MISUMALPAN VERB SEQUENCING CONSTRUCTIONS

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0. Introduction.[1]

The surviving Misumalpan languages, Miskitu and Sumu, are spoken on the Atlantic Coast of present-day Nicaragua and Honduras. Although it has not been thoroughly established that Sumu and Miskitu are in fact genetically related, the connection has been thought to be real for a century now (Brinton, 1891, 1895). The term Misumalpan, which incorporporates syllables both from the names of the extant members of the family and from the name of the now extinct more westerly Matagalpa, was coined in the present century by researchers who have accepted the classification (Mason, 1940; Johnson, 1940; and for more extensive discussion, see Campbell, 1975, 1979; Craig, 1985; and Hale and Salamanca, 1987). It has also been proposed (Lehmann, 1920) that Misumalpan is related to Chibchan, forming a part of the large Macro-Chibchan phylum (cf. Constenla, 1985; Voegelin and Voegelin, 1965).

Whatever the true relationship between Miskitu and Sumu proves ultimately to

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be, they have been spoken together for a very long time, and although cognate vocabulary is extremely sparse and difficult to establish, it is clear that the contemporary languages share closely similar grammars. In particular, they share the verb sequencing structures to which this brief report is devoted. In this regard, the similarity between Miskitu and Sumu is so great that the two can generally be illustrated jointly in the example sentences -- as in (1) below, in which the first line is Miskitu, and the second line is Ulwa, the southern variety of Sumu:

(1) Yang utla ra   dim-i   kauhw-ri.
    Yang uu   kau aaw-i   wauhd-ikda.
    (I   house in enter-PART fall-PAST:1)
    'I went into the house and fell down.'
    'When I went into the house, I fell down.'

This sentence represents the type of verb sequencing sometimes called "clause chaining" (cf., Longacre, 1985:263-269; Salamanca, 1988), an entirely productive process which Misumalpan shares not only with other languages of the Americas but also with the languages of New Guinea, where the device is in fact notorious. Clause chaining is only one of at least three distinct, but morphologically related, construction types found in Misumalpan, the others being complementation and serialization. Each of the three types will be discussed in turn.

I wish to caution the reader that this is primarily a descriptive discussion, with informal theoretical remarks. It is not possible to give an in depth analysis of Misumalpan verb sequencing as yet, given our incipient understanding of the grammars of the languages of the group. In part our limitation here stems from our imperfect knowledge of the sequencing phenomena

themselves (imperfect even at the observational level, often), but it also stems from the fact that a proper understanding of verb sequencing requires detailed knowledge of other, as yet poorly understood, grammatical processes of Misumalpan, such as question formation, relativization, and negation, processes which are implicated in any program for testing for the syntactic structure of serial and chaining constructions, for example.

Despite these limitations, it seems to me worthwhile to present some of the elementary facts of Misumalpan verb sequencing, as an initial gesture in bringing these important Central American languages into the discussion of this aspect of grammar.

1. Misumalpan clause chaining.

Longacre (1985:264-265) has identified the following properties as characteristic of clause chaining generally:

> (a) There is a clause (characteristically final in a chain of clauses) that has a verb of distinctive structure that occurs but once in the entire chain while other (typically non final clauses have verbs of different structure ...).
> (b) Each non-final clause is marked so as to indicate whether the following clause has the same subject or different subject from itself.
> (c) A further feature of chaining is considerable attention to temporal relations such a logical overlap ('while', 'at the same time') versus chronological succession ('and then') which shade off into logical rela_ions such as cause and effect, result, ...

The first of these properties corresponds to an asymmetry according to which a non-final verb assumes a form (e.g., the participial, whose morphology is provisionally glossed PART) indicating its dependence in relation to a final (or main) verb. In the Misumalpan example (1), the final verb is finite; the non-final verbs bear the participial ending -i and, accordingly, their tense

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is dependent for its interpretation upon that of the final verb. The
following provides an additional example of this construction:

(2) Baha ulu-ka   pruk-i ik-amna.
    Yaka lalang-ka baut-i iita-ring.
    (that wasp-CNSTR hit-PART kill-FUT:1)
    'I will swat that wasp and kill it.'

Here, the final verb is in the future, while the non-final verb is in the
participial form in -*i*. This sentence, together with (1), illustrates the
fact that the morphological form of the dependent verb remains constant when
the tense of the final verb varies. Thus, the non-final verb is not itself
inherently tensed; rather, its tense is dependent upon that of the final verb,
as mentioned above.

The second of Longacre's charactaristics corresponds to a phenomenon --
variously termed subject obviation (cf., Voegelin and Voegelin, 1969; Jeanne,
1978) or switch reference (cf., Jacobsen, 1967; Finer, 1985) -- not revealed
by the two Misumalpan examples cited so far, both of which illustrate the
suffix -*i*, an element which has the property that it relates clauses whose
subjects are identical. In the terminology of obviation, this suffix
corresponds to the "proximate" relation (and will, accordingly, be glossed
PROX in future examples). This ending is not used in an "obviative" chain,
i.e., in which adjacent clauses have different subjects. Instead, formally
distinct "obviative" endings (glossed OBV) are used, as in the following
examples:

(3) Yang sula kum kaik-ri   plap-an.
    Yang sana as tal-ing   iir-ida.
    (I   deer a   see-OBV:1 run-PAST:3)
    'I saw a deer and it ran.'

(4) Man sula kum kaik-ram plap-an.
    Man sana as tal-am   iir-ida.
    (you deer a   see-OBV:2 run-PAST:3)
    'You saw a deer and it ran.'

(5) Witin sula kum kaik-an   plap-an.
    Alas sana as tal-ak   iir-ida.
    (he   deer a   see-OBV:3 run-PAST:3)
    'He saw a deer and it ran.'

(6) Witin sula kum kaik-an   plap-isa
    Alas sana as tal-ak   iira-i.
    (he   deer a   see-OBV:3 run-PRES)
    'He sees a deer and it runs.'

(7) Yang sula kum kaik-rika plap-bia.
    Yang sana as tal-ing   iira-rang.
    (I   deer a   see-OBV:1 run-FUT:3)
    'I will see a deer and it will run.'

(8) Man naha yul-a   pruk-rika plap-bia.
    Man aaka suu-ka-lu baut-am   iira-rang.
    (you this dog-CNSTR hit-OBV:2 run-FUT:3)
    'You will hit this dog and it will run.'

(9) Witin baha yul-a   pruk-ka   plap-bia.
    Alas yaka suu-ka-lu baut-ak   iira-rang.
    (he   that dog-CNSTR hit-OBV:3 run-FUT:3)
    'He will hit that dog and it will run.'

In these examples, the non-final verbs bear the obviative participial endings -- these signal not only that the subject of the dependent verb is distinct from that of the main, or final, verb but also, to some degree, the person category to which the subject of the dependent verb belongs.

In Ulwa, the tense category in the non-final clause is neutralized completely, and is therefore fully dependent upon the main clause for its

interpretation. By contrast, the category of person is as fully marked as it is in a finite verb. The situation is somewhat more complex in Miskitu. There, the tense category is only partly neutralized, keeping the future formally distinct from a unified non-future form (merging the present and the past; compare (5) and (6) above). The merged non-future participial is formally homophonous with the past tense which appears on finite verbs -- functionally, however, the two are distinct, since the participial merges past and present. The category of person in the Miskitu obviative is fully marked only in the non-future; in the future, the first and second persons are merged and opposed to the third (compare (7) and (8) with (9)).

The final one of Longacre's "distinctive features" of clause chaining corresponds to the observation, amply illustrated above, that the tense of a non-final verb is dependent, i.e., interpreted in relation to the tense of the main verb. In the Misumalpan system, the temporal relation expressed is essentially that of "coincidence", though the relation between the events depicted in the clauses is generally interpreted in iconical fashion, so that the events are understood as occurring in "temporal succession", the order of events corresponding to that of the clauses themselves (cf. Haiman, 1985:75-76, et *passim*).

The three properties identified by Longacre are logically autonomous in relation to one another -- none logically implies any of the others. Nor is any of these properties exclusively associated with clause chaining as opposed to complementation or serialization, which will be treated in the following paragraphs.

2. Complementation and the Misumalpan participials.

The Misumalpan languages possess a verb form generally equated with the infinitival of Indo-European languages, it is nominal in character, and it is selected by a large number of verbs which take sentential arguments. A typical use of the infinitive is illustrated by the following Miskitu (10) and Ulwa (11) sentences (with complement clause in brackets):

(10) Yang [Bilwi ra w-aia] want s-na.
     (I   [P. C. to go-INF] want be-1)
     'I want to go to Puerto Cabezas.'

(11) Yang [Ulwah yul-naka] walta-ya-ng.
     (I   [Ulwa speak-INF] want-PRES-1)
     'I want to speak Ulwa.'

This form is unrelated to the participial endings of interest here. While the infinitive is far better represented in complementation than are the participials, there is a small set of verbs which select the latter, rather than the infinitive. Verbs of perception belong to this set:

(12) Yang [witin nani aisi-n]   wal-ri.
      Yang [alas   balna yulbau-d-ak]   dak-ikda.
      (I   [they PL   speak-(PL)-OBV:3] hear-past:1)
      'I heard them speak.'

Here, of course, the obviative participial ending is used, since the subordinate and main clauses have different subjects. The structure involved here is distinct from chaining, it should be noted. In addition to the fact that the perception verb selects the clausal complement, which appears in the canonical object position (between the subject and the governing verb), the complement may extrapose, like clausal arguments in general:

(13) Yang tal-ikda   [sana was dih-i   saak   at-ak.]
     (I   see-PAST:1 [deer water drink-PROX standing be-OBV:3])
     'I saw the deer drinking water.'

By contrast, the canonical ordering in chaining constructions is that in
which the participial clauses precede the finite, or final, clause.[2]

Aspectual verbs of inception and termination also select participial
complements -- in this case, of course, the proximate ending -*i* is used, since
the main and dependent clauses share their subjects:

(14) Yang   nani [w-a-m-tla mak-i]   ta   krik-ri.
     Yangna balna [uu-ma   yamt-i]   tangka baht-ikda.
     (we   PL   [house-2   build-PROX] end   break-PAST:1)
     'We began to build your house.'

(15) Naha   w-a-tla   mak-i   ta   alk-ri.
     Aaka   uu-ka   yamt-i   tangka wat-ikda.
     (this house-CNSTR build-PROX end   reach-PAST:3)
     'He finished building this house.'

Extraposition is also possible here, as in the following Miskitu variant of
(14), from Kang (1987):

(14') Yang nani ta krikri [wamtla maki].

Although the participial system is not heavily utilized in Misumalpan
complementation, its use there must be recognized. It is to be distinguished
from chaining in several respects. In complementation, the dependent clause
is an argument of the main verb, and it is therefore lexically governed by
that verb. By contrast, non-final verbs in chaining constructions are in no

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2. This assertion obscures some, possibly important, facts. Participial
clauses which can be identified, so to speak, with an "adverbial function" in
relation to the final verb and the event it denotes are occasionaly found in
extraposed position -- for example, the bracketted means expression in the
following Miskitu sentence: *Tuktan nani mita dikwa taya ba plinghban, [ispan
ni pruki]*. 'The children chipped the surface of the pot, [(by) striking it
with the spoon]' (from Aviles, 1988).

way selected by the main verb. It can be assumed, further, that the clauses
they head are not lexically governed at all. They are simply clauses in
sequence.

In both construction types, there is an asymmetry of dependence, following
from their use of the participial form of the verb. As usual, the tense of
the participial is interpreted not autonomously -- e.g., in relation to the
time of speaking -- but rather in relation to the tense of the main verb.
There is, however, a semantic difference between the two constructions in
relation to their "event structures" (cf., Higginbotham, 1985; Li, 1988). In
the chaining construction, but not in complementation, the events denoted by
the clauses are typically understood as occurring in temporal succession, as
noted earlier, generally corresponding iconically to the order of clauses. In
the participial complement structures exemplified here, on the other hand, the
main and subordinate verbs are understood as refering to a single, albeit
complex, event. The event structure is therefore unrelated to the order of
verbs, which may be varied in the surface representations of sentences,
through extraposition out of the basic governed position.

We will turn now to another productive use of the Misumalpan participial
morphology, namely, that represented by the class of verb sequencing
constructions commonly referred to by the term "serialization" (see Baker,
1988, and Dechaine, 1986, 1988, for very insightful discussions of this
process, and for much relevant bibliography as well).

3. Misumalpan serial verb constructions.

The following sentences illustrate one type of serial construction shared by

the two Misumalpan languages:

(16) Baha usus-ka   pal-i   wa-n.
     Yaka kus-ka-ma   limd-i yawaa-da.
     (that vulture-CNSTR fly-PROX go-PAST3)
     'That buzzard flew away.'

(17) Usus   pal-i   bal-an
     Kusma   limd-i waa-da.
     (buzzard fly-PROX come-PAST3)
     'The buzzard came flying.'

(18) Witin raks   kum brih   bal-an.
     Alas arakbus as ih   waa-da.
     (he   gun   one get:PROX come-PAST:1)
     'He brought a gun.'

(19) Man dia brih   wa-ma?
     Man ai ih   yawa-ram?
     (you what get:PROX go-FUT:2)
     'What will you take (with you)?'

As always, the tense of the participial verb is bound to that of the final

verb. The serial construction shares with chaining structures their

sequential character -- the ordering is fixed. However, the serial

construction differs markedly from chaining in respect to its event

structuring. While clause chaining typically denotes sequences of discrete

events, serialization corresponds to single, composite, events.

In respect to their event structuring, serial constructions are similar to

the participial complement constructions discussed in 2 above. However, the

degree of fusion is much greater in the case of serialization. None of the

verbs in the complementation constructions exhibits any semantic "bleaching"

whatsoever -- that is to say, the lexical conceptual structure (cf.

Jackendoff, 1983) of each is complete. By contrast, it is a characteristic of

serial constructions that one or more of the verbs involved is reduced, or

altered, in terms of its lexical conceptual structure, functioning as a modifier, of sorts, within a composite conceptual structure (cf., Li, 1988, for a developed theory of the lexical conceptual structures of serial verb constructions). In the sentences cited above, for example, the Misumalpan verbs of "direction of motion" illustrate this. In (16-17), direction verbs combine with verbs of "manner of motion" to render the composite notions of 'flying thither' and 'flying hither'. Neither verb in the series corresponds to a distinct event, and the verbs of direction serve merely to express just that, direction.

Sentences (16-17) illustrate an entirely productive serialization process in Misumalpan -- any manner-of-motion verb can serialize with either of the two direction-of-motion verbs. Sentences (18-19), on the other hand, illustrate a somewhat different, and common, aspect of serialization -- namely, the formation of fixed, semi-idiomatic, expressions for realizing unitary composite conceptual structures. In these serial verb constructions, neither verb can be said to retain its inherent lexical conceptual structure, though the notions of physical transfer to which the serial expressions correspond (i.e., 'bringing hither' and 'taking thither') clearly partake of semantic features present in their component verbs -- to wit, physical possession and direction of motion.

The subordination, or bleaching, of the inherent lexical conceptual structures of verbs is evident in the use of verbs of stance in the serial verb construction which realizes the "stative" or "progressive" aspect in Ulwa:

(20) Kuh   puht-i   saak-yang.
     (fire blow-PROX stand-1)
     'I am (lit. stand) blowing the fire.'

(21) Watd-i   tung-yang.
     (stroll-PROX walk-1)
     'I am taking a walk.'

(22) Bikiska   isd-i   bang-ka.
     (children play-PROX be:plural-3)
     'The children are playing.'

(23) Yang bas-k-i   kipt-i   lau-yang.
     (I   hair-CNSTR-1 comb-PROX sit-1)
     'I am combing my hair.'

(24) Tuuru ya urundang am-i   kut-ka.
     (cow   the curled   sleep-PROX lie-3)
     'The cow is sleeping curled up.'

While the stance of the actors here is not completely suppressed, it is not

an integral part of the predications either. The function of the stance verbs

in (20-24) is entirely that of aspectual auxiliaries. Grammatically, they are

the Sumu equivalents of the Miskitu auxiliaries, which are purely grammatical

in function (cf., Salamanca, 1988):

(25) Yang utla kum mak-i   s-na.
     (I   house one build-PROX be-1)
     'I am building a house.'

(26) Yang utla kum mak-i   kap-ri.
     (I   house one build-PROX be-PAST1)
     'I was building a house.'

(27) Yang nani   utla kum mak-i   banghw-i   s-na.
     (I   plural house one build-PROX plural-PROX be-1)
     'We are building a house.'

In the examples of serialization cited so far, the morphology of the

non-final verb bears the proximate participial ending. This follows from the

fact that the subject of the serial construction is shared by the two verbs,
in an intuitively clear sense. However, this is not inevitable, of course,
since it is quite possible for a complex event to involve two distinct
"actors" corresponding to two distinct grammatical subjects. This is the case
with the Miskitu expressions of selling and sending, as illustrated by the
following:

(28) Yang truk kum atk-ri   wa-n.
     (I   car a   sell-OBV:1 go-PAST:3)
     'I sold a car off.'

(29) Aisi-k-i   Bilwi ra ai blik-an   wa-ri.
     (father-CNSTR-1 P.C. to me send-OBV:3 go-PAST:1)
     'My father sent me off to Puerto Cabezas.'

In both cases, the direction-of-motion verb *waia* 'to go' occurs as the
final, and finite, verb. It indicates motion, in the direction away from the
entity denoted by the subject, on the part of the entity denoted by the object
of the non-final verb. That object is, of course, distinct from the subject.
Grammatically, as is evident from the participial inflection, the object of
the non-final verb functions as the subject of the final verb. The use of the
obviative ending follows straightforwardly from this.

An entirely productive use of obviative serialization is the Misumalpan
realization of the causative relation (cf., Aviles, *et al.*, 1987), as
exemplified by the following:

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(30) Witin sula yab-an       plap-an.
     Alas  sana aat-ak       iir-ida.
     (he   deer cause-OBV:3 run-PAST:3)
     'He caused the deer to run.'

(31) Witin sula yab-an       plap-ras.
     Alas  sana aat-ak       iira-sa.
     (he   deer cause-OBV:3 run-NEG)
     'He didn't cause the deer to run.'
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The causative verb here exists as an autonomous lexical item, meaning 'give' (cf., Dechaine, 1988, for an identical usage in Haitian). In (30-31) however, this verb, functions strictly as a causative. The causative construction of Misumalpan is not a complementation structure. For one thing, the order of clauses is rigidly fixed. And for another, the order and morphology of the clauses is exactly wrong for complementation -- the effect-clause is headed by the finite verb and it follows the verb of causation. In causatives realized by complementation (as in the Chibchan language Rama, for example; cf. Craig, 1988), the effect clause is subordinate, and generally inflected accordingly; and it would be expected, in an SOV language, to precede the verb in the basic syntactic representations of sentences (but see Li, 1988, for an interesting alternative view of the expected realization of causative structures in serialization).

While it is clear that the Misumalpan causative is not syntactically a complementation structure, but rather a verb sequencing structure, it is clearly not to be identified with clause chaining, despite the surface similarity. The causative is clearly a representative of the class of serial verb constructions. The causative construction denotes a single event, not a series of autonomous events. Strong evidence for this comes from the scope of negation. When the negative appears on the final verb, the entire causative

event is negated -- as exemplified by (31) above. By contrast, if the final

verb of a clause chain is negated, only the event depicted by that verb is

negated:

(32) Yang sula kum kaik-ri   plap-ras.
     Yang sana as tal-ing   iira-sa.
     (I   deer a   see-OBV:1 run-NEG)
     'I saw a deer and it didn't run.'

This distinction is also strongly evident in the behavior of negative

polarity items, as in:

(33) Upla   kumi sin ai swi-n   dim-ras.
     Muih   as   bik yaa-daap-ak aawa-si-ng.
     (person one also me-let-OBV:3 enter-NEG(-1))
     'No one allowed me to enter.'

Here the negative element appearing on the final verb licenses the polarity

items *upla kumi sin*, *muih as (bik)* 'anyone', representing the subject of the

causative verb *swiaia, daanaka* 'let, allow'. This is possible in the

causative construction, where the two verbs correspond to a single event. It

is not possible, however, in a clause chaining construction of the type

represented by (32); there the negative has scope only over the final clause,

hence not over the polarity item:

(34) *Upla   kumi sin sula kum kaik-an   plap-ras.
     *Muih   as   bik sana as tal-ak   iira-sa.
     (person one also deer one see-OBV:3 run-NEG)
     *'Anyone saw a deer and it didn't run.'

This concludes my elementary observations on the three types of verb

sequencing in Misumalpan. I turn now to some tentative theoretical remarks in

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relation to these constructions.

4. Speculations on the grammar of Misumalpan verb sequencing.

I will assume that the Misumalpan participial forms, whether obviative or proximate, represent the functional category INFL and that they differ from finite realizations of that category by virtue of the absence, or reduction, of the tense component. The proximate participial also lacks the "agreement" component (AGR) present in both the finite and the obviative participial realizations of INFL.[3] My concern here will be to give an account of these "reductions" in the inflectional categories associated with the dependent verbs in the verb sequencing constructions.
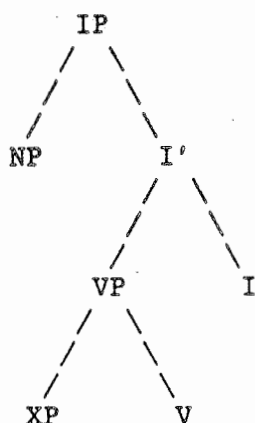
Following current conceptions of phrase structure within the Government and Binding framework (cf. Chomsky, 1986), I will assume that the functional category INFL (symbolized I in tree-representations of syntactic structures) projects two levels of structure -- of these, the first projection (I') introduces the verb phrase (VP) as an immediate sister and complement to I, while the maximal projection (IP, formerly S) introduces the subject (NP, for present purposes), in so-called "specifier" position. In the Misumalpan languages, both complements and specifiers precede the head which governs them, whether that head is functional (e.g., I) or lexical (e.g., V):

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3. This applies to Miskitu and the southern Sumu language, Ulwa. Northern Sumu, spoken in two closely similar varieties, Twahka and Panamahka, shows agreement in the proximate participial, as well as in the obviative (Norwood, 1987).

(35)
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                        IP
                       /  \
                      /    \
                     /      \
                    NP      I'
                           /  \
                          /    \
                         /      \
                        VP       I
                       /  \
                      /    \
                     /      \
                    XP       V
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This structure corresponds to the initial syntactic representation of a simple transitive sentence, such as (36) below:

(36) Witin sula kum kaik-an.
     Alas sana as tal-da.
     (he   deer one see-PAST)
     'He saw a deer.'

In (35), the verb (V) and its inflection (I) represent separate nodes projecting distinct syntactic structures. In the final surface representation, of course, these categories form a single inflected verb, though the processes which effects this merger will not directly concern us in the present discussion.

In a finite clause of the type represented by (36), INFL is realized by a single ending embodying both agreement (AGR) and tense (TNS), corresponding respectively to the categories third person and past. While AGR and TNS are generally realized together in this fashion, it is clear that they represent, abstractly speaking, distinct projections within INFL -- AGR may appear without TNS, for example, as in the Ulwa obviative participial. Table 1 summarizes the distribution of TNS and AGR which will be relevant in the

ensuing discussion.

	Finite	OBV	PROX
TNS	+	-	-
AGR	+	+	-

Table 1: The distribution of tense and
subject agreement in finite and participial
clauses.

This table is wholly accurate only for Ulwa, since only in that language is
it the case that TNS and AGR lack overt realization in all of the INFL
categories marked "minus". If all of the Misumalpan languages were like Ulwa,
it would be legitimate to ask precisely what it means to say that TNS and AGR
are "lacking" in the INFL categories indicated. Does that mean that INFL is
simply devoid of TNS and AGR altogether? Or does it mean that TNS and AGR are
simply non-overt? That is to say, are they abstractly present, but
phonologically unrealized? If the first of these alternatives were the
correct one, then we would be required to explain the absence of TNS and AGR
in the relevant INFL categories. Under the second alternative, on the other
hand, we are required to explain the reduced (in fact phonologically null)
realization of TNS and AGR in those INFL categories. However, we need not

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4. The Misumalpan infinitival is nominal in character. Like the participials,
it lacks TNS. In Sumu, and vestigially in Miskitu as well, the infinitival
shares with the participials the possibility of inflection for the person
category of the subject. I take the infinitival to be a [+N] realization of
INFL. By contrast, the participial endings are [-N]. This distinction is
reflected clearly in Sumu whenever AGR is overt -- the infinitivals inflect in
the manner of nominals, participials inflect like verbs.

hesitate overly long on this issue, since the other Misumalpan languages are not identical to Ulwa in the matter of overt realization of TNS and AGR in the participials. In Miskitu, the proximate participial is, in fact, identical to the proximate participial of Ulwa -- it is -i in both languages. But the obviative of Miskitu overtly realizes a TNS opposition, i.e., future/non-future, as set out in Table 2.

	future	non-future
1	-rika	-ri
2	-rika	-ram
3	-ka	-an

Table 2: Miskitu Obviative Participials

Thus, it cannot be said that TNS is entirely absent from the Miskitu participial system. And assuming that Ulwa and Miskitu do not differ radically in this regard -- and there is no reason to assume that they should -- it seems rational to interpret the absence of TNS in Ulwa to be a matter of morphology only. Accordingly, I will take the position that TNS is abstractly present in the obviative participial of Ulwa and Miskitu alike. And I will extend this analysis to the proximate as well, for both languages. In short, TNS is present in all of the INFL categories under consideration here.

I will adopt the same reasoning in relation to the category AGR. Although it is neutralized entirely in the proximate participials of Miskitu and Ulwa, I will take this to be a morphological fact. That AGR is abstractly present in the proximate is suggested by the fact that distinctions in person are overt in the Northern Sumu proximate participials (in the Panamahka variant,

at least; cf. Norwood, 1987), as seen in Table 3 (in which the notation 12 represents the first person inclusive):

1   -ik

12   -d-i

2   -a

3   -w-i

Table 3: Northern Sumu
Proximate Participials

The common Misumalpan proximate ending -i appears, unmodified, only in the third person and in the first inclusive, where it follows the elements (-w- and -d-) which regularly mark those person categories in Northern Sumu. Since the AGR category of person is not incompatible with the proximate participial INFL, I will assume that AGR is abstractly present in the proximate, even where it is not overtly realized there.

If, in accordance with the above reasoning, the observed reductions of TNS and proximate AGR do not amount to total absense of these categories, then they presumably have to do with their "dependent" status. That is to say, since they are interpreted in relation to the corresponding TNS and AGR categories of a main or final verb, the dependent tense and person categories of the relevant participials are entirely recoverable. Thus, any degree of neutralization is possible among the dependent TNS and AGR categories, without loss of recoverability. The actual degrees of neutralization vary from one language to another and from one form to another. In Sumu generally, TNS is neutralized entirely in the participials; in Miskitu, it is fully neutralized in the proximate, but only partially so in the obviative. Miskitu and

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Southern Sumu (Ulwa) neutralize AGR in the proximate, while Northern Sumu
(Panamahka) overtly distinguishes the person categories in the proximate
participial.

Regardless of the degree of morphophonological reduction in the dependent
categories, I will assume that they are all anaphoric -- this is what it means
to say they are "dependent". Thus, AGR in the proximate is anaphoric and must
be bound accordingly; by contrast, AGR in the obviative is "pronominal", and
it must therefore be free in some relevant domain. Similarly, TNS in the
participials generally is anaphoric and must be bound.

The Misumalpan complement constructions, illustrated by (12-15) above, for
example, represent the canonical syntactic configuration in which the required
binding relations hold. For expository purposes, I repeat (14) as (37) and
(12) as (38) below:

(37) Yang   nani [w-a-m-tla mak-i]   ta   krik-ri.
     Yangna balna [uu-ma   yamt-i]   tangka baht-ikda-na.
     (we   PL   [house-2   build-PROX] end   break-PAST:1(-PL))
     'We began to build your house.'

(38) Yang [witin nani aisi-n]   wal-ri.
     Yang [alas balna yulbau-d-ak]   dak-ikda.
     (I   [they PL   speak-(3PL)-OBV:3] hear-past:1)
     'I heard them speak.'

Assuming that, in the relevant respects, each these sentences has the
structure depicted in (35), and that the dependent clause in each is IP
occupying the position designated XP in (35), then INFL of the main clause
c-commands that of the immediately subordinate clause. Accordingly, there
being no intervening structure which could block the binding relation, an
anaphoric TNS or AGR in the subordinate INFL is bound by the corresponding

category in the immediately superordinate INFL.

In (37), both TNS and AGR of the subordinate clause are anaphoric and, therefore, bound by the c-commanding TNS and AGR, respectively. The fact that the subordinate AGR is anaphoric accounts for the "proximate" interpretation, i.e., the interpretation according to which the subjects of the two clauses are necessarily coreferential. And the fact that the subordinate TNS is anaphoric accounts for the circumstance that the tense of the subordinate clause is dependent for its interpretation upon that of the main clause -- it cannot be interpreted freely.
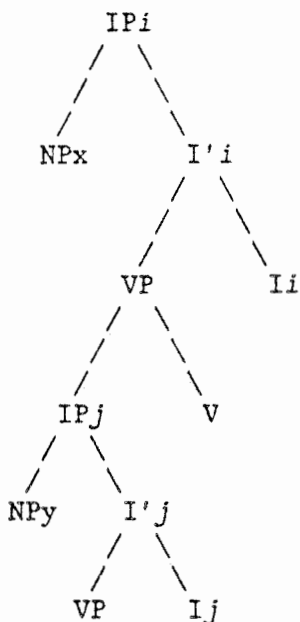
In (38), only TNS is anaphoric and, therefore, bound to TNS of the main clause. The subordinate AGR is not anaphoric; it is free in relation to the c-commanding main clause AGR -- from this it follows that the subordinate and main clause subjects must be disjoint in reference.

I will assume for the purposes of this discussion that the "domain" within which anaphoric and non-anaphoric INFL components must be bound and free, respectively, is approximately the "governing category" of the Binding Theory (cf., Chomsky, 1981, 1986). And the classification of these elements as "anaphoric" or "non-anaphoric" is to be understood within a generalized conception of binding according to which a functional category, TNS or AGR, may bind a corresponding functional category, TNS or AGR, to which it is appropriately related syntactically. I take these binding relations to be noncontroversial in the Generalized Binding theory of Aoun (1986). I follow Jeanne (1978) and Finer (1985a,b) in the assumption that subject obviation, or switch reference, is constrained by principles of binding theory -- the notion "anaphoric AGR" is implicated in the works just cited, and a full theory of

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anaphoric AGR is developed in Borer (1985), particularly for structures in which the structural relation of c-command is clearly relevant. The notion "anaphoric tense" used here is taken, in part and in appropriately modified form, from the discussion of the subjunctive found in Picallo (1984:88).

Assuming that the complements of aspectual and perception verbs, of the type represented in (37-8) above, are in fact complements and, therefore, occupy the syntactic position designated XP in (35), the binding relations attributed to the relevant elements in (37-8) are perfectly standard given the classifications suggested for participial TNS and AGR. That is, (35) represents the standard configuration for asymmetric binding of the subordinate INFL, via its projection IP (= XP), by the INFL (= I) of the main clause -- the latter asymmetrically c-commands the former, and the superordinate IP defines the governing category of the subordinate IP (and therefore of the subordinate INFL), for the purposes of the binding theory. The relevant relationships can be seen in the following diagram, corresponding approximately to the Misumalpan complementation structures of (37-8):

(39)

```
                          IPi
                         /  \
                        /    \
                       /      \
                     NPx      I'i
                             /  \
                            /    \
                          VP      Ii
                         /  \
                        /    \
                       /      \
                     IPj       V
                    /  \
                   /    \
                 NPy     I'j
                        /  \
                       /    \
                      VP     Ij
```

The binding relation is represented notationally by means of indices. I will assume that the index of a functional head -- e.g., TNS or AGR in INFL -- is realized not only on the head itself, but on each of its projections, as indicated.

In (39), the superordinate INFL, I_i, asymmetrically c-commands the embedded clause and, therefore, its indexed INFL projections I_j, I'_j, and IP_j. The governing category of the subordinate INFL, I_j, is exactly the immediately superordinate clause IP_i, since there is no smaller governing category containing all of the projections of I_j which at the same time excludes the projections of I_i.

It follows that, where I_j and I_i are TNS, if the former is anaphoric, it is necessarily bound by the latter -- i.e., $j=i$, necessarily. But if I_j is non-anaphoric, then it is necessarily free in relation to I_i. In the Misumalpan complement constructions (37) and (38) above, the subordinate TNS

is anaphoric, as indicated by the fact that it is realized as a participial.

Similarly, where Ij and Ii are AGR, if Ij is anaphoric it must be bound in its governing category, and therefore $j=i$, necessarily. But if Ij is pronominal, then it must be free in its governing category and, therefore, j must necessarily be distinct form i. In the Misumalpan aspectual construction (e.g., (937)), AGRj is anaphoric, while in the perception verb construction (cf. (38)), AGRj is pronominal (in all attested examples).

These binding relations have consequences elsewhere in the sentence, of course, since AGR represents the subject argument in INFL. And the subject NP, located in "specifier" position in IP, is in an agreement relation with INFL, represented conventionally by indexing. Thus, for example, NPy in (39) is coindexed with AGR in Ij. Where the latter is anaphoric, of course, this results in the circumstance that the matrix subject, NPx, and the subordinate subject, NPy, are coindexed. In the Misumalpan languages, NPy is regularly non-overt in this circumstance.

While it does not follow directly from known principles of binding, it is nonetheless a fact (not exclusive to Misumalpan languages) that when the matrix subject asymmetrically c-commands and binds the subordinate subject of a clause marked proximate (i.e., marked for anaphoric AGR) within the formal obviation system, the subordinate subject must be non-overt -- it is as if the subordinate subject were in the same governing category as the main clause subject.

This last observation will be of relevance as we turn now to a consideration of Misumalpan clause chaining.

The morphological components of clause chaining are the same as those involved in participial complements of the type just discussed, since both constructions employ the same participial system. However, the structural relations between the clauses is evidently different. Complementation involves embedding -- the participial clause is selected and governed by the main verb, and it therefore appears within the VP which the main verb heads. In clause chaining, the participial clauses are not internal to the VP of the final clause, as is clear from the fact that it precedes the subject of the final IP if that subject is overt. This is exemplified in (40) below, in which bracketted the participial clause precedes *witin, alas* 'he/she', subject of the final verb:

(40) [Yang kauhw-ri]   witin ai buk-an.
    [Yang wauhd-ing] alas   yaa-ihirt-ida.
    ([I   fall-OBV:1] he/she me(-)raise-PAST:3.)
    'I fell down and he/she picked me up.'

It is evident that the participial clause of (40) cannot be governed by the final verb -- the participial clause is not "embedded", in the conventional sense. From a strictly linear perspective, at least, the initial clause in (40) precedes all of the material belonging to the final clause and would appear to be external to the latter. This is reinforced by the observation that a negative INFL on the final verb would have only the final clause within its scope, excluding the participial clause (see also (32) above). Moreover, where the participial clause is proximate, its subject may be realized overtly in the specifier of the dependent IP, by a pronominal (as in (1) above) or by an R-expression (name or lexically headed NP), as in (41) below, indicating that it is not within the binding domain of the subject of the final clause, unlike the subject of a complement participial:

(41) [Waitna ba   utla ra dim-i]   kauhw-an.
     [Al   ya uu   kau aaw-i]   wauhd-ida.
     ([man   the house in enter-PROX] fall-PAST:3)
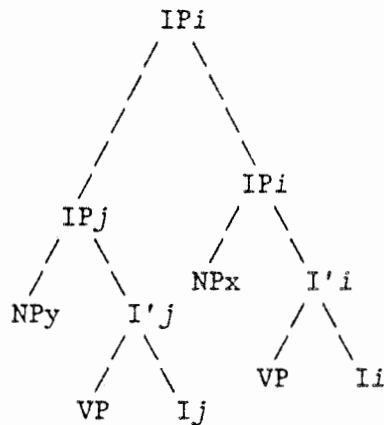   'The man went into the house and fell down.'

The proximate chain constructions present a challenge of sorts, a paradox of

binding relations -- by hypothesis, the tense of a participial is bound, but

the subject argument cannot be, otherwise (41) would violate the Binding

Theory (specifically, Condition C; cf. Chomsky, 1981, 1986), assuming the

bracketting supplied to (41) to be a true reflection of its structure.[5]

It is evident that the structure of a chaining construction such as (41)

cannot be that of (39) above -- specifically, the participial clause cannot be

"embedded" within the finite clause in the manner depicted there. Instead of

this, I will assume that the participial in a chaining construction is

adjoined to the final clause, as depicted in (42) below (cf. Finer, 1985a,b,

which I follow, in spirit, if not in the letter):

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5. The structure is somewhat obscured, of course, by the fact that the subject
of the final clause is non-overt. However, that the non-final clause
generally "contains" the overt NP understood to be its subject is evident in
cases of "Subject-Object Inversion", placing an overt NP subject in a position
which is clearly internal to the participial clause -- e.g., the Miskitu
sentence *Tuktan kum ra truk kum mita taibi mina krikan* 'A car ran over a child
and broke its foot' (from Aviles, 1988), in which the subject of the
participial verb (i.e., the NP *truk kum* 'a car') follows its object (i.e.,
tuktan kum 'a child').

(42)

```
                         IPi
                        /  \
                       /    \
                      /      \
                     /        \
                    /         IPi
                  IPj        /  \
                 /  \       /    \
                /    \    NPx     I'i
              NPy    I'j         /  \
                    /  \        /    \
                   /    \      VP     Ii
                  VP     Ij
```

An adjunction is assumed to be asymmetrical -- thus, if X is adjoined to Y, the reverse is not true; Y is not adjoined to X. This is represented notationally in (42) by means of the indexing, where the projected node is identified with one, but not the other, of the IPs related by adjunction. IPj is adjoined to IPi, and the node which comes to dominate the pair is identified with the latter, not the former -- the "host" projects its indices. I will assume in fact that this is more than a mere notational affair, and that the indices i and j are those of a referential category (TNS or AGR). The asymmetry inherent in adjunction corresponds to the relation according to which the participial clause is "subordinate" to the final clause (or to a following non-final clause to which it is adjoined, as the case may be).

Where the functional category j is anaphoric in (39) or (42), it will be properly bound to i if it bears the proper structural relation to i. This relation could be c-command in (39), clearly, and this is the relation assumed to be relevant by Finer (1985a,b). But c-command cannot be the correct relation in (42). I will claim that the relevant relation for binding among the functional categories is f-command, relevant not only for the embedding

structure (such as (39)), but for the adjunction relation (of (42)) as well:

(43) *f-command*:
   A functional category X f-commands Y iff a projection
   of X dominates Y. (If a node A is a projection of a
   functional category B, then A bears the functional index
   projected by B.)

Let us assume that a functional category F is bound if it is coindexed with an f-commanding node of the same category (e.g., ARG with ARG, or TNS with TNS). In (42), i dominates j, since the node IPi dominates IPj. Therefore, if $i=j$, then j is bound; and if j is anaphoric and within the binding domain of i, then j is *properly* bound. This is the situation in (41), for both TNS and AGR. In (40), by contrast, only TNS is bound; AGR in the participial clause of (40) is free and, accordingly, cannot be coindexed with the f-commanding AGR -- otherwise the sentence would violate the Binding Theory (Condition B, assuming non-anaphoric AGR to be pronominal).

By definition, the f-command relation is not relevant to arguments -- i.e., to NP expressions in canonical argument positions. Therefore, NPy in (42) may be overt, whether pronominal or R-expression. Since NPy is not c-commanded by NPx, its only conceivable "antecedent", it is free in the sense of the Binding Theory. The two arguments may of course be coreferential, as are the subjects in (41), but the relation is indirect, being mediated by the coindexed AGR elements in the two clauses.

- - - - - - - - - -

6. There is, it seems to me, some intuitive appeal to the notion that f-command, as opposed to c-command (or m-command), should be the relevant structural relation for binding involving functional categories such as AGR and TNS. These latter are properties associated with functional projections, and, as such, they are more like features than like arguments of the type realized as maximal projections.

The adjunction theory of clause chaining constructions, together with the proposal that f-command is the relevant relation for TNS and AGR binding, permits us to represent the distinction between complementation and chaining. In particular, it represents the fact that binding of the functional categories is independent of the binding of NP arguments. I will proceed under the assumption that this conception of the matter is correct.

Before turning to the Misumalpan serial constructions, I will briefly discuss one further observation which must be made in connection with chaining. This has to do with the prevailing fact that repeated arguments are normally not realized overtly in these structures. Thus, for example, in a proximate construction exemplifying (42), the subject NPx is normally non-overt (cf. (1) and (41), for example). This would be a "repeated argument" in the sense that it is coreferential with NPy -- necessarily so, of course, in a proximate chaining construction, where the AGR of the participial clause would be coindexed with the f-commanding AGR of the final clause. In this case, the shared arguments are subjects, but there is no restriction of relational parallelism. An object in the participial will regularly "delete" a coreferencial subject in the final as well -- as in the obviative chaining construction (3), for example. And the "deletion" is regularly forward -- the earlier occurrence "deletes" the later occurrence.

Elision of repeated arguments practically amounts to an obligatory rule. It is rare indeed for a repeated subject, for example, to be represented overtly. Observed cases are always, so far as I know, "motivated" by considerations of discourse or rhetoric "packaging" -- as in the following Miskitu sentence, where the subject of the participial is fronted to a

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position preceding an, ordinarily initial, adverbial clause (set off by commas here) and is then "resumed" by a pronoun in the final clause (from Aviles, 1988):

(44) Rauhwa ba,   tuktan nani in-i   taim, nina blik-i
     (parrot the, child PL   cry-PART time, back follow-PROX

     witin sin dauk-i sa.
     it   also do-PROX be:PRES:3)

     'The parrot, when children cry, imitates them and
     (then) it does it too (i.e., cries).'

The binding theory offers no reason why, for example, NPx should be non-overt (rather than, say, an overt pronominal) in a proximate structure of the form depicted in (42). Nonetheless, as indicated above, pronominal resumption of repeated arguments (subject or object, and regardless of the grammatical function of the "antecedent") is avoided in the overwhelming majority of instances. And this is independent of the obviation system; just coreference is relevant to the elision we are considering. The rarity of overt pronominal resumption is shown, for example, by the fact that (44) is the only (natural, as opposed to elicited) instance I know of in the hundreds of relevant examples of chaining found in Aviles (1988).

An explanation for this could simply be the so-called "avoid pronoun principle", sometimes observed in situations where a choice is possible and is not overridden by conflicting principles of discourse. However, the elision of repeated arguments is so consistent that it begs for another explanation, it seems to me. I do not have a satisfactory one, I fear, but I strongly suspect that the explanation is rooted ultimately in the adjunction structure and the true linguistic representation of clauses related by adjunction.

It has been suggested that the structural relation between clauses in subject obviation, or switch-reference, constructions of the type represented by clause chaining is to be identified with coordination, rather than subordination (Roberts, 1988). While there is a sense in which a participial clause is subordinate in the chaining structure, by virtue of the asymmetry inherent in adjuction, the subordination is "weak" (cf. Finer, 1985a,b), and it is clear that the participial is not embedded (cf. the observations made in relation to scope of negation, as well as the binding facts). My suspicion is that adjunction may share with coordination a relevant structural property, namely that it is presented syntactically in the three dimensional format -- the so-called "Across-the-Board" (ATB) format -- attributed to coordination by Williams (1978). If so, it is possible that the apparent elision of repeated arguments is a reflection of a principle of "realization" according to which arguments which constitute identical simultaneous factors in the ATB-formatted representation are realized once only. An additional principle must ensure, of course, that the single overt realization appear in the first (left-most) clause when the clauses are "linearized" in the phonological (PF) representations of chaining constructions. And a number of non-trivial problems of factorization will have to be solved in researching this possibility, including the accommodation of cases in which, superficially at least, elision of arguments is "nonparallel", or "crossed", as in the following Miskitu example (from Aviles, 1988; indexed 0's indicate the positions which the elided arguments would be expected to occupy if overt):

(45) Waitna kum dus   klak-i   k-an   0 kauhw-i 0 0 taib-an.
        i   j   j   j i
     (man   one tree cut-PROX be-OBV:3 fall-PROX crush-PAST:3)
     'A man was cutting a tree and it fell down and crushed him.'

As sentence (46) shows, it is possible to relativize "Across-the-Board" in a verb sequencing construction (sentence from Aviles, 1988):

(46) Yang plun ... piak-i   swi-ri   k-an   ba swahw-an   sa.
     (I   food ... cook-PROX leave-PAST:1 be-PAST:3 the spoil-PAST:3 be:3)
     'The food I had cooked and left (out) has spoiled'.

This is as expected if such constructions are represented linguistically in ATB-format. However, the relevance of constructions like (46), and of analogous examples involving question formation, is as yet very uncertain, given the nature of question formation and relativization, which do not involve syntactic movement in Misumalpan -- not to mention the fact that these processes have not been studied in any depth in any language of the group. There is also the problem -- not a trivial one -- of determining whether a given sentence involves chaining or serialization. Sentences of the type represented by (46) are also consistent with Baker's (1988) conception of "shared objects" in serialization, of course.

Turning now to the serial constructions, I will be concerned primarily with the problem of giving an account of the relatively greater "cohesion" which characterizes them, by comparison with clause chaining. My discussion cannot be complete, by any means, since our study of verb sequencing in the Misumalpan languages is just beginning. At this point, I will have to be content simply to make certain observations which will require attention in the development of a complete account of serialization, as well as the other types of verb sequencing.

The cohesion alluded to above corresponds in part to the perception that a serial construction refers to a "single event", by contrast with the chaining

construction, the clauses of which refer to separate, autonomous events. This perception that serial constructions are "cohesive" in this sense extends also to the complementation constructions -- there, as well, the construction refers to a single complex event. Thus, for example, sentence (14), repeated here as (47), refers to a single event of "beginning to build a house", rather than to two autonomous events, of "beginning" and of "building a house":

```
(47) Yang    nani  [w-a-m-tla mak-i]       ta     krik-ri.
     Yangna balna [uu-ma     yamt-i]       tangka baht-ikda.
     (we    PL    [house-2   build-PROX] end    break-PAST:1)
     'We began to build your house.'                      .
```

This similarity in "event structure cohesion" between aspectual complement structures, like that illustrated in (47), and serial constructions is reflected in the fact that the inceptive aspectual predicator (at least) can appear not only in the complementation construction, but in the serial construction as well -- with little difference in meaning. This is exemplified by the following variant of the Miskitu of (47), in which the order of the two predicators reversed, as expected in the serial rendition, and in which, moreover, the inceptive predicator appears in the participial form, while the verb of the subevent whose inception is being described appears as the finite verb of the construction, reversing the morphological structure found in (47):

```
(47') Yang    nani ta     krik-i     w-a-m-tla mak-ri.
      (we    PL   end    break-PROX house-2   build-PAST:1)
      'We began to build your house.'
```

The same usage is also exemplified in the following -- natural, as opposed to elicited -- Miskitu sequence (from Aviles, 1988):

(48) ... nasma laya   tak-i   ta krik-i   dru-an.
     (... bee   liquid:CNSTR exit-PROX end break-PROX extend-PAST:3)
     '... the honey came out and started to extend (in a viscous strand).'

In the Misumalpan complement construction, the cohesion of events is surely
related to the fact that the complement is *selected* by the matrix verb. More
specifically, the matrix verb assigns a theta role to the complement,
corresponding to its lexical property which determines that it select the
semantic category *event* -- i.e., the verb "s-selects" an event (cf. Chomsky,
1986; Grimshaw, 1979; Pesetsky, 1983), and this event argument is realized
structurally by a participial clause, in the Misumalpan exemples at issue
here.

I assume, with Higginbotham (1985) and others, that the formal content of
the notion that a predicate refers to an event is that the thematic grid of
its head (a verb, for example) includes among its argument roles an *event
position*. And it is this lexical property of a subordinate predicator which
is "visible" (presumably by virtue of a system of projection of the type
developed in Higginbotham, 1985) to the matrix verb which selects the clausal
complement. The "visibility" is possible, presumably, because the matrix
verbs, in the constructions of interest here, select the syntactic category
IP, not CP -- a Misumalpan verb like *wiaia*, *yulnaka* 'to say' or *lukaia*,
pumnaka 'to think' would presumably selec: the latter syntactic category,
corresponding to its lexical property of s-selecting the semantic category
proposition (cf. Rochette, 1988).

That Misumalpan aspectual and perception verb complementation structures
denote "single complex events" might be said to follow naturally from the fact

that the complement, which corresponds to an event, is an internal argument, specifically an "event argument", of the matrix predicator. In that sense, the complement fails to denote an event which is autonomous. Rather, we have complex events of "someone starting to do something," "someone seeing something happen", and the like. These are made up of subevents, to be sure. But in the perception verb complementation construction, for example, the subevent "something happen" is not referred to apart from the event of "someone seeing something happen". In the canonical chaining construction, by contrast, the events denoted by the constituent clauses are related temporally, and in some cases (the proximate) they share and "actor", but this is all. Apart from this, they refer to autonomous events. And this contrast corresponds (by hypothesis) to a structural difference in the syntactic representation of the two construction types. Complementation involves government of the participial clause by a matrix verb, while chaining does not.

Superficially, at least, the serial construction shares with clause chaining its morphosyntactic "sequential" character -- each being a string of one or more participials followed by a finite verb phrase or clause. And the two types share the property that the participial is not "selected", in the conventionally understood sense, by the final verb.

On the other hand, the two constructions differ in relation to what I have referred to informally as the "cohesion of events". The serial construction, unlike clause chaining, depicts a single cohesive event. It should be mentioned that the study of these constructions is complicated somewhat by the fact that the distinction between the two is not always obvious, and many

strings are simply ambiguous in regard to event cohesion. The following

string, for example, corresponds to two distinct sentences, one a chaining

construction (translated as in (a)), the other a serial (translated as in

(b)):

(49) Witin ai pruk-an   kauhw-ri.
     Alas yaa-baut-ak   wauhd-ikda.
     (he   me strike-OBV:3 fall-PAST:1)
     (a) He hit me and I fell down.
     (b) He knocked me down.

The difference emerges under negation. In the chaining construction, either

verb may be negated, and, in particular, when the final verb is negated, the

scope of negation extends only over the final clause. In the serial

construction, on the other hand, only the final verb may be negated, and the

scope of negation is over the construction as a whole:

(50) Witin ai pruk-an   kauhw-ras.
     Alas yaa-baut-ak   w⌐uhda-s-ing
     (he   me strike-OBV:3 fall-NEG(-1))
     (a) He hit me and I didn't fall down.
     (b) He didn't knock me down.

The examples ⌐f (49) exemplify an ambiguous obviative. In fact, it is rare

for a serial construction *not* to be open to the, so to speak, "literal"

chaining interpretation. The following is a proximate case:

(51) Yang Bilwi-ra wih   truk kum atk-ri.
     Yang Bilwi kau yaw-i   truk as bakant-ikda.
     (I   P. C. to go-PROX car one buy-PAST:1)
     (a) I went to Puerto Cabezas and I bought a car.
     (b) I went to buy a car in Puerto Cabezas.

Another reflexion of the "event cohesion" characteristic of the serial

construction, as opposed to the chaining construction, is the possibility of

question formation. In a serial construction corresponding, in the relevant respects, to (51), it is possible to question a constituent from either clause, as exemplified in (52-3) below:

(52) Ani-ra   wih   truk kum atkr-am?
     Aayauh   yaw-i   truk as bakant-idam?
     (where(-to) go-PROX car one buy-PAST:2)
     'Where did you go buy a car?'

(53) Bilwi-ra wih   dia atk-ram?
     Bilwi kau yaw-i   ai   bakant-idam?
     (P. C. to go-PROX what buy-PAST:2)
     'What did you go buy in Puerto Cabezas?'

This is not possible in a clause chaining construction, thus in (54) below, the interrogative expression in the second clause can only receive the so-called "echo-question" interpretation, and it is not clear that clause chaining (as opposed to mere succession of sentences) is really involved there. And in (55) no interpretation seems appropriate, if the string is to be taken as a normal instance of clause chaining, at least:

(54) Yang aras   kum atk-ri   aisik-am   dia atk-ram?
     Yang pamkih as bakant-ing paapangh-ma ai   bakant-ida?
     (I   horse one buy-OBV:1 father-2   what buy-PAST:3)
     'I bought a horse and your father bought what?'

(55) *Dia   atk-ram   aisik-am   truk kum atk-an?
     *Ai   bakant-am paapangh-ma truk as bakant-ida?
     (what buy-OBV:2 father-2   car one buy-PAST:3)
     *'What did you buy and your father bought a car?'

These are both obviative constructions, but the behavior under querstion formation is independent of this, since obviative serials do permit questioning from just one of the component clauses, as in the following:

(56) Ya   mai pruk-an   kauhw-ram   ki?
     Wai   maa-baut-ak   wauhd-idam   pih?
     (who you hit-OBV:3 fall-PAST:2 Q)
     'Who knocked you down?'

As mentioned earlier, the relevance of such observations as these is not
altogether clear, since we do not fully understand the process of question
formation (exemplified here), or of relativization (exemplified in (46)
above). Since these processes do not involve *syntactic* extraction (rather, LF
extraction is evidently what is involved in Misumalpan), we cannot be entirely
sure that they are relevant to issues normally settled by examination of
extraction facts (cf., in this regard, Baker, 1988, and the references cited
there). Nonetheless, if these observations are accurate, they are at least
consistent with the observation made in relation to the scope of negation and
with the general intuition that serial constructions exhibit greater event
cohesion than do chaining constructions. A serial construction refers to a
single event, while a chaining construction refers to multiple autonomous
events. And this is what has been observed generally for serial constructions
-- cf., for example, Bamgbose (1974), which examines the contrast between
"linking" and "modifying" types of "serial" constructions, corresponding,
respectively and approximately, to chaining and serialization, as those terms
are used here.

If serial verb constructions exhibit event cohesion, in the sense that they
refer to single events, how is this represented in the grammar? In the
complementation constructions, the observed cohesion follows presumably from
the fact that a matrix verb s-selects an event and, therefore, "c-selects" an
IP (i.e., it selects the syntactic category IP; see Chomsky, 1986, for the

notion c-selection). In essence, therefore, the matrix verb assigns a theta role to a syntactic category identified with the event role of the subordinate verb. Thus, in effect, the event positions of the two verbs are related via theta marking; this is the formal content of the so-called "event cohesion" observed in the aspectual and perception verb complementation constructions.

In serial constructions, of the type represented by the b-versions of (49) and (51), for example, the relation between the verbs is not one of complementation. Intuitively, the verbs of a serial construction comprize a single discontinuous predicator, an idea developed explicitly by Dechaine (1986) and Lefebvre (1988; and compare also Li, 1988, on verbal compounds in Chinese for a treatment of "contiguous" verbal expressions whose grammar shares properties with that of serialization). The work of these scholars, and in particular, the work of Lefebvre (1988) who views serial constructions as complex predicates formed in the lexicon (or, in her words, "prior to D-structure"), captures two important characteristics of serial verbs -- to wit: (1) the property of "obligatory argument sharing", according to which arguments shared by the two (or more) verbs in a serial construction are realized once only; and (2) the property of "event cohesion", which follows from the fact that a single verb (whether discontinuous or unitary) will have just one event place in its argument structure. These properties are also captured neatly in the syntactic theory developed by Baker (1988), in which a modification of X-bar theory permits the projection of doubly (or multiply) headed V' constituents, implying rather natural modifications in the theory of theta role assignment. Given these modifications, Baker's theory has the automatic consequence of accounting for argument sharing; and, I believe that the theory, without modification, will account for event cohesion as well.

The cost is simply the modification in X-bar theory, a parameter defining the class of serializing languages.

Although I am favorably disposed to these conceptions of serialization, the Misumalpan languages present one difficulty with them which leads me to entertain an alternative view, which, unfortunately, I will not be able to develop fully. The difficulty is this. Taken together, the Misumalpan languages suggest that in serial constructions, and in chaining alike, the non-final verbs are accompanied by the functional category INFL, since, to one degree or another, TNS and AGR are present in them. This suggests that, in serialization and chaining alike, non-final verbs are the heads of clauses; they are not in a compoun relation (as in the lexical theory), and they are not jointly dominated by a single V' projection. That is what the data indicate, at least -- although, as always, data from the surface forms of sentences are open to alternative analyses, to be sure.

Taking the surface data at face value, then, I would like to entertain the following alternative possibility. Let us imagine that the configuration in which f-command holds involves a form of "government", call it f-government. And suppose furthermore that the event position of a non-final clause is "visible" to the event position of the verb of an f-commanding clause. Finally, let us imagine also that f-government satisfies the syntactic condition on the *identification* (in the sense of Higginbotham, 1985) of event positions in the argument structures of predicators. In a serial construction, we might maintain, the event positions of the constituent verbs are *identified*, this being the formal expression of the relation I have referred to as "event cohesion". By virtue of event identification, a serial

construction refers to a single event.

I will assume that this is correct and, accordingly, that serialization amounts to *event identification* under f-government. Although the implications of this conception of serialization remain to be examined in detail, I suppose further that the theta criterion will determine the argument sharing properties of verbs in the serial construction -- e.g., for a single *event*, there will be one and only one "internal" theta-position, and one and only one "external" theta-position (with the consequences detailed by Baker, 1988).

Setting aside the "grammaticalized" cases of serialization (e.g., the directional and progressive auxiliaries of (16-27), and possibly the causative of (30-31)), serialization is an option under f-government. That is to say, under f-government, event identification is optional, subject only to the essentially extra-grammatical condition that the subevents denoted by a given pair of verbs may be construed as a "single event". The optionality of event identification accounts for the "ambiguity" of strings like (49) above.

5. Final remarks.

The primary purpose of these remarks has been to set out certain observations concerning three types of verb sequencing constructions in the Misumalpan languages of the Atlantic Coast of Nicaragua and Honduras. I feel justified in presenting these tentative and somewhat premature remarks by the fact that, despite our limited knowledge, it seems reasonable to argue that the Misumalpan languages participate in the serial verb tradition and, further, that they bring into the picture something which must be taken into consideration in the study of serialization. Specifically, they present an

apparent contradiction.

While the verbs of a serial construction are like single discontinuous
predicators, in that they refer to a single event (in a sense recognized
generally in the serialization literature), they appear to head separate
clauses, since INFL accompanies each verb. Assuming this to be descriptively
correct, the grammar of Misumalpan serialization, and possibly that of other
serialization systems as well, must come to grips with this apparent
contradition. It is possible, of course, that the descriptive basis of this
assertion is not sound. But if serialization is, in fact, just a special case
of chaining, then event identification might well be the mechanism which
distinguishes the more "cohesive" serial construction from its more "loosely"
successive clause chaining look-alike.

Many problems remain, of course, among which I will mention just two.
First, it will be necessary to account in detail for the word order facts of
serial constructions. Among other things, the theory must determine the
principles according to which an argument of a final verb appears (or does not
appear) to the left of a preceding non-final verb. This is relevant, of
course, where the verbs differ in their argument structure, as in the
following Miskitu examples (from Aviles, 1988), in which a locative or dative
argument precedes the verbal series and is separated from the verb which
"selects" it:

(57) Witin nani hil kum ra wap-i   ul-an.
     (they PL   hill one on walk-PROX climb-PAST:3)
     'They climbed up the mountain walking.'
     'The walked up the mountain.'

(58) ... diara kum ... plis kum ra alk-i   sun-i   sw-i   ba.
     (... thing one ... place one in seize-PROX raise-PROX leave-PROX the)
     '(in which one) gets a thing and lifts it up and puts it in a place.'

(59) Yang muihk-i   sirpi ra andris matsip kulk-i   yab-ri.
     (I   brother-my small DAT orange five   count-PROX give-PAST:1)
     'I counted out five oranges and gave them to my little brother.'

   And second, if object agreement is linked to case, as is often assumed, then

the theory will have to confront the fact that each of the verbs in a "shared

object" construction retains its case marking properties, though the verbs

assign their internal theta roles to one position only. That the case marking

properties remain is (by hypothesis) evident from the fact that, where it is

phonologically overt (in first and second person, for example), object

agreement is realized on each of the verbs participating in the shared object

construction, as in the following Miskitu example (most readily understood as

a chaining construction, though the serial interpretation is also possible):

(60) Witin yang ra ai pruk-i   ai batak-an.
     (he   me   ACC me strike-PROX me fell-PAST:3)
     'He hit me and knocked me down.'

   The verbs of (60) are both transitive, and they "share" the first person

object. And while the latter, in a true serial construction, will be realized

just once in an argument position, it is represented by object agreement on

each of the verbs -- the relevant element in this instance is the proclitic

agreement marker *ai* 'first person object', normally written in Miskitu as a

separate word.

   Apart from individual problems of this sort, of course, there is the

persistent problem of distinguishing among verb sequencing constructions.

Constructions involving the sequencing of participials in Misumalpan belong to
at least three categories, complementation, chaining, and serialization.
Assuming that Misumalpan complementation is clearly defined (an assumption
made for convenience only), the spectrum covered by chaining and serialization
is not, by any means, clearly divided onto two easily distinguishable classes
of constructions. The spectrum ranges from the "protasis-apodosis" type of
conditional or temporal construction, involving a clear bi-clausal
organization which could never be confused with serialization, to
constructions of the sort which can be characterized accurately as
"grammaticalized" or "lexicalized", in which one (or more) of the component
verbs is semantically "bleached". At this latter extreme, for example, is in
one of the favorite the causative constructions (e.g., (30-31) above), in
which the causative verb itself, etymologically related to the full verb
yabaia, aanaka 'to give', has just the grammatical function of forming the
causative construction. Within the spectrum as a whole, the extremes are
relatively clear. But the "productive core" is not always clear. Proper
understanding of this universe of verbal expression in Misumalpan will require
more study, of course, not only of verb sequencing itself, but of other
aspects of Misumalpan grammar as well.

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