its combinatorial possibilities; each verb Type may combine with a distinct set of pronominal clitics. The next section formalizes the relation between tensed forms and the expressions that result from cliticization.

2. 2. Formal description of the distribution of the Carib clitics.

Some distributional facts about the Carib clitics emerged in the previous discussion:

- (13) a. certain clitics combine only with Type T forms
- b. certain clitics combine with any verb form
- c. certain clitics combine with any Type T form
- d. **klni-** does not combine with Type 1 or with Type 3 forms
- e. **ni-** does not combine with Type 1 forms

These facts may be analyzed as reflecting the fact that different clitics place different restrictions on their targets. However, these restrictions cannot be stated as selection of category Type 1, Type 2, or Type 3. Clitic distribution places restrictions on properties of categories, rather than on category types.

The restrictions on clitic distribution are proposed to be sensitive to the properties **Certain** and **Tense**. These properties are formalized as features which comprise the FORM of a verb, thereby distinguishing four verb types in all:

(14) Formal representations of Carib verb Types

Type 1: **FORM: [COMB:[(<Y: >) X:]; TNS:Realis; CERTAIN:++]**

Type 2: **FORM: [COMB:[(<Y: >) X:]; TNS:Realis; CERTAIN:-]**

Type 3: **FORM: [COMB:[(<Y: >) X:]; TNS:Irrealis; CERTAIN:-]**

Type U: **FORM: [COMB:[<X: >]]**

[**CERTAIN**] is a binary valued feature whose possible values are {+,-}. [**TNS**] is a binary valued feature whose possible values are {**Realis**, **Irrealis**,}. The formal information [**TNS**] and [**CERTAIN**] are proposed to be added to a representation by tense affixation. This represents the formal distinction between tensed and untensed verb forms. The feature [**COMB**] is a feature that takes feature structures as its values. The features **X** and **Y** indicate two distinct participants in an action, defined by their role in the event. These features take values such as 1,2,and 3, which refer to the Participants in an event. The feature [**COMB**] and its values represent the fact that tensed expressions in Carib must have values for up to two Participants in an event, depending on the lexical verb which is involved in a particular expression.

The restrictions on clitic distribution can now be stated in terms of the formal properties of their arguments. These restrictions are formalized as subcategorization conditions placed on the informational content of clitic targets:

(15) Clitic subcategorization conditions

- a. **si-, mi-, kIsi-** : Target: [**<COMB:** **<Y:** **> X:** **>> TNS:any; CERTAIN:any>]**
- b. **ni-** : Target: [**<COMB:(<Y:** **>)X:** **>> TNS:any; CERTAIN:->]**
kIni- : Target: [**<COMB:(<Y:** **>) X:** **>> TNS:Realis; CERTAIN:->]**
- c. **kI, y-, a-** : Target:[**<COMB:** **<Y:** **>]**

The operations which define their distributional contrasts organize the clitics into three basic types. The clitics in (15a) require that their targets be transitive forms, with no values specified for **<Y>** or **X**. The targets' representations must include the features [TNS] and [CERTAIN]. The values of these features are irrelevant to clitic application. The clitics in (15b) require targets with minimally one feature in COMB whose value is unspecified. Targets of these clitics must be [CERTAIN:-]. **kIni-** further requires that its target be [TNS:Realis]. The clitics in (15c) are organized by the fact that they require targets with minimally one feature in COMB whose value is unspecified. There are no other restrictions on their targets.

2. 3. Clitic representations

None of the verb forms discussed above carry information about the participants in an event. The result of cliticization does include reference to both Affecter and Affected members of an event structure. Therefore, the clitics must be represented as contributing this information to the result of cliticization.

The clitic **k-**, '1&2' has already been identified as the most problematic of the pronominal clitics. **k-** is always ambiguous in transitive constructions. Since the clitic does not specify which of the two participants involved in an event is associated with which semantic role in a transitive expression, the clitic does not refer to grammatical case distinctions. However, since a tensed form may combine with **k-** to yield a grammatical expression which is also a licit sentence in Carib (Hoff 1968:164), **k-** must supply values to both roles in a transitive construction. Therefore, **k-** expresses grammatical relations in terms of the participants' possible roles in an event structure, rather than in terms of the person value associated with syntactic argument positions.

If the Carib clitics are a system, and not a random collection of pronominal expressions, then the formal properties of **k-** should generalize to account for the representations of the rest of the clitics. In what follows I propose a representation of the clitic **k-** which does in fact generalize to the rest of the system. The representation exploits the contrast 'Non3rd/3rd' already demonstrated to be active in the Carib verbal system. More specific reference to person is not necessary to an accurate analysis of the formal properties of Carib

verbs. It is proposed then that **k**-s indeterminacy also reflects the grammatical relevance of the contrast 'Non3rd/3rd Affector'.

The representation of **k**- is proposed in (16). Since the clitic is proposed to refer to thematic roles associated with participants, rather than verbal arguments, semantic⁴ as well as formal information is included in the representation. The SEM of **k**-, and by extension any of the clitics, must include reference to the number and Type of Participants involved in an event, and the map from Participant Type to thematic relations. Participant Type refers to whether a Participant is 3rd or Non3rd. Participant does not refer exactly to real world participants in an event. Rather, it refers to whether the real world participants are 1(Speaker),2(Hearer),or 3(Not Speaker or Hearer). The actual number of people involved is irrelevant; the SEM encodes the number of distinct kinds of Participant involved. The FORM of **k**- is proposed to be a complete argument structure, which unifies with the [COMB] of the form that it combines with. Since **k**- may supply values for one or two features in [COMB], **k**-s FORM is represented as minimally referring to one participant, with the option of supplying the value of a second. The value within the angled brackets within COMB, <>, represents the value for Affected. The value appearing outside of the angled brackets is the Affector value. The values supplied by **k**- are Non3rd with distinct reference⁵:

(16) Formal representation of **k- '1&2'**

PHON: <**k**->

SEM: < Number of Participants = 2 ; Type = Non3rd >

<Affector, Affected = Non3rd>

FORM: [(<Non3rdi>)Non3rdj]

Recall that the indeterminacy of the clitic **k**- '1&2', posed a problem for any analysis that treated the Carib clitics as a system organized by case distinctions. **k**- does not specify the case of the arguments that it refers to. If the organization of the Carib system is driven by the nature of the Participants, rather than that of the syntactic Arguments of an event structure, **k**- '1&2' poses no problem for a systematic account of the Carib clitics. The representation in (16) captures all of the properties of **k**-, using formal mechanisms which find independent motivation in the verbal system. Furthermore, the representation generalizes to the rest of the clitics.

The representations proposed in (17) all encode the type of information proposed to be necessary for an adequate account of **k**-:

(17) Representations of the clitics

Schema:

PHON:<X->

SEM: < Number and Type of Participant; Affector= X Affected=Y>

FORM:[(<Y>) X]

a. Type 1 (si-, mi-, klsi-)

PHON:<X->

SEM: < #of Participants > 1 Types = Non3rd/3rd; Affector= Non3rd Affectee=3rd>

FORM:[<3rd> 1,2,or 1&2]

b. Type 2

Type 2a (ni-)

PHON:<ni->

SEM: < # of Participants = 1 Type = 3rd ; Affector, Affected = 3rd>

FORM:[<3rd_i>(3rd)_j]

Type 2b (klni-)

PHON:<klni->

SEM: < # of Participants = 1 Type = Certain 3rd; Affector, Affected = 3rd>

FORM:[<3rd_i>(3rd)_j]

c. Type 3

Type 3a (k-)

PHON:<k->

SEM: < # of Participants = 2 Type = Non3rd; Affector, Affected = Non3rd>

FORM:[<Non3rd_i>(Non3rd)_j]

Type 3b (a-, y-)

PHON:<X->

SEM: < # of Participants = 2 Type = Non3rd/ (3rd); Affector=Any Affected = Non3rd>

FORM:[<1 or 2> (3rd)]

The clitics listed in (15) are organized into three types based on the informational distinctions among their targets. The different types of clitics also exhibit differences with respect to the information that they add to an expression. These

differences are captured in the representations in (17). The FORM value of each clitic encodes the value(s) which cliticization will contribute to the Argument Structure of the resulting expression. The clitics in (15a) and (17a) contribute specific, unambiguous information about the nature of both roles in a transitive relation. All three of these clitics refer to Non3rd Affectors, acting on 3rd person Affecteds. Type 1 clitics are represented as referring to an Argument Structure with two arguments. In contrast to Type 1, Type 2 clitics (15b and 17b) refer to 3rd person only. Furthermore, while they satisfy all of the COMB values for their targets, they may supply values for either one or two features in COMB. Type 2 clitics are represented as supplying the formal value of whatever roles must be specified. Type 3 clitics resemble Type 1 clitics, in that when there are two COMB features requiring values, these clitics supply different values to each feature. Type 3 clitics are also like Type 2 clitics, in that they may supply one or more COMB values. Type 3 clitics are represented as supplying the formal value of whatever role must be specified, but as filling in distinct values for each role when there are two features in COMB.

One problem remains. In *Carib*, there is no clitic which returns an expression with the Argument Structure '3rd acts on 1&2'. While I have accounted formally for this gap, I have not offered an account of why such a gap exists. It strikes me that the *Carib* clitic system is organized around the contrast 'Participant Type: 3rd/Non3rd', and that this organization reflects a hierarchy in which Non3rd persons are ranked higher than 3rd persons. This is not an unusual property of Native American languages. For example, in the Algonquian languages, an animacy hierarchy is proposed to account for certain gaps in the pronominal prefix system⁶. The nature of the gap in the *Carib* case may be a consequence of the fact that the *Carib* person hierarchy corresponds to an epistemic, rather than an animacy, hierarchy. Since *Carib* expresses '1&2' as a maximally certain argument structure, it would be incoherent to allow such a clitic to return an expression that included a 3rd person Affector. Since 1 or 2 alone is not maximally certain, *Carib* clitics do express relations such as '3rd acts on 1'.

3. Conclusion

The representations proposed in the previous section combine with the proposed restrictions on the arguments of cliticization to define all of the properties of the *Carib* clitics discussed in this paper. Under standard approaches (e.g. Anderson 1992, Lieber 1989, Jelinek 1984, 1992 Matthews 1991), the representation of *k-*, the distributional properties of *Carib* pronominals, and their interaction with tense morphology would be seen as accidental facts about *Carib*, and not as predictable from general principles of grammar. Most approaches to bound pronominal morphology treat person affixes as either agreement affixes (e.g. Anderson 1992) or bound verbal arguments (e.g. Jelinek 1984). Agreement affixes by definition refer to properties of the free nominals that they agree with,

such as person, number, case, etc. (e.g. Anderson 1992 on Georgian and Potawatomi). Bound arguments by definition satisfy subcategorization requirements of the verbs they combine with (Jelinek 1984, 1992), and their formal properties are proposed to derive from that fact. For example, Jelinek (1992) argues that the formal properties of pronominal arguments such as those found in Salish languages reflect the structural position of the relevant argument in a syntactic tree. Where the formal properties of person affixes are not proposed to derive from distinctions such as person or case, these properties are generally treated as the accidental consequence of the morphological system of a particular language. Lieber's (1989) discussion of Yavapai verbal morphology is an example of such treatment. Lieber proposes that the properties of Yavapai person affixes are a consequence of the morphological level at which they apply. Her analysis implies that the order of affixation in a morphological system is not internal to the system; the level or levels at which an affix applies is stated as a language particular choice, and so unpredictable from principles of grammar. While these various approaches differ in important respects, they all share the assumption that the formal representations, and in some cases the distribution, of bound pronominals either reflect properties of verbal arguments, or unsystematic idiosyncracies of a particular morphological system.

On the other hand, under the present approach the properties of bound pronominal affixes in a given language are predicted to reflect the informational distinctions that inhere in the categories that they combine with. Formal properties such as the features referred to by distributional restrictions on pronominal occurrence are predicted to be a subset of those features active elsewhere in the morphology and syntax of a given language. Under an information-increasing approach to inflection, such formal properties will never be simple accidents of a formal system; they will always follow naturally from the grammar of a particular language. The current proposal also makes clear predictions about the types of pronominal clitic systems that should be possible. It is evident from the Carib facts that the formal organization of bound pronominal systems may be driven by properties of event structures other than those usually associated with verbal arguments. However, it is not the case that just any semantic property of events may organize a pronominal system. The features that organize the Carib pronominals derive from the role of the Non3rd/3rd contrast in a larger set of epistemic distinctions. It is predicted that pronominal features will refer to those aspects of event structures that are defined in terms of Person only. So for example, it is predicted that no pronominal system would group 1st and 3rd person together as a natural class, if the formal system derived from an epistemic contrast similar to the one proposed for Carib. If such a clitic system exists, then its grammatical organization must derive from a semantic contrast different from that proposed for the Carib system⁷.

Notes

* Special thanks to Sue Steele and David Basilico for their patient attention to the author's many analyses of these 8 little pronouns. Thanks also to Tom Bourgeois, Eloise Jelinek, Dick Oehrle and the participants of the Special Session of BLS 19 for their contributions to the present analysis.

¹ Coastal Carib is a Cariban language spoken on the coast of Guiana.

² I adopt the labels **Affector** and **Affected** from Langendoen (1989), in order to avoid implicit claims about the syntactic structure of grammatical relations in Carib. Carib person clitics can be analyzed as a split-ergative morphology, and consequently it is an open question as to whether Carib syntax is ergative or accusative (Marantz 1982). Since I make no presumptions about the semantics of Subject and Object arguments in Carib, I refer to thematic rather than syntactic roles in the ensuing discussion. The labels that I adopt refer to generalized thematic roles, with Affector corresponding roughly to Agent/Experiencer, and Affectee corresponding roughly to Patient/Theme.

³ In contrast to Steele's position, most processual theories of morphology assume that inflectional processes interpret fully specified morphosyntactic representations.

⁴ The semantic information discussed in this paper is encoded informally. See O'Connor (in prep) for formal representations of clitic semantics.

⁵ There are no pronominal reflexives in Carib, and participants in an event structure always have distinct reference. It is not clear to me whether this fact should be represented as a fact about the Carib clitics, or as a fact about the organization of Carib grammar. For purposes of this discussion I represent it as a fact about the clitics.

⁶ For a discussion of the Algonquian animacy hierarchy, see LeSourd 1976

⁷ Consequently, the semantic types of the complex expressions that result from cliticization in such a system are predicted to differ significantly from those of Carib matrix clauses.

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Nonconfigurationality and Discontinuous Expressions in Panare¹

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Panare (Cariban, Central Venezuela) displays a variety of word orders, most frequently OVS and VSO. The language also allows discontinuous expressions, even though there is almost no nominal case marking. Hale (1982) suggests that flexible order and discontinuous expressions are common correlates of nonconfigurational languages. Many discussions of nonconfigurationality have centered on the absence of a well defined VP containing both verb and object. In this study I argue that Panare has a well-defined VP, but that it is nonconfigurational in its *nominal* expressions. This structurally permits both the high degree of order flexibility and discontinuous expressions. Panare clearly illustrates that it is incorrect to talk about nonconfigurationality as if it were a feature characteristic of an entire language. Rather, configurationality may vary according to particular constructions within a language.

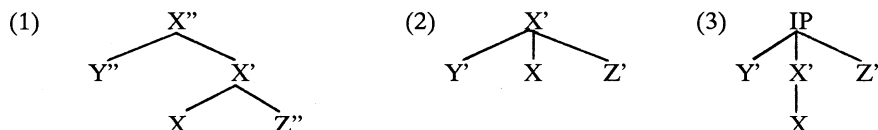
When a language allows discontinuous expressions, the question arises as to what strategies are used for interpreting co-reference between the discontinuous pieces. In nonconfigurational languages of the Warlpiri type, morphological case marking on the discontinuous pieces resolves the problem. In Panare, by contrast, there is essentially no surface case marking. Here, the pragmatics of processing, in concert with certain syntactic constraints, determine what expressions can be discontinuous. The constraints suggest that the word order freedom cannot be "explained" by appealing to some quasi-structuralist free-for-all notion of "scrambling".

The argument is structured as follows: after briefly describing the concept of configurationality and relevant features of Panare clause structure,² I present evidence that Panare has a configurational VP. I then present two types of evidence showing that nominal expressions have extremely little constituent structure, though there is some structure in limited situations. Finally, I summarize restrictions on discontinuities and suggest that these restrictions arise from a mixture of syntactic and processing factors.

1. The meaning of "configurationality"

In an influential series of papers, Kenneth Hale and Eloise Jelinek have posited a typological divide between "configurational" and "nonconfigurational" languages. Hale (1982) suggested that there may be some correlation between nonconfigurationality, flexible word order, and discontinuous expressions, though these last two features per se do not define or determine a nonconfigurational language. Briefly, a configurational language has hierarchical depth in its phrase structures, illustrated in (1). A nonconfigurational language is "flatter", lacking such hierarchical depth and corresponding more closely to the structures seen in (2) or (3) (linear order irrelevant). Hale (1982, 1990) and Jelinek (1984) do not define configurationality so as to restrict it to whether the VP contains the object

and excludes the subject. In fact, Jelinek (1984:51) describes Warlpiri as “nonconfigurational at the word level”, meaning that there are no constituents of any syntactic category larger than words.



Nevertheless, discussion of configurationality has often focused on whether a VP corresponding to the X' constituent in (1) exists, where X' contains both verb and its nominal complement(s) but crucially excludes one argument of the verb. If such a VP exists, the language is often said to be configurational and asymmetries between Subject (= Y'') and Object (= Z'') can be accounted for structurally. If such a VP does not exist, the language should demonstrate fewer asymmetries between subject and object, with any asymmetries perhaps being limited to semantic ones. Thus, what generally have been focused on as being in a configurational or nonconfigurational arrangement are the major clausal pieces of verb and its arguments, and not so much the structure internal to “smaller” phrasal pieces like NPs or PPs.

Jelinek (1984) argues that in at least some nonconfigurational languages, the arguments of a verb are bound pronominals or clitics, generally expressed in the verb or auxiliary. In the views of Jelinek and Hale (1990), the characteristic order flexibility arises from the fact that nominal lexical expressions are adjuncts rather than arguments; as adjuncts, they display order variation characteristic of adjuncts. Discontinuous expressions result for essentially the same reason. As adjuncts, lexical expressions hold no grammatical relation to the verb nor are they biuniquely related to the true arguments. Thus, there is no constraint on the number of non-contiguous lexical expressions that can be adjoined to an argument.

2. Panare basic clause morphosyntax

Before examining constituency in Panare, it will be helpful to give a brief introduction to order and verb morphology. Panare is a solid Verb-Subject language. With the possible exception of contrastive contexts, any lexical or free pronominal subject immediately follows the verb or auxiliary in main clauses. Lexical expressions referring to the object, however, can occur either immediately before the verb (5a-b), or after the verb-subject complex (6). Thus, Panare displays both OVS and VSO orders in main transitive clauses. Both orders are very easy to elicit, though verb-initial (or verb-only) clauses are more common in text material, particularly in main eventive clauses.³

- (4) VS Kijtin-yaj kërëñepën kuñan.
 bark-PPERF1 dog yesterday
 ‘The dog barked yesterday.’

- (5) OVS a. Kërenëpën y-ëni-yaj ake.
 dog INV-OI.bite.meat-PPERF1 snake
 'The snake bit the dog.'
- OVS b. Ake y-ëni-pěj-chaj kërënpën tapúmake
 snake INV-OI.bite.meat-ITER-PPERF1 dog hard
 'The dog bit the snake very hard.'
- (6) VSO N-ëni-yaj ake kërënpën.
 3DIR-bite.meat-PPERF1 snake dog
 'The snake bit the dog.'

For clarity, in this paper I primarily consider past-perfective clauses, though similar constituency arguments could be advanced on the basis of non-past-perfective clauses. Person prefixes can occur on the verb without any accompanying free pronoun or lexical subject expression. However, the prefixes commonly do co-occur with lexical expressions in both text and elicited materials. The inclusion of co-referential free pronouns need not be contrastive.

In past-perfective intransitive clauses, Panare uses the prefix forms *0/w-* '1sg', *m-* '2sg/pl', and *n-* '3sg/pl, 1pl (inclusive or exclusive)'. In past-perfective transitive clauses, there is an inverse-direct split. This split is governed by the hierarchy:⁴

1sg	≥	2sg/pl	>	3 sg/pl
1pl incl				1pl excl

If action proceeds from a participant on the left to one on the right of this hierarchy, direct prefixes occur on the verb. If action proceeds from right to left, inverse prefixes occur. One result is that if the action involves a 1st or 2nd person singular participant as either subject or object, that participant is explicitly signalled on the verb. The direct forms and selected examples follow:

Direct Forms (^ = leftward accent shift on verb)

<i>k-</i>	1->2	<i>^m-</i>	2->1	<i>n-</i>	3/1pl.incl->3
<i>t-</i>	1->3	<i>m-</i>	2->3	<i>anan-</i>	1pl.excl->3

- (7) a. Aye. T-iñi-yaj (chu). b. Mënkën t-iñi-yaj.
 yes 1SG-OI.see-PPERF1 1SG this.same 1SG-see-PPERF1
 'Yes. I saw it.' (PST 4.2) 'I saw the same one.'
- (8). T-ika-yaj chu tityasa ka'kam.
 1SG-skin-PPERF1 1SG one armadillo
 'I skinned one armadillo.' (MCW 76.3)
- (9) N-an-yaj tawe-yaka.
 3DIR-get-PPERF1 basket-LOC
 'They collected them/it [=fruit] in a basket.' (PST 4.12)
- (10) a. Asa' nányaj Toman koyare. b. Toman, nányaj koyare asa'
 'Tom got/bought two necklaces.' 'Tom got/bought two necklaces.'

- (11) N-ama-yakè kën kana.
 3DIR-throw.out-PPERF2 AN.DIST fish
 'He/she threw out the fish.'

In direct clauses with 1st or 2nd person subjects, a nominal object can precede or follow the verb, as illustrated in (7b) and (8). For most verbs, a preverbal lexical object may be accompanied by a leftward accent shift in the verb, as comparison of (7a-b) shows. In direct clauses with third person subject, a nominal object *cannot* immediately precede the verb (9, 10, 11).

The inverse form is used if and only if a nominal object precedes the verb. An important point to underscore is that in past-perfective clauses, variant word order is not just a matter of "scrambling" because the entire constructions are potentially different: when there are two 3rd-persons, OVS order requires the inverse construction, while VSO order requires the direct construction.

In inverse clauses the following prefixes occur on vowel-initial verb stems.⁵ The salient features of the inverse are the presence of the *y-* prefix for vowel initial verbs and a leftward accent shift for most verbs; compare (10) with (12), and (11) with (15). When the stem is consonant-initial, the *y-* element does not occur (13).

Inverse Forms

ˆ-y- 3->1 a-y- 3->2 NP[OBJ] ˆ-y- 3->3

- (12) Koyare y-án-yaj Toman.
 necklace INV-OI.get-PPERF1 Tom
 'Tom got/bought a necklace.'
- (13) Asonwa i'ka pú'ma-yaj ana mën wewa.
 three porcupine INV.OI.fall-PPERF1 1EXC INAN.DIST day
 'We killed three porcupines during the day.' (MCW 75.5)
- (14) Kën e'ñapa y-ápo-yaj tonkanan.
 AN.DIST person INV-OI.join-PPERF1 another
 'Another (person) approached that person.' (MCW 76.5)
- (15) a. Y-áma-yaj kën.
 1SG-OI.throw.out-PPERF1 AN.DIST
 'He/she threw me out.'
- b. A-y-ama-yaj kën.
 2-INV-throw.out-PPERF1
 'He/she threw you out.'
- c. Kana y-áma-yaj kën.
 fish INV-OI.throw.out-PPERF1 AN.DIST
 'He/she threw out the fish.'

3. Evidence for a VP constituent

As mentioned earlier, order flexibility and discontinuous expressions have sometimes been tied to the absence of a configurational VP. In Panare, the object and verb do form a very tight constituent when in the OV arrangement. Thus, in

this language order flexibility and discontinuities cannot be tied to the absence of a configurational VP. We first document the tight OV bond.

One argument for the claim that object and verb form a constituent comes from four identical behaviors shared by object-verb, genitive-noun, and noun-postposition constructions. These three constructions are historically related, which accounts for the similarities (Gildea 1992). If genitive and head noun form a constituent, and if noun and following postposition form a constituent, then these same behaviors between object and following verb would also appear to indicate constituency.

i. If the head begins with a vowel, a *y-* is prefixed to the head whenever the latter is immediately preceded by a NP or prefix referring to the object of verb, object of postposition, or genitive. If the head begins with a consonant, there is no *y-*. The distribution of *y-/0* is syntactically constrained in that it is not an automatic epenthetic element occurring before just any vowel-initial element. Rather, it is inserted always and only in these three contexts.

- | | |
|--|---|
| <p>(16) vowel initial head
 Toman <i>y-á</i>rako-e
 Tom Y-GI.hat-POSS
 ‘Tom’s hat’</p> <p>Achim <i>y-é</i>ñaka
 Achim Y-GI.for
 ‘for Achim’</p> <p>Kana <i>y-á</i>ma-yaj kën.
 fish INV-OI.throw-PPERF1 AN
 ‘He threw out the fish.’</p> | <p>consonant initial head
 e’ñapa píya-n
 Panare GI.shaman-POSS
 ‘the Panare’s shaman’</p> <p>Achim mítyaka
 Achim GI.more.than
 ‘more than Achim’</p> <p>Kana pa-yaj kën.
 fish feed-PPERF1 AN
 ‘He fed the fish.’</p> |
|--|---|

ii. If the genitive, object of postposition, or object of verb ends in a glottal approximant (either [ʔ] or [h]), and if the head begins with a vowel, the required intervening *y-* is affricativized. Thus, the following correspond to vowel-initial examples in (16):

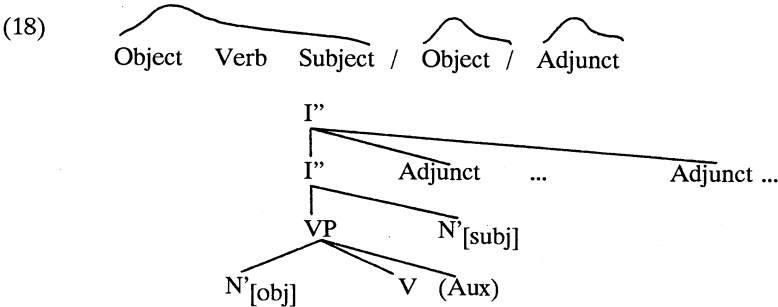
- | | |
|--|---|
| <p>(17) mēj ch-áni-0
 this.anim Y-GI.mother-POSS
 ‘this one’s mother’</p> <p>Choj ch-á</p> | <p>pataij ch-ako
 bicycle Y-on
 ‘on a bicycle’</p> <p>ch-áma-yaj kën.
 sweet.potato INV-OI.throw.out-PPERF1 AN.DIST
 ‘He threw out the sweet potato.’</p> |
|--|---|

iii. If the head is more than one syllable long and depending on lexical subclass, accent in the head element shifts to the left (indicated in glosses by OI or GI).

iv. Nothing can intervene between genitive and possessed noun, between object of postposition and postposition, or between preverbal object and verb. In the last case, any adverbs that occur are either to the left of the object, or after the subject (cf. 5b).

The non-separability plus phonological affricativization are clear reflections of close syntactic and phonological unity. The leftward accent shift can be taken as another reflection of such constituency. Assuming that the first two constructions in (16-17) form bona fide constituents, identical behaviors in the object-plus-verb arrangement suggest that object-plus-verb similarly form a constituent. T. Payne (1992) goes so far as to discuss whether the OV order does not involve object-incorporation, though he ultimately dismisses this as a strong claim.

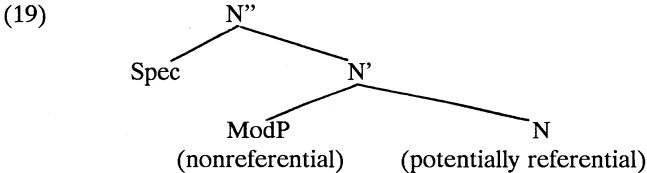
Intonation provides a second type of argument for constituency between preverbal object and verb (Dickinson 1993). Although our data from recorded texts are too minimal to draw statistically significant conclusions, OV, VS, and OVS arrangements all clearly fall within single intonation contours in terms of pitch, loudness, and the lack of any pause (unless the speech stream is simply disfluent). In the VSO arrangement, by contrast, there is one loudness and pitch peak over the VS portion, and a second one on the postverbal object expression. The object may or may not be separated from the VS unit by a pause. If an adjunct element (e.g. adverbial or adpositional expression) follows the object, the adjunct also may or may not be distinct from the preceding material in terms of pause and other intonational features. Thus, postverbal objects and adjuncts prosodically pattern together, and differ from preverbal objects and postverbal subjects. The overall intonational picture of the Panare main clause can be sketched as follows, where the slash lines indicate general likelihood of pause. The associated phrase structure tree represents essential features of the syntactic structure of at least past-perfective transitive clauses.



Subject and object employ the same free pronoun set, and neither controls reference of reflexive or reciprocal forms because there are no reflexive or reciprocal anaphors.⁶ Nevertheless, subject and object do show asymmetries in terms of verb prefix phenomena (Section 2), word order, and intonational phrasing. If a nominal subject is before the verb, it does not trigger the inverse construction. Preverbal subject also occurs under a separate intonation contour from the verb. Only when it is post-verbal does the subject occur in a single intonational phrase with the verb.

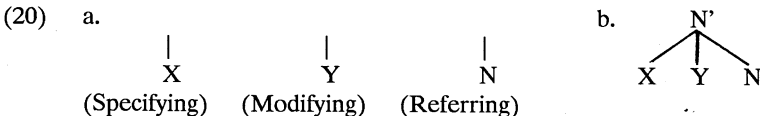
4. Evidence for nonconfigurationality in Panare nominal expressions

The preceding section presented evidence that OV forms a bona fide VP constituent. We now explore whether Panare nominal expressions are also configurational. A configurational NP would typically have a structure along the following lines (order not crucial and recursion allowed):



In the configurational type of NP, a modifying phrase could have an adjectival head, or it could have a syntactically nominal head, as in *university curriculum*. English is an excellent instance of a language with highly configurational nominal expressions. Evidence of hierarchical structure and constituency comes from a variety of tests such as coordination, substitution of pronominal forms, distribution, etc. With the exception of floated quantifiers, discontinuous nominal expressions are almost nonexistent. In many South American languages, by contrast, there are almost no syntactic adjectives, most nominal modification is done by adding qualifying nouns, and headship in noun-noun combinations may be much less clear-cut than in English.

In a nonconfigurational nominal expression, elements with specifying, modifying, and referential functions may co-occur and may be contiguous to one another, but by definition they do not occur in a hierarchical configuration with much depth. The possible structures would be more akin to those in (20) (linear order not crucial). Depending on the language, X, Y, and N could all be syntactically nominal. In (20a), the immediately dominating structure for X, Y, N could be a VP (assuming that the language in question has configurational clause structure), or could simply be the clause.



There is evidence from both order flexibility and discontinuity patterns that Panare nominal expressions are of the nonconfigurational varieties sketched in (20a-b). We now examine this evidence.

4.1 Order flexibility

Unlike certain other Native American languages, in Panare it is completely possible to string together a variety of words that all make reference to a single participant. The following, admittedly unusual, elicited example illustrates:

- (21) Mono kěj Rosa michi asa' tosen tēpurúken jaripī wa'se.
 exist AN.PROX Rosa cat two big black bad fierce
 'Rosa has two big black bad fierce cats.'

However, the possibility of free order variation among elements that co-refer to a participant is the first clue that Panare does not have a highly structured NP. Order variation is particularly common when the nominal expression follows the verb:

- (22) numeral
 N-uwī-yaj ana **arakon** **asa'** / **asa' arakon.**
 3DIR-kill-PPERF1 1EXC monkey two
 'We killed two monkeys.'
- (23) other quantifier
 N-uwī-yaj ana **arakon** **ta'meñe** / **ta'meñe arakon.**
 3DIR-kill-PPERF1 1EXC monkey many
 'We killed many monkeys.'
- (24) determiner
 a. Ana-íñi-yaj ana **sīj** **perikura** ta.
 1EXC-see-PPERF1 1EXC this movie here
 'We saw this movie here.'
- b. Yu-koka-sa' mēn **kamicha sīj.**
 3-wash-PERF IN.COPULA shirt this
 'This shirt is/has been washed.'
- (25) nominal descriptive modifier
 N-ama-yake kēn **ojka kana** / **kana ojka.**
 3DIR-thow.out-PPERF2 AN.DIST raw fish
 'He threw out the raw fish.'
- (26) adjectival descriptive modifier
 a. Y-ina-ñe e'ñapa **ijpi** **tosén-pe** atawēn chījche.
 3-clear-NONSPEC.T indian garden big-AD all COLL
 'All the people clear the big garden.'
- b. **Tosén-pe** **warae** asoonwa i-jta-n yo-n
 big-AD tapir three 3-foot-POSS eye-POSS

 mura pata-n yo-n kēi.
 mule foot-POSS eye-POSS like
 'The big tapir has three nails like a mule's hoof.' (MCW 44.7)

(27) Relative clause/nominalized clause modifier⁷

- a. Yu-tě-n kěj arakon arī-pī-měņēj.
 3-go-NONSPEC.I AN.PROX monkey good-NEG-AN.REL
 'The monkey that is bad is going to leave.'
- b. Yu-tě-n kěj arī-pī-měņēj arakon.
 3-go-NONSPEC.I AN.PROX good-NEG-AN.REL monkey
 'The monkey that is bad is going to leave.'

Only one type of modifier cannot vary in order relative to what we might be tempted to call the head noun. This is the genitive expression:

- (28) a. inken méchuku-n b. inken iyu echipipin
 child GI.blood-POSS child CL.general flower
 'the child's blood' 'the child's flower'
- *mechukun inken *iyu echipipin inken

4.2 Discontinuity patterns

A second kind of evidence for the structural looseness of nominal expressions is the ease with which discontinuous expressions occur. Potentially discontinuous items are the same ones that can occur in flexible order; only the genitive expression cannot be discontinuous from the possessed item.

Two discontinuity patterns are possible in Panare. In the first, the two coreferential pieces occur on opposite sides of the verb: X_i V... Y_i . In the second, the two coreferential pieces both follow the verb: V... X_i ... Y_i .

In the past-perfective, the first pattern occurs with both inverse and direct constructions. Preverbal numeral and AD (adjectival/adverbial) forms trigger the direct construction. We take this as evidence that both numerals and AD-forms are non-nominal; when they occur preverbally they cannot syntactically count as object phrases although they semantically pertain to the object.

(29) numeral

- a. Asa' n-ikiti-yaj apoj yawana. b. Yawana yikitiyaj apoj asa'.
 two 3DIR-cut-PPERF man iguana 'The man cut two iguanas.'
 'The man cut two iguanas.'
 (*'Two men cut iguanas.')
- c. Kana t-ěn-yaj chu titiyasa'.
 fish 1sg-catch-PPERF1 1SG one
 'I caught one fish.'

(30) other quantifier

- a. Ta'meñe nu-wi-yaj ana arakon.
 many 3DIR-kill-PPERF1 1EXC monkey
 'We killed many monkeys.'

- b. **Kure** i'-ñe yu **tuwën.**
much want-NONSPEC.T 1SG present
'I want a lot of gifts.'
- c. **Mu** y-áma-ñe kěj **kure.**
DIST.VISIB.INAN T-throw.out-NONSPEC.T AN.PROX much
'He's going to throw out a lot of that.'

(31) determiner/pronoun

- a. **Arakon** wi-yaj ana **muku**.⁸
 monkey kill-PPERF1 1EXC AN.VISIB.DIST
 'We killed that monkey.'

- b. **Mu** y-áma-ñe **kěj** **pícha**.
 INAN.VISIB.DIST T-OI.throw.out-NONSPEC.T AN.PROX little
 'He is going to throw out a little of that.'

(32) nominal descriptive modifier

- a. **Weiki** y-ú-chaj Rusiyana kamonton úya **onkono**.
 deer INV-OI.give-PPERF1 Luciano 3PL DAT alive
 ‘Luciano gave them live deer.’

- b. **Onkono** y-ú-chaj Rusiyana kamonton úya **wēiki**.
 alive INV-OI.give-PPERF1 Luciano 3PL DAT deer
 ‘Luciano gave them live deer.’

(33) AD-form modifier

- a. **Piya-pan** nī-pa-yaj kën **tikon.**
big-AD.purely 3DIR-feed-PPERF1 AN.DIST child
'He fed the purely/completely big children.'

- b. **Tikon** pa-yaj kën **piya-pan.**
child feed-PPERF1 AN.DIST big-AD.purely
'He fed the purely/completely big children.'

(34) relative clause/nominalized clause modifier

- a. **Apoj** t-ómpi-chaj chu aro y-új-cha-něj tikon uya.
man 1SG-deceive-PPERF1 1SG rice INV-give-PPERF-RC ch. DAT
'I deceived the man who gave rice to the child.'

- b. **Parae** t-uwenkama-yaj chu **aire** **Paco**
knife 1SG-forget-PPERF1 1SG meat Paco

n-ikiti-n-pej **naj-sin** **ty-kye.**
 3O.TP-cut-NMLZ-LOC AUX-INAN.REL 3-INST
 'I forgot the knife with which Paco is cutting the meat.'

The following show the first discontinuity pattern in intransitive clauses. Because these are intransitive, the prefix alternations here do not reflect an inverse-direct distinction. Rather, *tē* 'go' is an irregular verb which simply takes a zero prefix in the third person past-perfective:

- (35) a. **Ari-pi-pe-mēnēj** n-ē'-yaj **arakon.**
 good-NEG-AD-REL 3-come-PPERF1 monkey
 'The monkey that's bad came.'
- b. **Ari-pi-pe-mē-nēj** tē-yaj **arakon.**
 good-NEG-AD-NMLZ-REL go-PPERF1 monkey
 'The monkey that is bad left.'

In the second discontinuity pattern, both co-referential expressions follow the verb: V...X_i...Y_j.

- (36) numeral
 T-apo-yaj chu **akirē** w-at-araamá-nya **tityasa.**
 1-approach-PPERF1 1SG jaguar 1-DETR-hunt-SIM.PAST one
 'I encountered one jaguar while hunting.'
- (37) other quantifier (a), nominal descriptive modifier (b)
 a. Y-uw-ē'-muku'ma-sa' wéjcha **e'ñapa** pake **atawën.**
 3-I-DETR-begin-PPART1 COPULA Panare before all
- b. Kamána pana, **i'yan** wē-tē-mpēj **yuwachon.**
 Camana toward shaman INTR-go-COND old.one

'(a) All the Panares started long ago (b) toward Camana when the old shaman left.'

Finally, expressions that pertain to a single referent within the scope of a adposition can occur noncontiguous from each other, as in the following where they occur on either side of a single locative adposition. This appears to be just another reflection of the rather loose nominal expression, rather than anything having to do with adpositional phrases per se:

- (38) relative clause/nominalized clause modifier
 a. T-yeñ-aj chu oj **t-yaka** pata-ya **w-ēpijpē.**^c
 1SG-drink-PPERF1 1SG m.beer it-toward place-LOC 1SG-came
 'I drank manioc beer in the house where I have come from.'
- b. T-yeñ-aj chu oj **t-yaka** w-ēpijpē-ya **pata.**
 1SG-drink-PPERF1 1SG m.beer it-toward 1SG-came-LOC place
 'I drank manioc beer in the house where I have come from.'

Again, only the genitive cannot be discontinuous from what it modifies.

- (39) a. ***Inken** t-ĩĩi-yaj chu **méchuku-n**.
 child 1SG-see-PPERF1 1SG blood-POSS
 'I saw the child's blood.'
- b. ***Mechuku-n** t-ĩĩi-yaj chu **inken**.
 blood-POSS INV-see-PPERF1 1SG child
 'I saw the child's blood.'

4.3 Demonstrative pronoun-Noun co-occurrence restrictions

In addition to the restriction on genitives, another restriction shows up when object nominal expressions precede the verb. This restriction gives us an important clue as to why nonconfigurational nominal expressions might come to exist in the first place. Ex. (40) shows that determiners and nouns cannot co-occur preverbally. There is no such restriction when a nominal expression follows the verb (24a-b above).

- (40) *sij̃ iye t-áma-yaj chu
 this pole 1SG-cut.down-PPERF1 1SG

*iye sij̃ t-áma-yaj chu
 (I cut down this tree.)

In general, Panare "determiners" are actually demonstrative pronouns and can, quite by themselves, serve as referring pronouns. Thus, they are quite unlike English *a* and *the*, and more like *this*, *that*, and *one*. If, structurally speaking, there is only one object position before the verb, and if demonstrative pronouns and nouns do not form a single constituent but each compete for that single position, it explains the restriction.¹⁰

Perhaps a typical, though not necessary, correlate of languages replete with discontinuous expressions is that they lack a large, well-defined set of adjectives and sometimes even of determiners that are *syntactically* distinct from nouns. Instead, syntactic nouns typically modify other nouns, and pronouns may specify or determine other nouns when necessary; but crucially, all these functions are carried out by elements that are syntactically nominal. Given that there is more than one noun element comprising the expression, it immediately raises a question as to which one is the head. If there is structural competition over headship, the issue may be resolved by interpreting each syntactic noun as the head of its own phrase. In Nunggubuyu (Heath 1986:378), for example, there is no way to differentiate between 'the big man' and 'the adult male' since the words for 'big/adult' and 'man/male' have all the same morphosyntactic properties and, presumably, the same referring potentialities. This is quite unlike English where, even though one noun may modify another, quite clearly only one of them is the head. Headship is, I suggest, heuristically revealed by which noun has the potential for referential function in that phrase (cf. D. Payne 1990:102-111). In

English, *university curriculum* can refer to the same objectified entity as the noun *curriculum* alone could; while *curriculum university* is only interpretable as referring to some type of university. For at least some noun-noun and determiner/pronoun-noun combinations, Panare appears to be more like Nunggubuyu in having more than one “strong” referring piece, and unlike English. Even though English *this* can function alone as a pronoun (e.g. *I want this. This is hardly an example of a responsible choice*), when it does occur as a determiner in combination with another noun (e.g. *This choice is hardly responsible*), it loses its “strong” referring potential.

5. Traces of NP constituency

Much evidence so far presented suggests that Panare has very little NP structure. Nevertheless, there are at least two exceptions to the hypothesis that Panare has no NP constituents above the word level.

First, we have seen that the genitive must always directly precede the head noun and cannot be discontinuous from it. Thus, genitive and head surely form a constituent. Why should there be such a restriction just on genitive modifiers, and not on other types of apparent modifiers such as determiners, numerals, and descriptive elements? From a functional perspective, the answer is surely partly due to the scarcity of case marking in Panare, and the resultant challenge of knowing what elements can be interpreted together.¹¹ There is nothing other than juxtaposition plus the concomitant stress shift and *y*-phenomena to signal the genitive relation. Disallowing order variation and discontinuity for at least one category reduces the challenge of figuring out coreference relations among remaining possible nominal elements.

There is a second situation which suggests some NP constituency. When a nominal expression precedes the verb, for some modifiers the word order is *not* flexible, even though there is flexibility when those very same elements follow the verb. First, numerals must precede nouns when in the preverbal object position:

- (41) Asa' arakon wī-yaj ana.
 two monkey kill-PPERF1 EXC
 'We killed two monkeys'

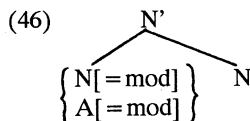
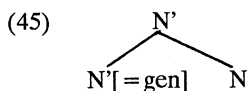
*arakon asa' wiyaj ana (direct construction)

*arakon asa' nuwiyaj ana (inverse construction)

Also, when there are two syntactically nominal elements, classes of nouns must be recognized because for some nouns there are definite ordering restrictions, while for others there are not; compare 42 with 43-44 (*ojka*, *piya*, and *karya* are syntactically nominal). Whether the factors accounting for (42) versus (43-44) have to do with *abstract*, *mass* or other similar categories awaits further investigation.

- (42) Ojka kana / *kana ojka y-áma-yake kën.
 raw fish INV-OI.throw.out-PPERF2 AN.DIST
 'He threw out the raw fish.'
- (43) Tikon piya / piya tikon a-te-ñëpë'.
 child big.one NEUT-cry-IMPERF.I
 'The big children are crying.'
- (44) a. Karya peraka y-ámī-yaj Paco.
 good house INV-OI.make-PPERF1 Paco
 'Paco made the good house.'
- b. Peraka karya yámīyaj Paco.
 c. Karya yámīyaj Paco peraka.

In sum, genitive + N expressions and some preverbal nominal expressions have the configurations given in (45-46). Even these, though, are relatively flat structures, lacking much hierarchical depth. (A = non-nominal modifying element.)



6. Functional pressures motivating NP constituency

We have seen that Panare does have a VP, but that nominal expressions have minimal constituency. Since pieces which co-refer to a participant generally do not form a constituent, on sheer structural grounds we might expect that most any discontinuity should be tolerated. However, discontinuities vary with grammatical relations.

Many languages with discontinuous expressions repeat morphological case marking on the noncontiguous elements, thus allowing the role of each piece to be recovered. In Panare there is no case marking on subjects, objects, or genitives. In constructions which necessarily have two participants (e.g. transitive clauses), rampant discontinuities might well present problems as to how the hearer knows which nominal pieces to construe with subject, which with object, etc. In Panare, this processing problem is solved by a hierarchy of grammatical relations which governs relative ease of discontinuities. In particular, discontinuities are restricted to absolutive arguments.

- | | | | |
|------|-----------------------|---|--|
| (47) | discontinuity allowed | | discontinuity disallowed |
| | Object | > | Intransitive Subject > *Transitive Subject |
| | | | *Genitive |

As seen in numerous examples above, there appear to be absolutely no restrictions on discontinuities between elements that co-refer to the object, except for genitive modifiers -- but this is an across-the-board restriction on genitives regardless of grammatical relation.

Discontinuous intransitive subjects would not appear to present a processing problem, as there is just the one non-case-marked argument. Nevertheless, there are more restrictions on them than on objects. From elicited examples one could deduce that discontinuities are allowed here as long as a syntactically nominal element immediately follows the VP, in at least some tense/aspects.¹² The examples in (48) from a non-past-perfective paradigm illustrate; although *piya* 'big.one' is syntactically nominal, *-pan* derives a non-nominal modifier.

- (48) a. A-kui-ñëpěj kěj tikon piya-pan.
 NEU-bathe-PROG.I AN.PROX child big-AD.purely
 'The purely/completely big children are bathing.'

- b. **piyapan** akuññëpěj kěj **tikon**
 'The big children are bathing.'

- c. ***tikon** akuññëpěj kěj **piyapan**.
 (not allowed)

In clauses with two distinct arguments, potential interpretation problems would arise if both arguments could be discontinuous. For transitive subjects, discontinuity is simply not tolerated even if a syntactically nominal subject element directly follows the verb. Any discontinuous element could only be interpreted as referring to an object. In the following, for instance, *wasipan* is a derived non-nominal and thus could not stand as a nominal object. Nevertheless, because of its noncontiguity to the subject *winkij*, it can only be interpreted as referring to some non-subject participant.

- (49) Wasì-pan nì-pa-yaj winkij.
 fierce-AD 3DIR-feed-PPERF1 woman
 'The woman fed the purely/completely fierce/angry (ones).'
 *The purely/completely fierce/angry woman fed (someone).'

Possessed NPs also have two referents--the possessor and the possessed. The constraint against genitive discontinuities is likely reinforced, if not originally motivated by, exactly the same interpretation difficulty which disallows discontinuous transitive subjects, namely, sorting out the pieces that are construed with two distinct referents. In discussing Nunggubuyu, Heath uses such expressions as "weak" phrasal units, "fuzzy" NPs, and "embryonic NP structure" (1984.381), but still states that possessive constructions "would seem a priori to demand tightly knit phrases" (1984.390).

7. Conclusions

Panare provides solid evidence that a language can have nonconfigurational nominal expressions, while still having a VP constituent. Here, it is the relative degree of nonconfigurationality in the nominal expression which structurally makes flexible word order and discontinuous expressions possible. However, restrictions on which parts of Panare nominal expressions can be discontinuous give us an instance of where pragmatics -- not semantics -- motivates the surface patterns of language. If semantics were the dominant factor motivating constituency (i.e. if syntax simply arises from grammaticization of what semantically hangs together), we would expect everything that semantically hangs together, to structurally be together -- i.e. we would expect something closer to the English type NP to be universal. But Panare suggests that cognitive processing and interpretation ("pragmatics") are the winning principles. In Panare, only when interpretation problems would arise due to there being more than one nominal referent, are certain discontinuities impossible.

Are these pressures motivating the rise, or preventing the demise, of NP constituents in Panare? There is solid cross-Cariban evidence that OV is diachronically earlier (Gildea 1992), while verb-initial VSO structures in Panare are innovative. Given the greater ordering restrictions within some preverbal object expressions, and the greater freedom of those same pieces when in postverbal position, it suggests that postverbal adjunction of object expressions and the emergence of greater nonconfigurationality go hand in hand. Thus, it would appear that the hierarchy in (47) is a conservative force, holding rein against the total demise of NP constituency. However, the ungrammatical determiner-plus-noun examples in (40), and the order flexibility in some noun-noun preverbal combinations illustrated in (43-44), suggest that the Panare NP was not highly configurational to begin with even in the OV order.

The data examined here suggest that nonconfigurationality in nominal expressions may diachronically lead to nonconfigurationality in overall clause structure. Panare appears to be poised for just such a change in that VSO order is actually more common, than is the historically older configurational OVS order. One study of 423 clauses from 12 different texts (both written and oral material), revealed 63 postverbal Os compared to 41 preverbal Os. Postverbal O is particularly likely in eventive clauses. In descriptive clauses, OV and VO are somewhat more equal in frequency. OV occurs both in pragmatically marked contexts (e.g. contrast, questions, answers to questions), and in certain noncontrastive contexts (T. Payne 1992). The dominance of VO over OV is true in both past-perfective contexts where the inverse-direct opposition is operative, and in non-past-perfective contexts where there is no inverse/direct contrast.

In sum, post-verbal object adjunction is extremely natural and common. Although a pause can demarcate the adjunct, natural text examples do show instances without any intervening pause. If VSO were to solidify consistently under a single intonation contour, it would be appropriate to refer to VSO as a well-planned nonconfigurational clause type.

Notes

- ¹ Data collection was conducted under the school of Anthropology and the Philological Institute "Andrés Bello" of the Universidad Central de Venezuela, and the Universidad Católica of Táchira, Venezuela. The research was partially supported by NSF Grant BNS-8617854, and also by American Philosophical Society and Wenner Gren Foundation grants to Tom Payne. I am indebted to Tom Payne and Spike Gildea for their influence on this particular study, and on the study of Panare grammar generally. I would also like to thank Connie Dickinson, Marie-Clàude Mattei-Muller, and Immanuel Barshi for their input.
- ² For a more complete presentation of Panare grammar, see Payne, Payne and Gildea (in process).
- ³ Abbreviations in examples are: AD derives a non-nominal word which functions as either adjective or adverb, AN animate, AUX auxiliary, CL noun class, COLL collective, COND conditional, DAT dative, DETR detransitivizer, DIR direct, DIST distal, EXC exclusive, GI genitive initial accent shift, I intransitive, INAN inanimate, INST instrument, INV inverse, ITER iterative, LOC locative, NEG negative, NEUT person-neutral prefix, NMLZ nominalizer, NONSPEC nonspecific aspect, OI object initial accent shift (initial element need not be syntactically nominal), PERF perfect, POSS possessed, PPERF1/2 past-perfective eye-witness evidentials of differing time references, PROX proximate, REL relativizer/relative pronoun, SIM.PAST simultaneous past, T transitive, VISIB visible. Examples from text are indicated by a code following the free translation (e.g. TMO 50.1).
- ⁴ There are slight variations among dialects in how 1 plurals pattern.
- ⁵ There is some syncretism between 1sg and 1pl inclusive forms, and between 3sg/pl and 1pl exclusive forms.
- ⁶ Instead, reflexive, reciprocal, and certain other intransitive meanings are accomplished by using formally intransitive verbs.
- ⁷ Gildea (1989) provides numerous additional examples of relative clause modifiers and an extensive discussion of their morphosyntax.
- ⁸ The determiner *muku* 'animate distal visible' apparently cannot occur before the verb, separated from whatever it is modifying. In this respect it appears to differ from all other determiners which also double as pronouns (others can with no problem occur alone before the verb).
- ⁹ *Jpě* 'inferential perfect' is historically a nominalizer.
- ¹⁰ Examples of S, O V order (rarely) occur, showing that there is more than one structural position before the verb. However, intonational, frequency, and functional evidence all indicate that the S is quite clearly outside the VP.
- ¹¹ There is some oblique case marking (e.g. locative, instrumental). Additionally, some verb endings require that the agent of a transitive stem occur in the dative case; T. Payne (1990) explores whether these are more like transitive ergative or intransitive passive clauses. The past perfective and most other verb forms illustrated in this paper do not belong to this category.

- ¹² This restriction needs further investigation and its application may depend on whether the subject person prefixes in various tense/aspect/evidential paradigms constitute arguments or not.

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Syntax vs. morphology: A chicken and egg problem

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Preliminaries.¹ The question of the exact nature of the relationship between syntax and morphology is an issue that remains very much up in the air. On the one hand there are those who view morphology as a special syntactic subcomponent distinguished primarily from the rest of syntax by a principle of incorporation. This is the approach whose foremost advocate is Baker (1988), at least in a GB context. But varieties of such an approach are assumed in other frameworks by other authors, including the present one (Rhodes 1976). Let me call this the Syntax First position. At the other extreme are those who maintain a strong lexicalist position. At the heart of this position is a claim that can be approximately characterized by saying that words are entirely structured within the lexicon and are available to fill syntactic slots when the appropriate syntactic properties match. This appears to be the position implicit in Anderson's extensive work on inflection (1977, 1984, 1985, 1988, 1990, 1991), for example, as well as the early generative work on morphology represented by Halle (1973) and Aronoff (1976). Let me call this the Morphology First position.

The point of this brief paper is not to resolve this issue, but rather to bring to light some facts about verb inflection that bear on this question. Inflectional paradigms of verbs promise to be of some significance in this matter, precisely because, pre-theoretically, they appear both to have properties of both syntactically imposed structure as predicted by those favoring incorporation and also to contain inflectional "idioms" and have a rigidity of structure that a lexicalist position would predict.

An inflectional gap. Let us start by looking at a class of gaps in verb paradigms with subject-object agreement systems. One apparently universal feature of such systems is that they never have forms which would realize cases in which the one of the terms refers to a set of entities which properly includes the entities referred to by the other.² That is, the following combinations are never realized:

- | (1) | Subject includes object | Object includes subject |
|-----|--|--|
| (a) | 'We <i>verb</i> me.' | 'I <i>verb</i> us.' |
| (b) | 'You <i>pl verb</i> you <i>sg</i> .' | 'You <i>sg verb</i> you <i>pl</i> .' |
| (c) | 'We <i>incl verb</i> you <i>sg/pl</i> .' | 'You <i>sg/pl verb</i> us <i>incl</i> .' |

Of course, when the subject exhaustively includes the object, reflexive forms are used, but in no case that the present author knows about can reflexives be used in the meanings summarized in (1). Notice, of course, that languages which do not have distinct inclusive/exclusive forms in first person plural do have *we-on-you* forms and *you-on-us* forms. Thus (1c) is a ban on possible forms only for languages that have an inclusive/exclusive distinction marked in their agreement morphology.

Below are given example subject-object agreement systems from four unrelated languages of the Western Hemisphere representing each of the major two-term agreement system types, nominative/accusative, absolutive/ergative, active/stative, and syntactically loaded. This typology is discussed in Rhodes

(1991). In the following examples the gaps in the paradigm that were summarized in (1) are indicated by a long dash in a box. The places that would be filled with reflexive forms are indicated with the abbreviation REFL in small caps. We factor out the reflexive forms like this because they form their own subsystems, either acting like verbs with simple third person objects or acting like simple intransitives. In either case, including them would only serve to obscure the morphemic structure from which the agreement typology can be seen.

The first system is a nominative/accusative system. It is laid out in (2) with the subject markers indicated by underlining and the object markers indicated by boldface.³ This system does not have an inclusive/exclusive distinction, so only forms corresponding to (1a) and (1b) are missing.

(2) nominative/accusative system — Nahuatl (Classical) (Andrews, 1975)

<i>noca</i>	'call'			
(a) <u>singular objects</u>	<i>intransitive</i>	'... me'	'... you sg.'	'... him'
'I...'	<u><i>ninoca</i></u>	REFL	<u><i>nimicnoca</i></u>	<u><i>niknoca</i></u>
'you sg. ...'	<u><i>tinoca</i></u>	<u><i>ținečnoca</i></u>	REFL	<u><i>tiknoca</i></u>
'he ...'	<i>noca</i>	<i>nečnoca</i>	<i>micnoca</i>	<i>kinoca</i>
'we ...'	<u><i>tinoca?</i></u>	—	<u><i>timicnoca?</i></u>	<u><i>tiknoca?</i></u>
'you pl. ...'	<u><i>annoca?</i></u>	<u><i>annečnoca?</i></u>	—	<u><i>ankinoca?</i></u>
'they ...'	<u><i>noca?</i></u>	<u><i>nečnoca?</i></u>	<u><i>micnoca?</i></u>	<u><i>kinoca?</i></u>
(b) <u>plural objects</u>	'... us'	'... you pl'	'... them'	
'I...'	—	<u><i>namečnoca</i></u>	<u><i>nikimnoca</i></u>	
'you sg. ...'	<u><i>titečnoca</i></u>	—	<u><i>tikimnoca</i></u>	
'he ...'	<i>tečnoca</i>	<i>amečnoca</i>	<i>kimnoca</i>	
'we ...'	REFL	<u><i>tamečnoca?</i></u>	<u><i>tikimnoca?</i></u>	
'you pl. ...'	<u><i>antečnoca?</i></u>	REFL	<u><i>ankimnoca?</i></u>	
'they ...'	<u><i>tečnoca?</i></u>	<u><i>amečnoca?</i></u>	<u><i>kimnoca?</i></u>	

The second kind of system is an absolutive/ergative system. An example is laid out in (3) with the subject markers again indicated by underlining and the object markers indicated by boldface.⁴ For clarity the intransitives are aligned above the transitives. This system also lacks an inclusive/exclusive distinction, so again only the forms corresponding to (1a) and (1b) are missing.

(3) absolutive/ergative system — Tzutujil (Mayan) (Dayley 1981)

-wari 'sleep' completive aspect

(a) (i) <u>singular subjects</u>	<u>'I ...'</u>	<u>'you sg. ...'</u>	<u>'he ...'</u>
<i>intransitive</i>	<i>šinwari</i>	<i>šatwari</i>	<i>šwari</i>
	-čey 'hit' completive aspect		

(ii) <u>singular objects</u>	<u>'... me'</u>	<u>'... you sg.'</u>	<u>'... him'</u>
'I...'	REFL	<i>šatnuučey</i>	<i>šinčey</i>
'you sg. ...'	<i>šinačey</i>	REFL	<i>šačey</i>
'he ...'	<i>šinruučey</i>	<i>šatruučey</i>	<i>šuučey</i>
'we ...'	—	<i>šatqačey</i>	<i>šqačey</i>
'you pl. ...'	<i>šinečey</i>	—	<i>šečey</i>
'they ...'	<i>šinkečey</i>	<i>šatkečey</i>	<i>škečey</i>

(b) (i) <u>plural subjects</u>	<u>'we ...'</u>	<u>'you pl. ...'</u>	<u>'they ...'</u>
<i>intransitive</i>	<i>šoqwari</i>	<i>šišwari</i>	<i>šeewari</i>

(ii) <u>plural objects</u>	<u>'... us'</u>	<u>'... you pl'</u>	<u>'... them'</u>
'I...'	—	<i>šišnuučey</i>	<i>šeenuučey</i>
'you sg. ...'	<i>šoqačey</i>	—	<i>šeʔačey</i>
'he ...'	<i>šoqrūčey</i>	<i>šišrūčey</i>	<i>šeerūčey</i>
'we ...'	REFL	<i>šišqačey</i>	<i>šeeqačey</i>
'you pl. ...'	<i>šoqečey</i>	REFL	<i>šeʔeečey</i>
'they ...'	<i>šoqkečey</i>	<i>šiškečey</i>	<i>šeekēčey</i>

The third type of system is an active/stative system. It is presented in (4) with the subject markers again indicated by underlining and the object markers indicated by boldface.⁵ For clarity the stative intransitives are aligned above the transitives and the active intransitives are aligned to the right of the object marked forms. This system also lacks an inclusive/exclusive distinction, so again there are only gaps corresponding to (1a) and (1b).

(4) active/stative system — Lakhota (Siouan) (Buechel 1983)

kakiža 'suffer' (stative stem)

(a) (i) <u>singular subjects</u>	'I ...'	'you sg. ...'	'he ...'
<u>stative intrans</u>	<i>makakiže</i>	<i>nicakiže</i>	<i>kakiže</i>
<i>kaštaka</i>	'strike'		
(ii) <u>singular objects</u> <u>active intrans</u>	'... me'	'... you sg.'	'... him'
'I...'	<i>wakaštaka</i>	REFL <i>chicaštaka</i>	<i>wakaštaka</i>
'you sg. ...'	<i>yakaštaka</i>	REFL <i>mayakaštaka</i>	<i>yakaštaka</i>
'he ...'	<i>kaštaka</i>	<i>makaštaka</i>	<i>nicaštaka</i>
			<i>kaštaka</i>
'we ...'	<i>ykaštakapi</i>	—	<i>unicaštakapi</i>
			<i>ykaštakapi</i>
'you pl. ...'	<i>yakaštakapi</i>	<i>mayakaštakapi</i>	—
			<i>yakaštakapi</i>
'they ...'	<i>kaštakapi</i>	<i>makaštakapi</i>	<i>nicaštakapi</i>
			<i>kaštakapi</i>
(b) (i) <u>plural subjects</u>	'we ...'	'you pl. ...'	'they ...'
<u>stative</u>	<i>ukakižepi</i>	<i>nicakižepi</i>	<i>kakižepi</i>
(ii) <u>plural objects</u>	'... us'	'... you pl'	'... them'
'I...'	—	<i>chicaštakapi</i>	<i>wichawakaštaka</i>
'you sg. ...'	<i>yukaštakapi</i>	—	<i>wichayakaštaka</i>
'he ...'	<i>ykaštakapi</i>	<i>nicaštakapi</i>	<i>wichakaštaka</i>
'we ...'	REFL	<i>unicaštakapi</i>	<i>wichykaštakapi</i>
'you pl. ...'	<i>yukaštakapi</i>	REFL <i>wichayakaštakapi</i>	
'they ...'	<i>ykaštakapi</i>	<i>nicaštakapi</i>	<i>wichakaštakapi</i>

The fourth type of system is a syntactically loaded system. Typologically this class of systems is less coherent than the other types. A very approximate characterization of them is that the morphology of agreement suggests an analysis in which the transitive forms could be viewed as being of two or more syntactically distinct clause types. Such systems are found in Salishan languages, which have passives for certain subject-object combinations. Also included in this class are inverse systems like those found in Algonquian, Wakashan, some Hokan languages⁶, and various isolates, like Kutenai. In this type are also the Tanoan systems which have elaborate agreement systems that include incorporations as well as other adjustments of clause type (Allen, *et al* 1990, Rosen 1990). An Algonquian example of an inverse system is shown in (5) with the morphology marked to highlight a syntactic analysis. Subject markers are indicated by underlining and the markers that distinguish simple forms from inverse are indicated by boldface. This system has an inclusive/exclusive distinction, so all the forms listed in (1) are missing.

- (5) syntactically loaded system (inverse) — Southwestern Ojibwe (Baraga 1878)
waabid 'see' intransitive, *waabandang* 'see (inanimate object)', *waabamaad* 'see (animate object)'

(a) singular objects	'... it'	'... you sg'	'... me'	'... him'
'you sg ...'	<i>giwaab</i>	REFL	<i>giwaabam</i>	<i>giwaabamaa</i>
'I ...'	<i>niwaab</i>	<i>giwaabamin</i>	REFL	<i>niwaabamaa</i>
'he ...s'	<i>wabi</i>	<i>giwaabamig</i>	<i>niwaabamig</i>	<i>qwaabamaan</i>
'you pl ...'	<i>giwaabim</i>	—	<i>giwaabamin</i>	<i>giwaabamaawaa</i>
'we incl ...'	<i>giwaabimin</i>	—	—	<i>giwaabamaandan</i>
'we excl ...'	<i>niwaabimin</i>	<i>giwaabamigoo</i>	—	<i>niwaabamaanaan</i>
'they ...'	<i>wabiwag</i>	<i>giwaabamigoo</i>	<i>niwaabamigoo</i>	<i>qwaabamaawaan</i>
(b) plural objects	'... you pl'	'... us incl'	'... us excl'	'... them'
'you sg ...'	—	—	<i>giwaabamin</i>	<i>giwaabamaag</i>
'I ...'	<i>giwaabamininim</i>	—	—	<i>niwaabamaag</i>
'he ...s'	<i>giwaabamigowaa</i>	<i>giwaabamigonaan</i>	<i>niwaabamigonaan</i>	<i>qwaabamaan</i>
'you pl ...'	REFL	—	<i>giwaabamin</i>	<i>giwaabamaawaa</i>
'we incl ...'	—	REFL	—	<i>giwaabamaannanig</i>
'we excl ...'	<i>giwaabamigoom</i>	—	REFL	<i>giwaabamaanaanig</i>
'they ...'	<i>giwaabamigowaag</i>	<i>giwaabamigonaanig</i>	<i>niwaabamigonaanig</i>	<i>qwaabamaawaan</i>

I want to argue here that the systematic series of gaps listed in (1), though semantically based, is a reflection of a syntactic constraint. The facts were first noticed by Postal (1966, 1971) who called his observation the Inclusion Constraint. He observed that sentences violating the clauses of (1a) and (1b) are ungrammatical (Postal 1971:77), as shown in (6).

- (6) (a) (i) *We saw me in the mirror.
 (ii) *I gave us a small donation.
 (b) (i) *You (guys) sent you a message.
 (ii) *You heard you (guys) on the radio.

He of course did not observe the (1c) cases, but they can be seen even in English in the difficulty of getting inclusive readings of sentences like those in (6c).

- (6) (c) (i) We (**excl*) saw you in the mirror.
 (ii) You gave us (**excl*) a small donation.

There are more subtleties to the English constraint, but they are beyond the scope of this paper. All that is important here is the argument that the Inclusion Constraint is syntactic. It runs as follows: the meanings expressed in the sentences in (6) are not logically inconsistent, therefore it must be, at least in part, a fact of clause structure that these sentences are bad. This analysis is further corroborated by observing that for sentences banned by the Inclusion Constraint which have close paraphrases of a different structure such that one of the terms in the simple sentence is not a nuclear term in the paraphrase, the paraphrases are significantly better, as shown in (7).⁷

- (7) (?) I gave a small donation to us.

Given that the Inclusion Constraint is syntactic in nature, the existence of the gaps in paradigms like that outlined above is *prima facie* evidence that the internal structure of an inflectional system can be governed by syntactic constraints. There are further possible arguments to this effect in the structure of syntactically loaded systems. For example, there is a constraint on clause structure in Ojibwe such that no transitive clause may have as its surface subject an inanimate nominal. This is known as the Inanimate Ergative Ban (Perlmutter and Rhodes 1988). It operates not on grammatical inanimacy but on notional inanimacy. Consider sentences like those in (8), taken from the Ottawa dialect. They contain both subjects and objects, *mshiimin* 'apple' and *pwaagan* 'pipe', which are grammatically animate but notionally inanimate. They are therefore ungrammatical.

- (8) (a) **Wgii-bsikwaan mshiimin niw pwaagnan*. 'The apple struck the pipe.'
 (b) **Wgii-bsikaagoon aw pwaagan mshiimnan*. 'The apple struck the pipe.'

Notice that this constraint must be syntactic and not morphological because the verb forms, *wgii-bsikwaan* 'he struck him *obv*' and *wgii-bsikaagoon* 'he *obv* struck him', are perfectly well-formed. This constraint accounts both for the fact that there are no verb forms available to express inanimate acts on inanimate and for the distribution of inverse verb forms in the clauses containing notional inanimates, since inverse verb forms arise where notional subjects and objects have reversed grammatical relations (Perlmutter and Rhodes 1988). Again this is a constraint which governs the structure of a verb paradigm.

Morphological constraints. But on the other hand there are clauses in Ojibwe that are unsayable, not because they are banned by any syntactic consideration, but solely because there is no appropriate morphology to express the meanings in question. For example, one can have independent transitive clauses with inanimate notional subjects of either grammatical animacy. This is exemplified in the following Ottawa sentences. In (9) *sin* 'stone' is grammatically inanimate and *mshiimin* 'apple' is grammatically animate.

- (9) (a) *Ngii-bsikaagon niw sin.* 'The stone struck me.'
 (b) *Ngii-bsikaag aw mshiimin.* 'The apple struck me.'

But in the conjunct, only clauses with grammatical inanimates are possible, because there are no inverse verb forms available in the conjunct for first and second person objects.

- (10) (a) *Mii-sh gii-bsikaagyaan niw sin.* 'Then the stone struck me.'
 (b) *Mii-sh* $\left\{ \begin{array}{l} *gii-bsikwid \\ ?*gii-bsikaagyaan \\ *gii-bsikaagooyaan \end{array} \right\}$ *aw mshiimin.* 'The apple struck me.'

In (10b) the first form *bsikwid* is bad because it violates the Inanimate Ergative Ban. The second form is bad because it is the form appropriate to grammatical inanimates. And the third form is bad because it is the passive. These three forms exhaust the available morphology for forming this person number combination. None is good. This suggests that the structure of the verb forms in some way precedes the syntax.

A second argument that the morphological forms can't be assembled from the syntax is given in conjunct inflections with plural non-third persons. A number of these forms simply lack some of the appropriate morphology necessary to be unambiguous, yet the forms have no ambiguity; they are listed in (11).

(11) Southwestern Ojibwe (Baraga, 1878)

<i>waabamiyaang</i>	'(that) you hear us <i>excl</i> '
<i>waabam</i> + <i>i</i> + <i>yaang</i>	
see 1 OBJ 1 EX PL	
<i>waabaminang</i>	'(that) he hears us <i>incl</i> '
<i>waabam</i> + <i>in</i> + <i>yangw</i>	
see 2 OBJ 1 IN PL	
<i>waabamineg</i>	'(that) he hears you <i>pl</i> '
<i>waabam</i> + <i>in</i> + <i>yegw</i>	
see 2 OBJ 1 PL	

Again this is only possible if there is a paradigm structure so that it can be known that all the other possible ambiguities are expressed in other forms. Such paradigm structures must precede in some logical sense, the syntactic demands which would simply supply the appropriate morphology automatically. This class of 'inflectional idioms' again provides a *prima facie* argument for the existence of pre-syntactic inflectional complexes.

Conclusion. Given that there is evidence for both the Syntax First position and for the Morphology First position, we are faced with a paradox. The best way out is to have a theory which predicts both syntactically active morphological processes and word-formation in the lexicon. Construction grammar (Fillmore and Kay 1993) is just such an approach.

NOTES

¹I would like to thank Fred Lupke and Sharon Inkelas for the various discussions that have contributed significantly to this paper. The usual disclaimers apply.

² These facts were first observed by Postal (1966) in a footnote to an article about Mohawk verb agreement.

³ It can be seen that this is a nominative/accusative system by the fact that the same morphology is used to mark the subject of transitive as the subject of intransitive.

⁴ It can be seen that this is an absolutive/ergative system by the fact that the same morphology is used to mark the object of transitive as the subject of intransitive.

⁵ It can be seen that this is an active/stative system by the fact that there are two kinds of intransitive inflection, in the one, the active, the morphology that is used to mark the subject of transitive is used for marking subjects. In the other, the stative, the morphology that is used to mark the object of transitive is used for marking the subject.

⁶Yana/Yahi has an inverse system and it is claimed that the modern system in Karuk points to an earlier inverse system (MacCawley, 1992).

⁷Passives are not a particularly good test of the Inclusion Constraint because of the strangeness of passive clauses with overt but unstressed non-third person agents.

(12) (?) He was given a small donation by me.

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Paradigmatic and syntagmatic mechanisms for syntactic change in Athapaskan*
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1. Introduction

The third-person morphemes which developed from Proto-Athapaskan *y- and *w- have posed one of the longest-lived problems in the study of the morphosyntax of Athapaskan languages. Considerable attention has been given to their use in particular languages (Frishberg 1972, Hale 1973, 1987, Perkins 1978, Platero 1982, Saxon 1986, Sandoval and Jelinek 1989, Thompson 1989b, Speas 1990, Uyechi 1991, Rice 1991, Willie 1991, and Parsons and Speas 1992, for example), as well as in the family as a whole (Thompson 1979, 1989a, Rice and Saxon 1991, Saxon and Rice 1992). In this paper, we focus on the properties of the pronoun *y-. Following Saxon 1984, 1986, Rice and Saxon 1991, and Saxon and Rice 1992, we propose that *y- is a third person anaphor that can, under certain conditions, appear as a subject. In one Athapaskan language, Hupa, *y- is found under rather different conditions: it is a third person subject agreement marker. Unlike *y- in the other languages, Hupa y- exhibits no anaphoric properties. We explore in this paper how this situation might have developed in Hupa, a language that appears to be typologically unique within the Athapaskan family. We suggest that a process of paradigm regularization resulted in Hupa y- being reanalysed as a subject prefix. The particular meaning of this subject prefix in Hupa we see as an effect of syntactic conditions on *y-. We conclude that Hupa y-, historically and in the present, illuminates what it is to be a subject.

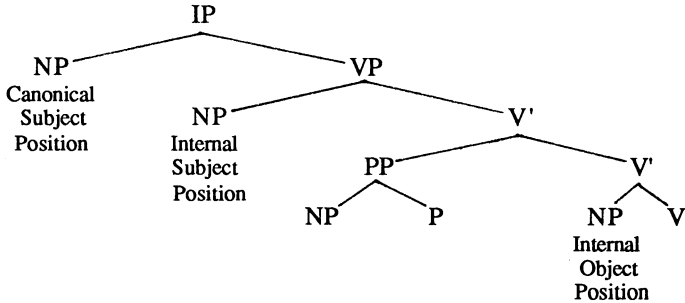
2. Background

In our earlier work on this question, we argue that the third person pronominal morpheme *y- is a syntactic anaphor, occurring only in contexts where it is licensed by a third person clausemate argument from which it is disjoint in reference. A circumstance which strongly favours treating y- as a syntactic anaphor is the fact that it and the third-person NP with which it necessarily cooccurs are clausemates. Clause-boundedness is a common property of the relationship between a reflexive or reciprocal and its antecedent, and is required for reflexives or reciprocals in Athapaskan.

While we take y- to be an anaphor, it shows an unusual property in many Athapaskan languages: it can be a subject. In order to account for this, we adopt a structural assumption which permits y- as an anaphor to occur in subject position in some instances. This assumption is based on a hypothesis developed by Kuroda 1988, Sportiche 1988, and others, that all subject NPs originate within the verb phrase. While many subjects move out of the verb phrase into the canonical subject position, under some circumstances a subject remains within the VP. In such a position, according to our hypothesis, there is the possibility that y- may occur as a subject.

The basic structure we assume for clauses in Athapaskan, incorporating this assumption, is sketched in (1).¹

(1)



The structure in (1) allows *y-* as an anaphor to fill the position of the internal subject, the object of a postposition, or the direct object, provided that a distinct third person licenser NP exists somewhere in the tree.

As Thompson 1989a notes in a cross-family survey of the use of **y-*, only in some Athapaskan languages does *y-* in fact occur as a subject. To account for this and other kinds of cross-linguistic variation in the distribution of *y-*, we propose that the languages of the family differ according to restrictions on the licenser of the disjoint anaphor, conditions on the movement of an NP from internal to canonical subject position, and cooccurrence restrictions on NPs and pronouns. For a language like Hupa, in which the distribution of *y-* is significantly different than in other languages, we suggest that a restructuring has taken place.

For reasons of space, we will use a single language, Koyukon, to represent the usual Athapaskan pattern. Koyukon will provide the background against which we present the restructured pattern seen in Hupa. We present our analysis of languages besides these two in a table only; however, we refer you to Rice and Saxon (in preparation) for details and argument.

3. Koyukon

In the examples in this section we recapitulate Thompson's (1989a) description of the contexts in which *y-* occurs in Koyukon. The most familiar of these to students of Athapaskan is as the third person object of a verb or postposition when a human third person is subject.²

- (2) John *yeneet'aanh.*
 y:DO-theme-CL-see
 'John is looking at him/her' (Thompson 1989a:40)

- (3) John *yagh* *neeneeyo.*
 y:OO-to *up-Perf-walk*
 'John walked up to him/her' (Thompson 1989a:40)

In these examples third person subject agreement (agreement with 'John') is zero. *Y-* indicates a third person direct object (2) or oblique object (3) which is non-coreferential with the subject.

The possibility also exists in Koyukon for *y-* to occur in a sentence with a non-third person subject. This possibility arises when the following general conditions on *y-* in Koyukon are met: first, there must be another licensing third person NP within the simple clause--for instance, an oblique or postpositional object. Second, *y-* occurs only in complementary distribution with an overt NP filling the same grammatical role. Further, when the licensing NP is a non-subject, it must be

pronominal. Examples are given below. Note the first person subjects in these sentences. The prefix *b-*, reflex of Proto-Athapaskan **w-*, marks a third person pronominal in Koyukon.

- (4) *Bugh* *yooghaskaat*.
3:OO-from y:DO-theme-Perf-1s:S-buy
 'I bought it from him/her' (Thompson 1989a:45)

- (5) *Bet'o* *yens'oyh*.
3:OO-to y:DO-1s:S-give
 'I am giving it to him/her' (Thompson 1989a:45)

In (4) and (5) *b-* represents an oblique object and *y-* the direct object of the verb.

The examples below show that all of the conditions mentioned must indeed be met. Ungrammaticality is produced when there is no licensing third person NP, as in (6), and when that licensing NP is non-pronominal, as in (7).

- (6) * *Yooghaskaat*
y:DO-theme-Perf-1s:S-buy
 (I bought it) (Thompson 1989a:46)

- (7) * *John ghu yooghaskaat*
from y:DO-theme-Perf-1s:S-buy
 (I bought it from John) (Thompson 1989a:46)

The circumstances are similar when third person subjects in Koyukon occur marked by the prefix *y-*. In this case, the licensing third person pronominal may stand as a direct, oblique, or postpositional object. It is realized as *b-*. Examples of *y-* occurring as a subject prefix follow:

- (8) a. *Yet'o beyegheettaanh*.
y:OO-to 3:DO-y:S-Perf-CL-give
 'It (y) gave him (b) to her/it (y)' (Leer 1990)
 b. *Bet'o yeyegheettaanh*.
3:OO-to y:DO-y:S-Perf-CL-give
 'It (y) gave him (y) to her/it (b)' (Leer 1990)

These examples involve the ditransitive verb 'give'. In (8a) the third person pronominal direct object licenses *y-* as the marker of third person subject and third person oblique object; in (8b), subject and direct object are marked by *y-*, licensed by the pronominal oblique object. Both of these sentences contrast with (9) below, in which third person direct and oblique objects are marked by *y-*, licensed by the zero-marked third person subject.

- (9) *Yet'o yegheettaanh*.
y:OO-to y:DO-Perf-CL-give
 'He gave it (y) to her/it (y)' (Leer 1990)

The three sentences in (8) and (9) differ in interpretation. In contrast with (9), the direct object in (8a) is topical, while in (8b) the oblique object is topical. Non-topical subjects are preferentially interpreted as non-human in Koyukon, a point to which we will return in our discussion of Hupa.

(10) and (11) provide further examples of *y-* occurring as a subject prefix.

- (10) *Beyeneet'aanh.*
3:DO-y:S-theme-CL-see
 'S/he is looking at him/her' (Thompson 1989a:40)

- (11) *Bugh neeyeeneeyo.*
3:OO-to up-y:S-Perf-walk
 'S/he walked up to him/her' (Thompson 1989a:41)

(11) strongly supports the claim that *y-* may occur as a subject: as 'walk' is intransitive, the agreement element which we see in the verb cannot be other than a subject marker. These examples contrast with (2) and (3) in having pronominal subjects. They also contrast with (12), in which the pronominal object is a full NP.

- (12) *John ghu neeneeyo.*
 to up-Perf-walk
 'S/he walked up to John' (Thompson 1989a:36)

In these contexts *y-* cannot occur as subject.

We propose the following to account for the distribution of the third person form *y-* in Koyukon. Its presence is dependent on the existence of a distinct third person elsewhere within the simple clause. This distinct third person NP we will call the licenser for *y-*. If the licenser occupies the canonical subject position, then *y-* may occur in any position lower in the tree structure. If the licensing NP is not a subject, it must be pronominal. We display these generalizations in the statement below.

- (13) Licensing Conditions on *y-* (Koyukon)
 A third person NP# licenses *y-* agreement for a clausemate NP* which it c-commands. If NP# is not in a subject position, NP# must be pronominal.

According to (13), a licenser must c-command the NP showing *y*-agreement.³ The licenser must furthermore have one of two distinguishing marks of grammatical prominence: it must be a subject, or a pronoun. Given the requirement for c-command, any subject which is marked by *y-* must occupy the internal subject position.

When does an NP move from the internal to the canonical subject position? Our interpretation of Thompson's observations lead us to the following hypothesis:

- (14) Subject Movement in Koyukon
 Topical human subjects must move to the canonical subject position. The movement of non-human subjects is only marginally possible.

Thompson 1989a, 1989b provides the following examples showing a contrast between human and non-human subjects in relation to *y-* agreement.

- (15) a. *John yeneet'aanh.*
 y:DO-theme-CL-see
 i. 'John (topic) is looking at him/her' (Thompson 1989a:40)
 ii. 'John (non-topic) is looking at him/her'
- b. *John beneet'aanh.*
 3:DO-theme-CL-see
 i. * 'John (topic) is looking at him/her' (Thompson 1989b)
 ii. 'John (non-topic) is looking at him/her'

- (16) a. ? Deneega yeneet'aanh.
 moose y:DO-theme-CL-see
 (The moose is looking at him/her) (Thompson 1989a:43)
- b. Deneega beneet'aanh.
 moose 3:DO-theme-CL-see
 'The moose is looking at him/her' (Thompson 1989a:42)

The sentences in (15), which contain the human subject *John*, show that a pronominal direct object in this context may be overtly marked either by the anaphoric *y*-agreement or by the 'ordinary' third person pronominal *b*-. However, (15b) shows that the latter possibility exists only when the subject is non-topical, and by hypothesis occupies the internal subject position. (16), with the non-human subject *deneega* 'moose', is fully grammatical only with pronominal agreement *b*-. This contrast follows from the condition on subject movement stated in (14). *Deneega* 'moose' cannot move from the internal subject position. In the internal subject position it potentially licenses *y*-agreement with the direct object, yielding (16a). However, this same form is potentially understood as having *deneega* in canonical subject position, contrary to the condition in (14). We postulate that speakers' uneasiness with the very salient ungrammatical interpretation of (16a) is what leads to their finding (16b) "far preferable" (Thompson 1989a:42) to (16a).

A further illustration of the condition on subject movement can be seen in the contrast between the following two examples, which involve only human NPs.

- (17) Ygh neeneeyo.
 y:OO-to up-Perf-walk
 'S/he (topic) walked up to him/her' (Thompson 1989a:40)
- (18) Bgh neeyeeneeyo. (= (11))
 3:OO-to up-y:S-Perf-walk
 'S/he walked up to him/her (topic)' (Thompson 1989a:41)

These examples differ from each other in topicality. In (18), the oblique object is topical; in (17), the subject is. According to the condition on subject movement, a topical human subject must move to the canonical subject position. Therefore, the non-overt pronominal subject in (17) occupies this position. From here it serves as a licenser for *y*- as oblique object agreement lower in the tree. In (18), however, the subject is non-topical, and does not move to the canonical subject position, remaining instead in the internal subject position. Since in this position it is c-commanded by the pronominal oblique object NP, the object can license *y*- as (internal) subject agreement.

Our account of the distribution of *y*- in Koyukon has relied first and foremost on our claim that *y*- is a syntactic anaphor with limited privileges of occurrence dependent on structure. The potential in Koyukon for *y*- to mark subject follows from assumptions we make about clause structure and about conditions on the movement of subjects from VP-internal to canonical subject position.

4. Summary: the anaphoric use of *y*-

The table in (19) displays our conclusions about Koyukon and summarizes our general findings about other languages of Alaska, Sarcce, and languages of the Mackenzie and Apachean branches of the family.

(19)	Koyukon and general Alaskan, Sarcee	Mackenzie, Apachean
licensing conditions for y-	y- licensed by 3 person c-commanding clausemate	y- licensed by 3 person canonical subject
subject movement from VP-internal to canonical subject position	under conditions of topicality, agentivity, humanness, etc.	obligatory

The third person prefix *y-* is an anaphor in all of these languages, being licensed by another third person within its clause. Structural conditions and conditions on subject movement predict that Koyukon and its class of languages will allow *y-* as a marker of subjects when the subject is nontopical, non-agentive, non-human, and the like. For the Mackenzie and Apachean languages, the conditions predict that *y-* will never mark subjects.

5. Hupa

In Koyukon and the other languages represented in (19), *y-*, whatever its grammatical function, occurs only in clauses which contain at least two third person NPs. At first glance, Hupa appears to be similar to the other languages, as the transitive forms in (20) show. In these examples, we find third person subject and object, and the pronoun *y-* is present. Given our knowledge of other Athapaskan languages, we suspect that *y-* marks the third person object pronoun, as it does elsewhere in the family.

- (20) *Yaytiwh.*
'Something (e.g. flooding river) picks (e.g. log) up' (Golla p.c.)

Yil̥kis.
'It (e.g. a tree limb in the wind) hits it' (Golla p.c.)

On closer examination, the distribution of *y-* in Hupa is quite different from that of *y-* in the other languages. First, while *y-* in the other languages appears in a transitive clause only when both subject and object are third person, this is not true in Hupa. This can be seen in the transitive sentence in (21).

- (21) *Yil̥wicis.*
y:S-Is:DO-see
'It sees me' (Golla 1970:99)

In this example, though there are two participants in the event, only one of them, the experiencer subject, is third person. This subject is marked by *y-*; *W-* marks the first person singular direct object.

Examples with intransitive verbs provide even more striking support for the fact that *y-* is a subject agreement form rather than an anaphor in Hupa. In the examples in (22)-(25), the verbs are intransitive, and the event described in each involves just the single argument of an intransitive verb. The fact that the single argument of these clauses is signalled by *y-* shows clearly that in Hupa, *y-* functions as subject agreement.

- (22) *Nayxe'ine:W.*
y:S-speak again
'It always speaks again' (Golla 1970:99)

- (23) Mije'e:diŋ yisahlh.
 baby *y-:Syawn*
 'The baby yawns' (Golla p.c.)
- (24) Yiwinchiw.
 y:S-Perf-cry
 'It cried' (Thompson ms)
- (25) Chwing yileh.
 dirty y:S-become
 'It (e.g. dog) gets dirty' (Golla p.c.)

Finally, Hupa intransitives with oblique objects also illustrate that *y-* functions as a subject. In the example in (26), *mi-* marks a third person oblique object. The prefix *y-* is also present; again in this case it can be nothing but subject agreement.

- (26) Miydindiŋ.
 3:OO-y:S-want (Golla p.c.)
 'It (y-; e.g. animal; supernatural force) wants it (*m-*)'

Extending our investigation, we find that Hupa *y-* is restricted to marking a sub-class of third person subjects. This sub-class is described by Goddard (1911:117) as other than adult Hupas, by Thompson (1993) as non-human or non-topical subjects, and by Golla (1970, 1984) as animals or inanimate forces capable of initiating an action, and 'a child, a woman, or someone in a highly structured [social] role'. The examples above therefore contrast with (27)-(31), which show *ch'i-* marking a human subject and zero marking a non-human subject.⁴ (*Ch'i-* is glossed '4' for 'fourth person.')

- (27) Ch'iwinchiw. (Thompson 1993)
 4:S-Perf-cry
 'He/she cried'
- (28) Winchiw. (Thompson 1993)
 Ø-Perf-cry
 'It cried'
- (29) Ch'itkis. (Golla p.c.)
 4:S-hit
 'He hits it'
- (30) Chwing ch'ileh. (Golla p.c.)
 dirty 4:S-become
 'He gets dirty'
- (31) Chwing 'ileh. (Golla p.c.)
 dirty Ø-become
 'It (object) gets dirty'

Both zero and *y-* mark nonhuman subjects in Hupa; however, they appear to have somewhat different force. Consider the following sets of sentences.

- (32)a. i. Łiwhin. (Golla p.c.)
 Ø-be black
 'It is black'
 no *y-* form

- ii. Chwing 'ileh. (Golla p.c.)
dirty Ø-become
 'It (object) gets dirty'
 Chwing yileh. (Golla p.c.)
dirty y:S-become
 'It (e.g. dog) gets dirty'
- b. i. 'a:ne. (Golla p.c.)
Ø-say something, make a noise
 'It (e.g. dog) 'says' something'
 no y- form
- ii. Yixine:wh. (Golla p.c.)
y:S-speak
 'It (e.g. child) is speaking'
-
- no Ø form

As these examples show, while some verbs are acceptable with either a y- or a null subject, this is not the case with all verbs. It appears to us that the difference between the verbs that allow y- subjects and those that do not might be one of control: with a zero subject, the subject has no control over its actions, while with a y- subject, the subject can exercise control. Consider, for instance, (32a). The verb 'be black' is stative. A subject has no control over a state such as this. In the case of the verb 'become dirty', on the other hand, we observe that either subject marking is possible. When a subject is capable of control, y- is found; when it is not, the null subject is present. The difference between the verbs in (32b) is less clear to us, but it appears that speaking may be thought of as an action that is under control while making a noise is involuntary and not under any kind of control.

Our understanding of the semantics of the Hupa pronoun y- remains somewhat vague, but one thing is clear about Hupa: y- represents subject agreement. In view of the significant difference between Hupa and the other languages we have looked at, it is worthwhile to consider how the reanalysis which led to the current state of affairs in Hupa might have come about in the history of the language.

It is our view that paradigmatic considerations yield an important clue to the reanalysis we postulate. Navajo, Sarcee, and Mattole are three languages which are closely related to Hupa. Let us consider a simple paradigm in each of these languages, the singular subject paradigm for a transitive verb with a third person pronominal direct object.

- | | | | | |
|------|---------|--|---|-------------------------------|
| (33) | Navajo | dishtë
dîlé
yîdîlé | 'I carry it'
'you carry it'
's/he carries it' | (Y&M 1987:336, 332) |
| (34) | Sarcee | nàdînisʔih
nàdînisʔih
nàyîdisʔih | 'I'll go to see him'
'you'll go to see him'
's/he will go to see him' | (Cook 1984:287) |
| (35) | Mattole | gic'á'
giŋ'á'
ge'yó'a' | 'I throw it [cloth] away'
'you throw it [cloth] away'
'let him throw it [cloth] away' | (Li 1930:20, 73) ⁵ |

In the transitive paradigms in these languages, first and second person subject agreement is overt, a sibilant and a nasal respectively, but third person subject

agreement is unmarked. On the other hand, the third person pronominal direct object is signalled overtly only in the context of a third person subject, where it takes the form *y-* which we have been considering. In light of these facts, it is easy to imagine a language regularizing the paradigm so as to have the overt marker always marking subjects and the object consequently never marked.⁶ In this case, *y-* emerges as subject agreement. The evidence of the reanalysis comes when the use of the morpheme as subject agreement is extended to intransitive contexts such as those in examples (22)-(25), and in the intransitive Hupa paradigm below.

- (36)
- | | | |
|-----------|-------------------|------------------------|
| 'iwhsahlh | 'I yawn' | |
| 'insahlh | 'you yawn' | |
| yisahlh | 'it yawns' | |
| ch'isahlh | 's/he yawns' | |
| 'isahlh | 'something yawns' | (Golla 1984, and p.c.) |

In Hupa, however, *y-* marks only a certain subclass of third person subjects, the core set being non-humans. It is a question, therefore, why it is that *y-* should have this restricted interpretation rather than any other. We would like to suggest that this facet of *y-* in Hupa has its origins in the functions of *y-* as a subject crosslinguistically in Athapaskan. For Koyukon and other languages of its class, the structural conditions laid out in the table in (19) conspire to yield the result that subjects marked by *y-* in these languages commonly refer to non-human or inanimate subjects. We provide in (37) a number of examples from Koyukon and other languages showing subjects marked by *y-*.

- (37) a. Sarcee mayit'ih 'it (y) does like him/her (b)'
 (Cook 1984) 3:DO-y:S-do like
- b. Tanaina nunigi vel yuchet 'fog (y) is lifting with him/her (b)'
 (Tenenbaum 1978) fog 3-with y:S-lift
- tiqin chiveydaŋyuk 'the wolf (y-) killed him/her (b-)'
 wolf 3:DO-y:S-kill
- c. Ahtna u'eŋ yayaat 's/he/it (y-) is walking with him/her (b-)'
 (Kari 1990) 3:OO-with y:S-walk
- ba tayghighel 'it (y-) fell in the water on him (b-)'
 3:OO-at water-y:S-Perf-fall
- biinaŋaen 'it (y-) is looking at him (b-)'
 3:DO-y:S-see
- d. Koyukon bet'ŋ yeyegheetaanh 'it (y-) gave him (y-) to her (b-)'
 (Leer 1990) 3:OO-to y:DO-y:S-Perf-give

Typically, subjects marked by *y-* in Athapaskan languages are non-topical: subjects lack topicality when another NP in the structure outranks the subject on some hierarchy of prominence. Commonly, then, subjects marked by *y-* refer to non-canonical subjects--non-human or inanimate subjects, for instance. In Hupa, as noted above, *y-* is restricted to referring to "a non-human entity capable of initiating an action, or ... a child, a woman, or someone in a highly-structured [social] role" (Golla 1970). In our view, the grammaticalization of a syntactically motivated limitation on *y-* is responsible for the semantic limitation on *y-* as a subject in Hupa.

We suggest further that the alternation between *y-* and zero as subject markers in Hupa, illustrated in (32) above, is due to a notion of control, or power. If the action of the verb is within the power of a nonhuman subject to bring about, the subject may be marked by *y-*. All overt markers of subjects in Hupa thus occur when the subject has power to initiate or control action. The subject marker *y-* in this language serves to distinguish those entities not typically endowed with power when they exert the power they have.

6. Summary

We have suggested that most commonly in Athapaskan languages, *y-* is a third person anaphoric form, typically occurring as a non-subject. Under the special circumstance that the subject remains within the VP, *y-* exceptionally may represent a subject. In Hupa, the distribution of *y-* suggests that it is simply a non-anaphoric third person pronominal affix.

We suggest that the anaphoric form represents the historical situation. Paradigm generalization has occurred in Hupa, with the result that *y-* is reanalyzed as a subject form. We see the semantic limitations on *y-* in Hupa as arising from the fact that **y-* as a subject is of necessity non-canonical -- being non-topical, non-human, or inanimate. From these origins, *y-* in Hupa has come to represent third person subjects, but only those third person subjects which combine in a single entity the typical property of subjects in that they control events, and the not so typical referential properties of non-canonical subjects.

Notes

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¹ For the purposes of this paper, we ignore the role of the functional head of the clause, Inflection (I). See Rice 1993 and Speas 1990, 1991 for much discussion of the syntactic role of inflection in Athapaskan.

² Abbreviations are as follows: CL: classifier (voice marker), s: singular, S: subject, DO: direct object, OO: oblique object, Perf: perfective. Verbs without marking for aspect are imperfective. Morphemes labelled 'theme' are part of the underlying lexical entry of the verb.

³ We intend the definition of c-command whereby the first maximal projection dominating a node defines its c-command domain. Thus, in (1), the internal subject and direct object positions are in a relation of mutual c-command, as both are contained within VP. For implications of this relation of mutual c-command, see Saxon and Rice 1992.

⁴ Goddard (1911:106) remarks that signs for third person subject and object are frequently absent from the verb in Hupa. Golla (personal communication) seconds this observation.

- ⁵ Li (1930:64) remarks that Mattole *y-* signals "third person object with third person subject (unexpressed)". He notes that the absence of this morpheme in intransitive forms like *nítix* 'he lies down' shows that *y-* is an object form.
- ⁶ The placement of the subject agreement *y-* in a different location in the verb from first and second person singular subjects might at first strike one as a problem for this analysis. However, other third person pronominals in Hupa occur adjacent to *y-*, as do third person pronominals in other Athapaskan languages.

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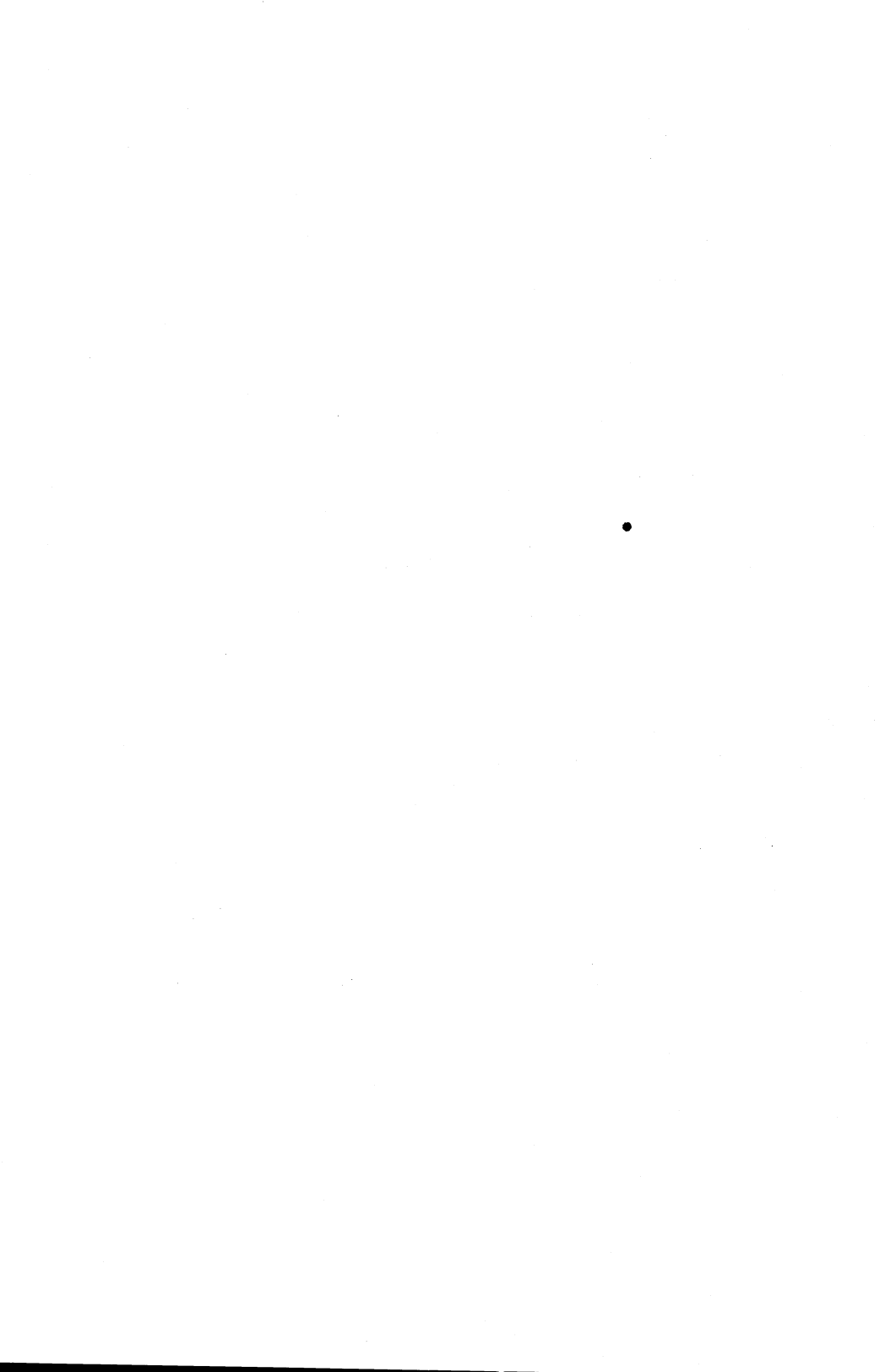
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