Menominee preverbs as functional heads[1]

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This paper proposes that i) Menominee preverbs are functional heads behaving like those in other languages (cf. Cinque 1999); ii) linear order is derived from their proclitic status. The predictions of these proposals are discussed in light of data including behavior of individual heads; scope relations; children's errors; and the insertion of various elements into the preverb system. This is contrasted with the consequences of a morphological template; the syntactic approach is adopted as the most consistent analysis for Menominee's preverbs.

1 Introduction

This paper examines a sub-domain of a class of morphological verbal elements in Menominee, an Algonquian language from central Wisconsin. Although these elements have been described for related Algonquian languages (e.g., Rhodes 1976, Wolfart 1973, Goddard 1979), little has been done with Menominee since Bloomfield's (1962) work, which this paper attempts to remedy. Further, this paper contrasts the traditional approach to Algonquian verbal morphology – the morphological template – with a syntactic approach. Specifically, I examine the preverbs that correspond to functional categories. A comparison of the syntactic form and linear order of these preverb elements to Cinque's (1999) account of functional heads yields similarities that I argue are not coincidental. I show that the syntactic account proposed here unifies several aspects of the preverb system within Menominee, accounts for the linear ordering of preverbs, and provides a reference point for cross-linguistic analysis.

The paper is organized as follows. §2 describes preverbs' characteristics. §3 describes the traditional morphological template approach, and raises several problematic aspects. §4 considers the possible syntactic methods available for deriving preverbs' syntactic order, and proposes procliticization as the only valid option. §5 discusses linear ordering, and lays out Cinque's model of functional heads. §6 provides evidence for the relative order of Menominee preverbs, and shows how it matches to Cinque's order.

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Other preverb phenomena that support a syntactic analysis rather than a position class chart are discussed in §7, and further issues are raised in the concluding §8.

2 Sketch of Preverbal Properties

Preverbs are morphemes attached to the left of the verb (i.e. *pre-verbal*) that typically qualify the verb stem. In (1a) the bare verb stem is *mīcehsi-* 'eat'; in (b) the preverb modifies the event with volition:[2]

(1) a. …as mī´tsihsit,… T6:10:2[3]
as mīcehsi -t
AOR eat.vti -3
'[when] he eats…' [tr. mod.]

b. as **kʌtäw**-mī´tsihsit T6:10:3
as **katāēw-** mīcehsi -t
AOR VOL- eat.vti -3
'when [he] is about to eat'

While multiple preverbs may be stacked on a single verb, the largest sequence of preverbs attested in texts is four, as in (2). It remains to be seen whether there is an upper limit on the number of preverbs that attach to a verb.

(2) …a-kē-yo˝h-mä´hnuw-ī´tua?. T5:8:6
aw$_1$- **kew**$_2$- **yoh**$_3$- **maehnow**$_4$- ītuaq
IRR- HAB- from.this- well- be.vai
'in order that they might become well from this use…' [tr. mod.]

Further, the Menominee person prefixes (*ne* – 1st, *ke* – 2nd, and *o* – 3rd) are found on the far left periphery, to the left of the leftmost preverb:

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[2]Abbreviations: 1/2/3: 1st/2nd/3rd; AOR(ist); ASP(ect); A.TH: animate theme; ADV(erb); CONT(rastive); DES(iderative); DIR(ectional); HAB(itual); HYP(othetical); IC: internal change; INV(erse); IRR(ealis); LCAL: local person; MOD(al); NEG(ation); PERF(ect); sg.: singular; pl(ural); RED(uplication); verbs: ai: animate intransitive; vii: inanimate intransitive; vta: transitive animate; vti: transitive inanimate.

[3] Due to limited availability of consultants, this work has been conducted from texts translated by L. Bloomfield (1929). The following texts are in the form Txxx:yyy,zzz, representing text number, page number, and line number, respectively: T5: *Medicinal Herbs*, by J. Satterlee; T6: *Wild Ginger*, by J. Satterlee; T20: *Buying a Canoe*, by J. Satterlee; T50: *Ancient Man*, by Maskwawanahkwatok; T60: *A Sorcerer and his Accomplices are Put to Death,* by Maskwawanahkwatok; T72: *Turtle Brings Ruin upon Himself*, by Kisewatohseh; T73: *Some Adventures of Meqnapus,* by Nehtsiwihtuk; T75: *Meqnapus visits his little brother*, by Nehtsiwihtuk; T86: *The Origin of the North Star*, by Nehtsiwihtuk; T103: *Red Swan*, by Nayähtow; T119: *The Frog Prince*, by J. Satterlee

Examples take from Bloomfield's (1962) *Menomini Language* or (1975) *Menomini Lexicon* are referenced by paragraph or page number as G(rammar):24.96 and L(exicon):270. Data also comes from manuscripts *Menominee Situation* (MS) and *Cannibalism* (CN) by Amos Striker, ca. 1920s, from a collection of Bloomfield's papers in the Collections of the National Anthropological Archives at the Smithsonian Institute.

(3) a. kʌn…**nitä**ʹpahʌʹnan T20:20:37 b. kʌn **nikā**ʹtaw-tepāhāʹnʌn

kan	**ne-**	tepāh	-anan	kan	**ne-**	katāēw-	tepāh -anan
NEG	1-	buy.it.vti	-NEG	NEG	1-	VOL-	buy.vti-NEG
'I am not buying it.' [tr. mod.]				'I do not intend to buy it.'			

T20:20:29

Preverbs mark information about (a) mood, (b) aspect, (c) adverbials, and (d) direction/location, as in (4):

(4) a. nikut tsi-niʹʌkut. T103:422:31 b. **kiw**-iwāʹhin T119:574:4

nikot	**cew**-niako	-t		**kew-**	ewāh	-en
one	HYP-see.vta	-3		HAB-	say.vai	-QUOT
'someone must've seen him.' [tr. mod.]			'He **keeps** saying.'			

c. päts-unāʹʔtuk T119:574:14 d. sāwanoh netōh-piam G:218

pāēc-	onāqtok		sāwanoh	ne-**yōh**-pia	-m
well-	it.is.arranged.vii		south	1-from-come.vai-	LCAL
'It was **carefully** made.'		'I come **from** the south'			

The habitual aspect, hypothetical mode, and manner adverbial preverbs in (a-c) illustrate a variety of uses that preverbs have. Further, the locative preverb in example (d) is derived from what is traditionally called a relative root particle. Relative roots are named for their cross-referentiality: they are semantically and syntactically dependent on an antecedent to be well-formed (Rhodes 1976). In addition, preverbs mark negation in other Algonquian languages (cf. Dahlstrom 2000 for Fox). However, this paper examines only preverbs falling into the categories of modality, mood and aspect.

3 Templatic Analysis of Preverbs

Many Algonquian scholars, including Bloomfield (1946), Goddard (1979), Wolfart (1973), Rhodes (1976), Dahlstrom (1991), and Valentine (1994) have analyzed Algonquian morphology in terms of a morphological template, a descriptive tool used to denote the linear order in which morphemes appear when concatenated onto a verb. Each morpheme fits into a slot (i.e., order is determined by position). For example, a morpheme that affixes onto the root or stem with no intervening morphemes is in the first position. Since only one morpheme may surface from a single slot in any given word, co-occurrences are restricted by positing that two or more morphemes are vying for the same slot in the template. Under the 10 suffixal postions of Bloomfield's (1962:101) position class chart has, a typical verbal complex is broken down as below:

(5) a. nkēs- kīʹskikiyawāʹhēkuk. T103:422:1

ne-	kēs-	kēskekīyāēhw	-Ek	-w	-ak
1-	PERF-	cut.throat.vta	-INV	-3	-AN.PL

'they chopped off my head.'

b. [$_V$ [ne-][**PV* kēs-**][$_{STEM}$ kēskekīyāēhw][$_1$ -Ek][$_2$][$_3$ -w][$_4$][$_5$][$_6$][$_7$][$_8$][$_9$ -ak][$_{10}$]]

Within Menominee's preverbal system, Bloomfield (1962:217) states that preverbs occur in a 'generally fixed order', and provides a list of preverb morphemes in their relative linear order. This is comparable to his treatment of inflectional morphology; others (e.g., Wolfart 1973) have explicitly framed the discussion of preverbs in terms of morphological templates.

While the template analysis accounts for the surface ordering of preverbal elements, there are several problematic aspects to the morphological template. First, it lacks predictive power: there is no reason why the preverbs should occur in any particular order, and little can be said about the significance of the specific ordering found in Menominee. In short, the order is extrinsically and arbitrarily imposed, not intrinsically determined.

The second problem follows from the observation that the order is stipulated: contrary to the facts, there is no reason to expect that the order found in Menominee should be found any other language, even related languages.

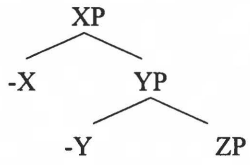
Third, a stipulated order poses problems for learnability. The connection between linguistic data and the system of knowledge that generates this data was not a goal of the structuralist tradition Bloomfield and other Algonquian scholars worked in, Chomsky's research program being the first serious attempt to unite these two pieces. However, Chomsky (1998) points out that at one point Hockett, a giant in American structuralism, admits the need for data to be organized in such a fashion that it shed insight into the way the mind worked (Hockett 1948). In terms of the present question, since the templates proposed within classical structuralist analyses are not universal, and thus not part of Universal Grammar, a child learning Menominee would be forced to rely on overt input to correctly create verbal complexes with preverbs.

Finally, the position class chart of templatic analyses sets no upper limit on the number of preverbs, except by limiting the number of positions. However, there seem to be more positions allowed (at least eight) than is attested for a single verbal complex.

Given these problems, an alternative analysis must answer two main questions. First: how is the linear order of preverbs derived? Second, what role are preverbs playing in the Menominee verb complex?

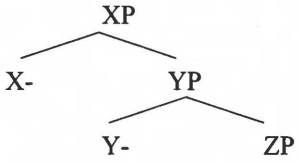
4 The first proposal: a syntactic derivation of linear order

The syntactic approach adopted here cannot stipulate the linear order of morphemes; ordering must be determined by an independent means. The majority of Cinque's (1999) work done on functional heads was based on languages in which the functional heads, if affixed to the verbal complex, are suffixal. The hierarchical tree structure used by Cinque is based on the (Generalized) Mirror Principle (Baker 1985), which posits that the order of suffixes is reflected (i.e., in reverse order) onto a hierarchical tree, as in (6):

(6) a. 

b. $[_X$ Z-Y-X] via cyclic head movement

In this system (cf. (6b)), the head of ZP moves cyclically to YP's head, where Y_0 is suffixed, and then to the head of XP, where the X_0 is suffixed, producing a single syntactic word. However, this will not work where the functional heads (PVs) are prefixal. Because the surface order of preverbs directly copies the order proposed by Cinque, without any mirroring, a different mechanism is needed. Following Déchaine 1999, I adopt a head-initial structure, and phonological procliticization derives the correct order (from Déchaine (1999)):

(7) a. 

b. $[_{XP}\ X_{cl}\text{-}\ [_{YP}\ Y_{cl}\text{-}\ [\ ZP\ ]\ ]\ ]$

Under phonological cliticization, preverbs are proclitics (i.e., they are phonologically dependent on the verb complex). Phrasal cliticization does not produce a syntactic word; this is evidenced by the fact that speakers do not stress preverb-verb complexes as a single word (Goddard 1990). Child errors recorded by Bloomfield (1962:214), provide additional support for the analysis:

(8) a. *nekēs-taeh-wīskew-apāēhnīhsaeh-āwem G:214

ne-	kēs-	taeh-	wēskew-	apāēhnīhsaeh-	āwe	-m
1-	PERF-	CONT-	good.PRENOUN	boy	be.vai	-LCAL

'But I have been a good boy'

Here the NP 'good boy' has been inserted between preverb and verb, indicating that the child recognizes preverbs are more loosely attached than, for example, the verbal suffixes (cf. Déchaine 1999). The phrases simply stack on each other; no movement is needed. This framework allows us to translate the linear order of Menominee preverbs, which we turn to next, into a hierarchical tree.

5 The second proposal: preverbs are functional heads

As a step towards resolving the question of how linear ordering is determined, I propose that we compare preverbs to cross-linguistic research conducted by Cinque (1999), which finds support for a universal ranking of functional projections. The class of functional elements is the closed class of elements composed of categories including "I(nfl)" "C(omp)" "D(et)", tense, mood, modality, and aspect; functional categories are contrasted with the open class of lexical elements, classically including verbs, nouns, adjectives, and

prepositions (cf. Abney 1987). Cinque compared functional heads from all major language families and showed that the relative ordering of functional heads remains consistent across all languages. If Menominee preverbs parallel the order described by Cinque, a language-specific template is not needed. Instead, the linear ordering of these functional elements follows straightforwardly from the universally available hierarchical order. Let us now examine that order. Figure (1) reproduces a tree of Cinque's functional projections (1999:76); those that are discussed here for Menominee are bolded:

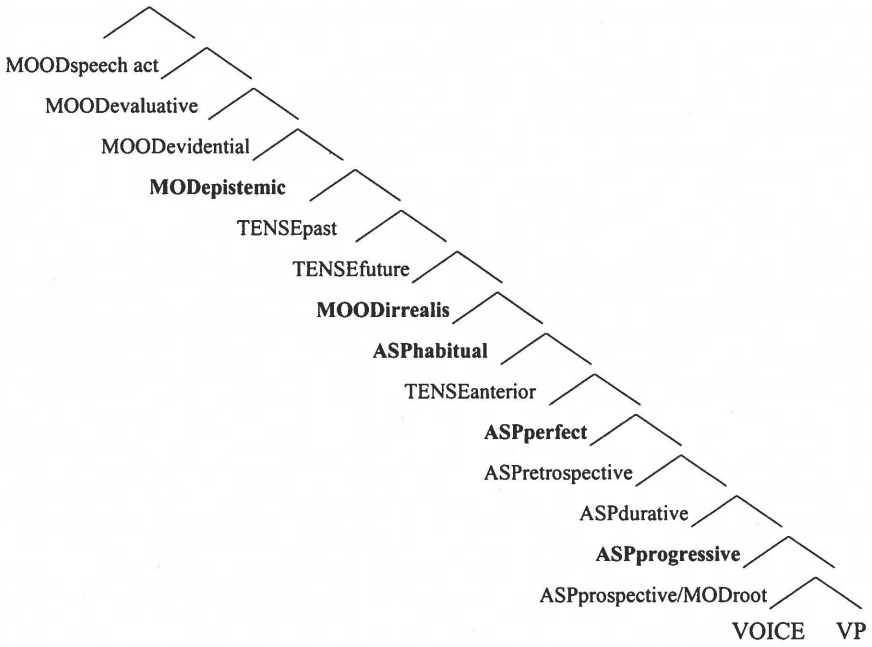


Figure 1: Functional Projections in Cinque's Model

According to Kayne's LCA (Kayne 1994), we would expect the hierarchy in Fig. 1 to be straightforwardly reflected by linear order. Thus, we can extract the preverbs under present consideration (those of mood, modality and aspect) from Fig. 1, and look at them in contexts where multiple preverbs attach to a verb. The syntax as described by Cinque predicts that the ordering for Menominee modal and aspectual preverbs, being proclitics, would be as represented in (9):

(9) $MOD_{epistemic} > MOOD_{irr} > ASP_{hab} > ASP_{perfect} > MOD_{voli} > ASP_{prog}$

In this model ordering is not arbitrarily imposed, but falls out from universal hierarchical relationships between functional heads. We now turn to the Menominee data to see how these syntactic predictions are borne out.

6 Linear Ordering of Menominee Preverbs

Starting from the top of the tree, the first two functional categories under consideration are epistemic modal and irrealis mood. Menominee's *cew-* 'must, probably' is an epistemic modal, confidence that an event has occurred, as in "John isn't here, so he **must** be working." Examples are given in (10):

(10) a. nikut tsi-ni´ʌkut. T103:422:31
nikot **cew-**niako -t
one HYP-see.vta -3
'someone **must've** seen him.' [tr. mod.]

b. isä´h **tsi-**kī´kitit: T103:426:14
esāēh **cew-** kēketi -t
aha! HYP- talk.vai -3
'he **must have** said:' [tr. mod]

Menominee also has an irrealis modal, *aw-* 'will, in order to'. In (a), the preverb express a future general in a dependent clause; in Indo-European languages this is often expressed with a subjunctive. In (b), the irrealis marks a purpose clause:

(11) a. …**a**-payā´siwet, T103:426:7
aw- payāsewae -t
IRR- outdistance.others.vai -3
'…he who outruns the others,'

b. nikēs-ʌnō´nek as **aw**-ntāwā´pahtaman mamā´tsiʔtaw-me´ʔtikōs.
ne-kēs- anōnek as **aw**-nitāwāpahtaman mamāceqtaw-meqtikōs
1- PERF-employ.vti AOR IRR- look.for.vti Indian- dug.out
'[he] has commissioned me **to** look for an Indian dug-out canoe.'
T20:20:2

When the two heads co-occur, Cinque's model predicts (12).

(12) **MOD$_{epistemic}$** > **MOOD$_{irr}$** > ASP$_{hab}$ > ASP$_{perfect}$ > MOD$_{voli}$ > ASP$_{prog}$

Bloomfield's (1962:215) observations are consistent with this prediction; he lists *cew-* as the first of any combination of preverbs. Further, when epistemic modal and irrealis modal co-occur, the epistemic modal preceds the irrealis modal:

(13) **cew-** **aw-** esēqtayan G:215
cew- aw- esēqta -an
HYP- IRR- do.so.vai -1.sg
'The **very idea** that I **might** do that!'

Moving further down the tree, the next category we encounter is the habitual aspect. This is found in the preverb system as *kew-*, as seen in (14):

(14) a. … **kiw**-iwā´hin T119:574:4
kew- ewāh -en
HAB- say.vai -QUOT
'…he **kept** saying.'

b. …nä´ʔtʌm **ki**´-piʌt… T103:424:22
nāēqtam **kew-** piā -t
first HAB- come.vai-3
'[he] **always** came first…'

For theory-internal reasons, Cinque proposes that irrealis mood occupies a higher position in the tree than habitual aspect, as in (15).

(15) **MOD$_{epistemic}$ > MOOD$_{irr}$** > ASP$_{hab}$ > ASP$_{perfect}$ > MOD$_{voli}$ > ASP$_{prog}$

Unlike most of his proposed orderings, Cinque has no direct evidence for this hierarchy. Menominee provides direct evidence to support this claim; in (16), both the irrealis mood *aw-* and the habitual aspect *kew-* co-occur on the same verb. In each case, the irrealis marker precedes the habitual aspect:

(16) a. **a-kē**-yō´h-mä´hnuw-ī´tua? T5:8:6

aw-	**kew-**	yoh-	maehnow-	īt	-uaq
IRR-	HAB-	for.that.reason	well	be.vai	-3.pl

'in order that they might become well from this use…' [tr. mod.]

b. nemēnāw as **a-kew**-ōk G:216

ne-mēn-	-a	-w	as	**aw-kew**-NULL		-ōk	-w
1-give.vta	-A.TH	-3	AOR	IRR-HAB-use.vai		-INV	-3

'I give it to him to use.'

Another aspect marker is *kēs-*, often denoting an event as finished. In the dependent clause in (17a), a pluperfect reading is obtained; in the matrix clause of (17b), a translation of a perfect aspect in the present tense is obtained.[4]

(17) a. **kayēs**-ahsā´mih T103:420:8

kēs-	-ay-	ahsam	-Aeht
PERF-	-IC-	feed.vta	-3.PASS

'After he'**d** been fed'

b. **kīs**-pīw! G

kēs-	pī	-w
PERF-	come.vai	-3

'he **has** come!'

Like the habitual *kew-*, the perfect *kēs-* is predicted to follow the irrealis *aw-*:

(18) MOD$_{epistemic}$ > **MOOD$_{irr}$** > ASP$_{hab}$ > **ASP$_{perfect}$** > MOD$_{voli}$ > ASP$_{prog}$

Menominee data is again consistent with this prediction:

(19) ānetowak kāēqten new as **a-kēs**-enae:nemit G:216

ānetowak	kāēqten	new	as	**aw- kēs-**	enāēnemae	-w	
wonder.how	really	CONT	AOR	**IRR-PERF-**	think.of.him.vta	-3	

'I wonder how it is, whether he has really thought thus of me'

Assuming that a verb will not select more than one preverb of a category (e.g., modality, mood, tense, aspect), it is not surprising that at this point it is difficult to provide evidence as to the linear ordering of the various aspectual preverbs,

[4] Bloomfield (1962) gives 'past' as a translation for this preverb; for the reasons given, I adopt an analysis of this head as an aspect, rather than a tense, marker.

since they are members of the same class. With regards to the habitual *kew-* and the perfect *kēs-*, their co-occurrence could not be established from the texts.

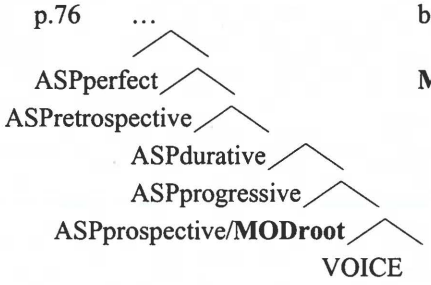
We now turn to the ordering of perfect aspect relative to a root modal. This volitional modal *katāēw-* is used to express intention to commit an action:

(20) a. ni?-pih täh **kä´ti**-pahkä´sahkua? nih. T103:426:26
eneq-peh taeh **katāēw**--ay- pahkāēs-am -k-uaq eneh
then.IND- and VOL- -IC- cut.off.vtiTI.final -3-3.pl that
'they mean to cut the thing off.'

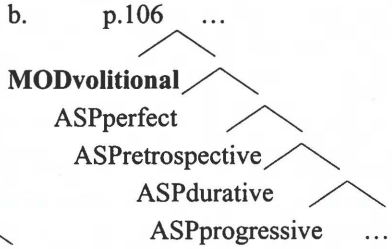
b. …**kikā´tew**-anō´nin. T103:420:40
ke- **katāēw -** anōn -en
2- VOL- employ.him.vta -INV
'…I **want** you to do something for me.'

There are cross-linguistic contradictions in the position of root modals. As Cinque (1999:204) notes, "volitional/nonvolitional affixes…seem to find their place in the head of $ModP_{volition}$, although more work (**e.g., concerning the relative position of the volitional affix**) is needed before any conclusion can be reached". Given the paucity of evidence, he leaves the question open (1999:90) and provides two separate positions for these modals, although neither is based on evidence from a specific language:

(21a) p.76 …



b. p.106 …



Considering this ambiguity, let us see how Menominee's preverb *katāēw-* behaves. First, it must be established that Menominee fits Cinque's classification of a volitional modal. The translation is consistent with the concept of volitionality, but difficult to use as a diagnostic; better evidence comes from the classes of events which *katāēw-* qualifies, and the respective semantic content it conveys. While this morpheme typically "…denotes that the actor … has an inner tendency to the action which he will presumably carry out" (Bloomfield 1962: 216), it may also select for events that do not involve volition, e.g., weather verbs, as in (22):

(22) katāēw-kemēwan G:217
katāēw- kemēwan
VOL- it.rains.vii
'It's going to rain'

In the light of cross-linguistic behavior of morphology that expresses volition (e.g., Sinhala (Inman 1992)), this is a common phenomenon. Cinque's argument, developed from the notion of marked and default values used by Bybee 1985 and others, is useful here. Cinque posits that there is a marked and a default value for all functional projections, where 'default' is the unrestricted sense (i.e., *horse*), and 'marked' is the more restricted form (e.g., *mare*). This concept of markedness appears to work particularly well for modals such as a volition marker. A volitional marker with the **marked** value expresses an event that happens with a *lack* of volition; such a marked form (which Menominee does not appear to have) is predicted to exclude non-volitional events (i.e., weather verbs). On the other hand, a volitional marker with the **default** value of –[–volition] can be expressed on the widest range of events, including volitional events (*I want to go to town*), and non-volitional events (*It's going to snow*). In this context, it is apparent that Menominee's *katāēw-* is the default marker of volition: it carries the default value, and thus can express volition or qualify an event unspecified as to volitionality; it behaves just as Cinque predicts.The tree in (FIG.1) predicts that it is relatively ordered with the perfect aspect as in (23):

(23) $MOD_{epistemic} > MOOD_{irr} > ASP_{hab} > \mathbf{ASP_{perfect}} > \mathbf{MOD_{voli}} > ASP_{prog}$

The Menominee volitional morpheme *katāēw* follows the perfect aspect *kēs*[5]:

(24) a. **kēs-** **katāēw-** nātamowāēw G217
kēs- **kataēw-** nātamowāē -w
PERF- VOL- help.vta -3
'he had meant to help him' [tr. mod.]

The final functional head under consideration is the progressive aspect, which is marked in Menominee with the preverb *maek-*, as in (25):

(25) a. ne**māēk**-osēqtam L:119
ne-**maēk**- osēqta -m
1-PROG - get.ready.vai -LCAL
'I **am now** gett**ing** ready.'

b. ne**māēk**-weyak-pīhaw G:218
ne-**māēk**-weyak- pīh-ā -w
1-PROG-someone-wait.vta-A.TH-3
'I **am** wait**ing** for someone.'

The volitional modal *katāēw-* also occurs before the progressive aspect marker:

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[5] This morpheme is also specifically noted as being able to occur in another position at the bottom of the tree, consistent with (20a) (cf. Bloomfield 1962:217). This variation of location within the tree is again consistent with volitional elements across languages.

(26) iniwi´n niw äs-nakā´ʔtʌt as **kʌtä´w-mäk**-mī´tsihsit T86:246:7
enewen niw aes- nakāqtat as **katāēw-maek-** mīcihsi -t
then CONT thus- stop.vai AOR VOL- PROG- eat.vai -3
'At once he ceased from the meal which he was beginning.' [tr. mod.]

Finally, if we condense all pairs provided above into a single list, we can see that an overall relative ordering of these elements has been established, with only the ordering of one pair undetermined:

(27) a. cew > aw > kew ↔ kēs > katāēw > māēk
EPISTEM. IRREAL.HABIT. PERFECT VOLITION PROGRESSIVE
'must' 'will' 'usually' 'has' 'want to' 'ing'

This linear ordering conforms to Cinque's functional projection tree, as well as matching up to the order Bloomfield describes (1962:216-7). Since both Cinque and Bloomfield place the habitual aspect above, or before, the perfect aspect, given the consistency of the data above, the ordering in (27) is adopted.

7 Morphological Templates vs. Hierarchical Structures

Cinque's analysis can be seen in terms of a morphological template applied to syntax, so let us consider the advantages of employing his analysis. One insight that is not predicted by the morphological template is the universality of the pattern. A template does not say anything about how another language might be ordered; in fact, because languages handle functional categories differently (e.g., prefixing vs. suffixing, rich vs. weak morphology), two templates seldom 'look' alike. Further, not all languages – e.g., English – have rich morphology, so a morphological template cannot account for cross-linguistic similarities.

Another consequence of this analysis is that we gain insight as to the function of preverbs within Menominee syntax. Although it does not account for the behavior of all preverbs (cf. relative roots in §7), it allows us to sub-divide them into theoretically-motivated classes.

I next discuss three additional phenomena for which the syntactic approach is amenable: the 'incorporation' of discourse particles, quantifiers, and other material into the prefixal system; scopal differences; and cross-linguistic hierarchies of modality, aspect, locatives, and adverbials.

7.1 'Incorporation'

Framing preverbs in terms of functional categories provides insight into how 'incorporated' particles fit into the preverb system. These elements are inserted between preverbs or between preverb and verb, as in (28):

(28) a. nemāēk-weyak-pīhāw G:218
ne- māēk- **weyak-** pīh -ā -w
1- PROG- someone- wait.vta -A.TH -3
'I am waiting for **someone**'

b. kayēs-mā′waw-mātsi′ʌnitsin apähnī′hsʌn. T72:166:9
kēs- -ay- māwaw- mācianicin apaenīhsan
PERF- -IC- all- go.away.vai young.man
'after the young men had all gone away.'

c. hā′w, kayēs-misēwä′-niw-isi′ʌt, T73:182:10
hāw kēs- -ay- misēwae- new- isia -t
now PERF -IC- everywhere CONT- go.vai -3
Then, when he had gone everywhere,

In (a-c), we see an existential and two universal quantifiers occurring between a preverb and verb. This is reminiscent of the universal quantifier in Blackfoot's preverb system (cf. Glougie 1998:21), although Blackfoot's quantifier moves higher in the tree than Menominee's does. Emphatic pronouns occur between preverb and verb (d); and between two preverbs (e).

d. nikē′s-ninah-a′p-esē′htsika′sim as a-kēw-ise′ʔtayan, T75:204:12
ni-kēs- nenah- ap- esēhcikasi -m as aw-kēw- esēqta -yan
1-PERF- EMPHATIC DIR- be.made.so.vai -LCAL AOR IRR-HAB-do.so.vai-1
'I, to be sure, do naturally do that way…'

e. s awē′h-wi′nah-ap-kākē′kitutawa′tsin. T72:164:23
as awēh- wenah- ap- kā- kēkitutawacin
AOR go- EMPHATIC-DIR-RED-talk.to.vta
'he too was going to talk to her.'

Finally, in (g), a discourse particle occurs between two preverbs, while in (h) a second immediately precedes the verb. For (g), the functional head projects a specifier, which is a syntactic landing spot, eliminating the need to switch or add slots. These are rich topics for further study, but outside the scope of this paper.

g. hā′, nitā′wats- **uma′nakah-** sis- wʌ′skēm. T103:420:14
hāw ne-nawac- **omanakah-** eses- waske -m
well 1-first- over.there thus go.back.vai -LCAL
'First I must go back a while to the other place.' [tr. mod.]

h. mä′k-niw-pimä′skʌt, T73:178:12
maek- new- pimaeska -t
PROG- CONT- along.travel -3
'As he traveled along,…'

7.2 Scope

Another benefit of the syntactic analysis is that it provides hierarchical structure, which in turn can predict scopal relations. In English, semantic interpretation indicates that structural demands restrain the order of functional elements. Contrast (29a) and (29b), (cf. Jackendoff 1972 and Cinque 1999:19):

(29) a. John has answered their questions cleverly.
b. John cleverly has answered their questions.

In (29a), John answered the questions in a clever way but need not be clever himself; in (29b) John was clever because he answered the questions. The contrast indicates that the adverb's position is crucial to the sentence's construal.

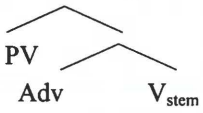
Menominee exhibits the same contrast; Bloomfield notices (1962:216), that preverbs sometimes are in orders unexpected by the template:

(30) a. nekāta- kāēqc-mīcehsim
ne-katāēw- kāēqc- mīcehsim
1- DES- much- eat.vti
'I am planning on eating a big meal'

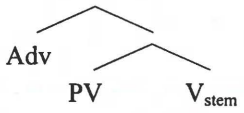
b. nekāēqc-katāēw-mīcehsim G
ne-kāēqc- katāēw-mīcehsim
1- much DES- eat.vti
'I very much want to eat.'

In (a), the intensifying adverb *kāēqc-* 'much' modifies the dependent verb *mīcehsim* 'eat' and the volitional element modifies that event as a whole. In (b), the volitional element modifies the dependent verb *mīcehsim* 'eat', and *kāēqc-* 'much' modifies the entire proposition of wanting to eat. The contrast in meaning can be represented by the figures in (13a-b):

(31) a.

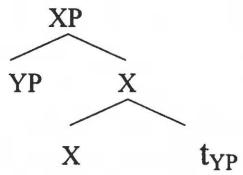


b.

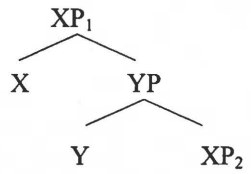


Cinque proposes two accounts for the ordering differences between two AdvPs. The first is that the lower AdvP moves to the upper AdvP's spec, as in (32a):

(32) a.



b.



As Cinque (1999:20) argues, this structure does not predict a change in scope, since the moved element should retain the scope of the trace. An alternative is that some AdvPs can be base-generated in two different positions, as in (30b). The second analysis predicts that scopal differences would arise depending on

which position the adverb was filling. (32b) also predicts that both positions should be able to be filled, making the unattested sentence in (33) well-formed:

(33) ne**kāēqc**$_1$-katāēw-**kāēqc**$_2$-mīcehsim (unattested)
'I **very much**$_1$ want to eat **a lot**$_2$.'

The (un)grammaticality of this sentence would provide evidence as to the more accurate analysis. Although I provisionally adopt (32b) based on the contrast in meaning, this is a topic for more research.

7.3 Multiple Preverbs occur in Cross-linguistic Pattern

While a tree with the degree of fine-grained distinction as in Cinque's tree (cf. Fig.1) isn't particularly distinct from a morphological template with hierarchy imposed on it, it is not inherently necessary to believe that every language has all functional projections (although Cinque does argue for this 'strong' interpretation). When the functional categories are grouped in separate classes, specific patterns remains: at least since the 1970s, it has been noticed that a hierarchy exists between *types* of functional heads. Work on Creoles by Singler (1990), and cross-linguistically by, e.g., Foley & Van Valin (1984) and Bybee (1994) suggest that a universal hierarchy exists for adverbial, tense, aspect, modality, and locatives, as in (34):

(34) [MODALITY [TENSE [ASPECT [LOCATIVES [ADVERBIALS [VP]]]]]]

In this system, adverbials are closer to the verb, with directionals, aspect, tense, and modality forming ever-higher nodes. The prediction is that languages do not have sentences where, for example, an adverbial is higher than modality:

(35) *I [$_{ADV}$ slowly [$_{MOD}$ might [$_{VP}$ ride my bike]]].

Although Cinque's model has overlaps between, for example, tense and aspect positions, an overview of his tree yields the same hierarchy as these earlier studies. In Menominee, this same hierarchy is most clearly manifested in examples such as (36), when multiple preverbs qualify a single verb:

(36) a. cew-kes-pes-eses-nānōhtowuaq CN

cew-	ke:s-	pes-	eses-	nānōhtow	-uaq
HYP-	PERF-	hither-	thus	hear them.vta	-3.pl
MOD-	**ASP-**	**DIR-**	**ADV-**	VERB	

'always in the past they must have repeatedly heard [their ancestors]'

b. a-kē-yō´h-mä´hnuw-ī´tua? T5:8:6

aw-	kew-	yoh-	maehnow-	ītuaq
IRR-	HAB-	from.this	well	be.vai
MOD-	**ASP-**	**DIR-**	**ADV-**	VERB

'in order that they might become well from this use…' [tr. mod.]

c. tsi-kēs-pis-ne´?takät, pis-kä?c-wē´wasiw T60:108:27

cew-ke:s-	pes-	neqtakaet,	pes-	kaeqc-	wēwasiw	
IRR-PERF-	hither-	naeqtakae:w.vai	hither-	great	have.pack.vai	
MOD-	**ASP-**	**DIR-**	VERB	**DIR-**	**ADV-**	VERB

'He must be coming from killing some game, for he brings a big pack'

In (a-b), a preverb from each of Menominee's functional categories is associated with the verb in the exact same order, even though the individual preverbs are distinct. In (c) two separate verbs have distinct categories of preverbs associated with them; again the order is the same. Thus, not only is there consistent linear ordering among preverbs, but this order conforms to (36).

8 Conclusions and Further Work

I have shown that analyzing preverbs as functional projections allows much of their order to fall out naturally. This eliminates the need for language-specific stipulations of the ordering of these morphemes. On the other hand, there are many issues yet unresolved. Although there is a correlation between preverbal morphology and functional elements, it is apparent that:

i) not all preverbs fit into Cinque's functional categories

ii) not all functional categories are realized in the preverb system

Regarding (i), some preverbs do not coincide with the Cinque's functional projection categories. Consider (37):

(37) sāwanoh net**ōh**-piam G:218

sāwanoh	ne-**yōh**-	pia	-m
south	1- from.there-	come.vai-	LCAL

'I come **from** the south.'

Here a referential preverb is derived from a relative root. As with all relative roots, it is referentially dependent on a syntactic antecedent to be well-formed (cf. Rhodes 1976; Bruening 2001). Their properties of syntactic visibility and referentiality put them in a separate functional category from tense, aspect, and modality markers. Bruening (2001) creates a relative root phrase that sits lower than tense, aspect, and modality, but higher than adverbials.

Regarding (ii), functional morphology occurs elsewhere in Menominee. For example, the reported evidential (known as the quotative) is right-attaching, rather than left-attaching, as in (38a), while the evidential *pas* is an independent particle, as in (38b). Thus it is clear that a study restricted to preverbs does not provide a comprehensive look at Menominee functional heads.

(38) a. siwas sī'ska?te'**win** T103:420:16
sewas si:skaqtae -w-**en**
there.in.sight lie.open.vii-3 **-QUOT**
'it lay there in plain sight' [tr.mod.]

b. pas kepiam G
pas ke-pia -m
might 2-come.vai-LCAL
'suppose you come'

A final issue is that some preverbs, particularly 'lower' adverbials and directional/locatives, often occur in two forms (cf. Dahlstrom 2000 for Fox)

(39) a. pis-**wäp**-kāku'ahnewin umā'hkahkōw. T119:574:33
pes- **wāēp-** kā kuahnaewen umāhkahkōw
coming- start- RED- hop.vai frog
'The frog **began to** come hopping in.' [tr. mod.]

b. **wāēp**ānemat L:270
waepānema -t
wind.starts.to.blow.vii -3
'the wind **begins** to blow'

The 'full' form in (39a) is outside the verbal complex and is considered a preverb. The form given in (39b) will often if not always be phonologically reduced, and occurs inside the verb stem.[6] The consequences of this for the syntax of functional heads needs further discussion (cf. Goddard 1990).

Despite these remaining issues, a hierarchical structure provides answers to issues that a morphological template has difficulty dealing with. In terms of the phenomenon of functional projections, not only does linear order become predictable and the function of preverbs clearer, but the data in Menominee sheds light on the discussion of the syntax of and universal relations between functional projections. In terms of research into the Algonquian languages, the current analysis provides additional tools for better understanding the various syntactic and semantic role(s) of this morphological class of entities.

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[6] In most Algonquian languages (e.g., Cree, Fox, Ojibwe), preverbal forms are marked by a morphological suffix *–i*. Menominee is an exception to this rule (Ives Goddard, p.c.)

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