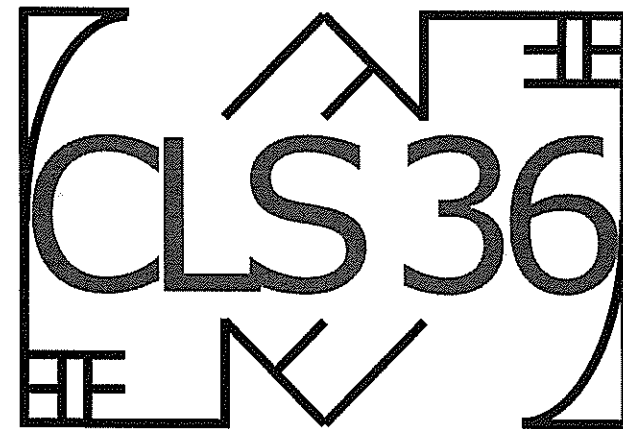


Dahlstrom

The 36th Meeting of the Chicago Linguistic Society



THE PANELS

2000

Edited by:
Arika Okrent
John P. Boyle

Acknowledgements

The Chicago Linguistic Society has been around for longer than anyone can remember. It originally served as a forum for linguists in the Chicago area to share their work with each other. Last year (2000), Eric Hamp discovered in his papers an old announcement for "The Anniversary Meeting of the Chicago Linguistic Society". There are notes from his dissertation in the margins, which dates it to 1952. The speakers for this meeting were Professor Gerhardt von Bonin, School of Medicine, University of Illinois, who spoke on "The Cerebral Cortex and Language" and Professor Norman A. McQuown, University of Chicago, who spoke on "Language and Thought". Neither of these titles would be out of place at a modern CLS meeting.

Eric Hamp told us that this 1952 announcement was for the first anniversary meeting of a reconstituted CLS. He explained that CLS had taken a hiatus during World War II but that there was, in 1951, one older graduate student who had been here at the University of Chicago in the 1930s. This nameless student had been a CLS officer (or organizer) in 1939. When asked, Eric Hamp wasn't sure how old CLS was but he confirmed that CLS definitely went back as far as Leonard Bloomfield's time here at the University (1927- 1940) and he suspected that it could possibly be traced back farther to when Edward Sapir taught here (1925-1931).

In the spring of 1965, through the efforts and initiative of Chairman Doris Bartholemew, the Chicago Linguistic Society held its first regional meeting. Since then, the spring meeting has been an annual event. In 1968, the papers from the fourth meeting were published as a volume. The conference proceedings have been published ever since. The conference and volumes have grown through the years and by CLS 5 the "regional" meeting had certainly taken on a rather more "national" character. By CLS 8 the papers from the special session (in this case, the Relative Clause Festival) numbered enough to warrant publication in their own separate volume. Since CLS 21 the parasession volume has been published as volume 2 of the annual proceedings, rather than as a separately cataloged title. Since CLS 33, three panel sessions on specific topics in linguistics have run parallel to the main session rather than the former day-and-a-half main session and a day-and-a-half parasession. This year, the once regional meeting was truly international, and we are publishing 36 papers in the main session volume and 34 in the panel session volume.

The CLS volumes now take almost a year to proof and edit. This massive undertaking could not be done alone and we owe many people a great deal of thanks.

We would like to acknowledge all the help that the students and faculty from the Linguistics Department at the University of Chicago put in over the entire year to make the CLS conference a success. Without them neither the conference nor CLS would be possible. It is their donation of countless hours to do many thankless tasks that makes CLS the success it is.

We would like to thank the following people for all the work they did before the conference reading abstracts, during the conference doing various tasks, and after the conference doing the initial proofreading and copy-editing of all of the accepted papers: Greg Anderson, Mary Andronis, Chris Ball, Sabrina Billings, Gail Brendel Viechnicki, Drew Clark, Chris Corcoran, Audra Dainora, Greg Davidson, Matt Duncan, Randy Eggert, Heidi Elston, Susie Gately, Aaron Griffith, Katie Gruber, Derrick Higgins, Mika Ishino, David Kaiser, Steve Kleinedler, Joanna Lowenstein, Barbara Luka, Karl-Erik McCullough, Lisa McNair-Dupree, Yoko Mizuta, Barbara Need, Sylvain Neuvel, Ken Olson, Sheri

CLS 36: The Panels
(The Proceedings from the Panels of the Chicago Linguistic Society's
Thirty-sixth Meeting. Volume 36-2)

First edition

Library of Congress Catalog Card Number 76-27943

ISSN 0577-7240

ISBN 0-914203-59-2

For information on other publications by the Chicago Linguistic Society, contact:

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Morphosyntactic Mismatches in Algonquian: Affixal Predicates and Discontinuous Verbs

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1 Introduction

In this paper I discuss phenomena from the Algonquian language Fox, or Mesquakie, spoken by several hundred people in eastern Iowa, which exhibit mismatches between a functional notion of 'argument-taking predicate' and a morphological or phonological notion of 'word'.¹

As pointed out in Ackerman and Webelhuth 1998, many theories of syntax operate with the assumption that lexical information, such as the number of arguments required by a given predicate, is associated with a single morphological object, such as a verb, which gets inserted into a phrase structure tree as one of the terminal nodes. Strong versions of the Lexical Integrity Hypothesis assert that the internal morphological structure of such syntactic elements is opaque to syntactic processes. For example, Lexical Integrity would rule out an analysis in which an incorporated noun functions as the syntactic object of its verb; it would also rule out the corollary situation, that the argument-taking predicate is realized as only a portion of the verb stem. A further widely-held—but usually unnamed—assumption is that a single predicate will be expressed by a morphologically coherent unit: in other words, by at most a single syntactic item. This assumption, which Ackerman and Webelhuth 1998 label MORPHOLOGICAL EXPRESSION, is challenged by languages such as German and Hungarian, where preverbs may appear separated from their associated verbs. It should be pointed out that separable preverbs and similar constructions are an especially thorny problem for syntactic frameworks without movement transformations, since in these models one cannot appeal to an underlying level of phrase structure in which the preverb and verb form a constituent.

The Algonquian languages present phenomena which are problematic both for the strong Lexical Integrity Hypothesis and for a strict version of Morphological Expression: constructions such as the causative and incorporated secondary predicates are best analyzed as having active syntactic processes occurring within the boundaries of the word, violating Lexical Integrity, and especially in Fox, preverbs frequently detach from their verbs, appearing on the left edge of the clause. In Fox, the separation of a preverb from its verb has dramatic consequences for the distribution of inflectional morphology: the verb's inflectional prefix is realized on the preverb and the inflectional suffixes are attached to the verb. This is true even for inflectional categories expressed by discontinuous morphemes: the separation of a preverb from its verb entails that the discontinuous morpheme is syntactically discontinuous as well.

Fox preverbs have been cited by Ackerman and Webelhuth 1998 and by Ackerman and LeSourd 1993, 1997 as support for their view that the lexicon must

be much more complex and flexible than standardly assumed in order to handle phrasal predicates and the typological variation found in causatives and other constructions. Ackerman and his co-authors have focused primarily on German and Hungarian, however, in presenting detailed analyses. What I want to do in today's paper is to look more closely at three phenomena in Fox, assuming the position on the lexicon articulated by Ackerman and Webelhuth, and discover what this entails for the lexical representation of predicates in Fox. Instead of the HPSG framework of Ackerman and Webelhuth, however, I will assume an informal LFG-style framework.

The structure of the paper is as follows: section 2 briefly describes instances of word-internal syntax found in Fox; section 3 discusses a problem in the formation of preverb-verb compounds. The remainder of the paper focuses on the phenomenon of discontinuous compound verbs and their interaction with inflectional morphology. Section 4 therefore presents some background information about Algonquian verb inflection before we turn to the discontinuous verbs in section 5.

2 Word-internal syntax

In this section I will briefly sketch a case for considering certain morphemes, smaller than a full word or a full verb stem, to be argument-taking predicates.²

The first case to consider is that of the causative in Fox. Causative stems are forming by adding a suffix, typically *-(i)h-*, to a verb stem, as seen in the following pairs of base stems and derived causative stems.

- | | | | |
|-----|--------------------------------|------------------------|---------------------|
| (1) | Causative suffix <i>-(i)h-</i> | | |
| a. | <i>mayo-</i> | <i>mayo·h-</i> | |
| | 'weep' | 'make O weep' | [O= (first) object] |
| b. | <i>či·tapih-</i> | <i>či·tapih-</i> | |
| | 'sit upright' | 'make O sit upright' | |
| c. | <i>a·hkwe-</i> | <i>a·hkwe·h-</i> | |
| | 'be angry' | 'make O angry' | |
| d. | <i>kehke·net-</i> | <i>kehke·netamwih-</i> | |
| | 'know' | 'make O know O2' | [O2= second object] |
| e. | <i>we·pi·hk-</i> | <i>we·pi·hkamwih-</i> | |
| | 'start using' | 'get O started on O2' | |

If the input stem is intransitive, the causative is added directly to the stem; if the input stem is transitive, the causative is added to an extended form of the stem, with the following syntactic consequences: the subject of the input stem is realized as (first) object of the derived causative, and the object of the input stem is demoted to second object of the causative verb.³

Formally similar to the causative stems are verb stems in which a secondary predicate has been incorporated into the initial portion of the verb stem. In other words, in both the causative construction and the secondary predicate

construction, the matrix predicate appears on the right of the verb stem and the embedded predicate appears on the left. An especially productive matrix predicate is *-e·nem-* 'think, consider', as seen in the sampling in (2):

- | | | |
|-----|------------------------------|---------------------------------|
| (2) | <i>-e·nem-</i> | 'think, consider' |
| a. | <i>nepwa·hka·we·nem-</i> | 'consider O smart' |
| b. | <i>pašitowe·we·nem-</i> | 'consider O a liar' |
| c. | <i>a·hk·wamatamo·we·nem-</i> | 'think O is sick' |
| d. | <i>asa·mehkonowe·nem-</i> | 'think O overate' |
| e. | <i>ayi·hkwe·nem-</i> | 'think O is tired' |
| f. | <i>nepo·we·nem-</i> | 'think O is dead' |
| g. | <i>kehke·netamo·we·nem-</i> | 'think O is conscious' |
| h. | <i>anehka·we·we·nem-</i> | 'think O is acquainted with O2' |

What is the proper syntactic representation for constructions such as the causative or the incorporated secondary predicates? The output of such suffixation processes may be viewed in one of two ways. Either the output is a single argument-taking predicate (which is semantically complex) or we have two argument-taking predicates realized in the same morphological word. To make the alternatives more concrete, consider the following inflected forms:

- | | |
|-----|---|
| (3) | <i>nepwa·hka·we·nema·wa</i> |
| | <u>ne</u> +nepwa·hka·w+e·nem+ <u>a</u> +w+ <u>a</u> |
| | I+be.smart+consider+DIRECT+3+(3).SG |
| | 'I consider him smart.' |
| (4) | <i>nemayo·ha·wa</i> |
| | <u>ne</u> +mayo·h+ <u>a</u> +w+ <u>a</u> |
| | I+weep+CAUSE+DIRECT+3+(3).SG |
| | 'I made him weep.' |

The underlined affixes, *ne-* and *-a·wa*, combine to express a first person singular subject acting on a third person singular object, in the independent indicative mode.⁴ For an explanation of the suffix glossed 'direct' see section 4, in which I discuss the inflectional affixes in more detail.

If the output of adding a causative suffix or a predicate like 'consider' is a single argument-taking predicate, we would get a syntactic representation something like the informal LFG-style functional structures in (5):

- | | |
|-----|--|
| (5) | Only one argument-taking predicate. |
| | [|
| | PRED 'consider-smart <SUBJECT OBJECT>' |
| | SUBJECT 'I' |
| | OBJECT 'him' |
| |] |

PRED	'make-weep <SUBJECT OBJECT>'
SUBJECT	'I'
OBJECT	'him'

That is, the single predicate of the expression in (3) is 'consider-smart', which requires a subject and an object. The subject requirement is satisfied by the inflectional material expressing first person singular and the object requirement is satisfied by the inflection for third person singular. The same analysis can be given for the causative construction in (4).

If, on the other hand, the causative or the suffix 'consider' functions as a separate argument-taking predicate, we would have the two-level functional structure as in (6).

(6) Two argument-taking predicates.

PRED	'consider <SUBJECT OBJECT SEC.PRED >'				
SUBJECT	'I'				
OBJECT	'him';				
SEC.PRED	<table border="1"> <tr> <td>SUBJECT</td> <td>[]_i</td> </tr> <tr> <td>PRED</td> <td>'smart <SUBJECT>'</td> </tr> </table>	SUBJECT	[] _i	PRED	'smart <SUBJECT>'
SUBJECT	[] _i				
PRED	'smart <SUBJECT>'				

PRED	'cause <SUBJECT OBJECT SEC.PRED >'				
SUBJECT	'I'				
OBJECT	'him';				
SEC.PRED	<table border="1"> <tr> <td>SUBJECT</td> <td>[]_i</td> </tr> <tr> <td>PRED</td> <td>'weep <SUBJECT>'</td> </tr> </table>	SUBJECT	[] _i	PRED	'weep <SUBJECT>'
SUBJECT	[] _i				
PRED	'weep <SUBJECT>'				

In the syntactic representations of (6), the main predicate of (3) is 'consider', which takes three arguments: subject, object, and secondary predicate (i.e. XCOMP in LFG terminology). The secondary predicate of (3) is 'smart', itself an argument-taking predicate which requires a subject. A general principle, such as Bresnan's 1982 principle of Functional Control, identifies the subject of the secondary predicate with one of the arguments of the matrix predicate: here the object of 'consider'. Again, the causative construction of (4) can be analyzed in the same fashion.

The syntactic representation in (5) is clearly much simpler and is to be preferred unless there are compelling reasons for adopting a more complicated representation. Although there is not enough space in this paper to spell out all the arguments in favor of the two level analysis sketched in (6), I list in (7) the sorts of evidence that I believe can be offered in support.

- (7) Motivations for preferring the two-level representations:
- Scope of negation, aspect, other modifiers
 - External arguments can be associated with secondary predicate only
 - Secondary predicate can be questioned with incorporated question word
 - Binding phenomena

I will here offer only two examples to illustrate the nature of the arguments. First, let's look at the scope of elements marking aspect. Among the strategies for indicating aspect in Fox is reduplication of the verb stem.⁵ The bisyllabic type of reduplication generally indicates iterative aspect (Dahlstrom 1997); in the example in (8) I have marked the reduplicative prefix in bold. The unreduplicated form of the verb stem is *a-hkwamatamo-we-nem-* 'think O is sick', containing the suffix *-e-nem-* 'consider, think'.⁶ There are two different readings possible when this stem is reduplicated:

- (8) *neta-hkwaha-hkwamatamo-we-nema-wa*
 net+**a-hkwah**+a-hkwamatamo-w+e-nem+a+w+a
 I+REDUP+be.sick+consider+DIRECT+3+(3).SG
 'Every day, I thought "she's sick".'
 or, 'I think she gets sick over and over.'

The iterativity can either be associated with the matrix predicate, 'think', or with the secondary predicate, 'be sick'. If a syntactic representation such as the functional structures in (6) is the proper place to record aspectual information, then the two level representation can neatly handle the ambiguous readings of (8).

As a second example of the advantages of analyzing the suffixes in question as being separate argument-taking predicates, let's look at a form containing a reciprocal. Elsewhere in Fox, reciprocals must be bound by subjects. In the following causative example, however, the reciprocal appears to be bound by an object:

- (9) *nene-woti-ha-waki*
 ne+ne-w+eti+h+a+w+aki
 I+see+RECIP+CAUSE+DIRECT+3+(3).PL
 'I let them see each other' (adapted from a textual example in W395)

On the analysis where there are two argument taking predicates in a causative verb, the generalization that subjects are the antecedents of reciprocals can be maintained: it is the subject of the lower predicate, 'see', which binds the reciprocal; that lower subject is then controlled by the object of the higher predicate, 'cause'.

Similar arguments have been advanced for other languages with complex morphology (e.g. Ishikawa 1985 on Japanese causatives), so the claim that some

syntactic processes operate within the word in Fox is hardly novel. For the purposes of this paper I wish only to establish that some argument-taking predicates in Fox are realized by morphemes smaller than a full word or stem, with lexical entries something like the informal listings in (10):

- (10) Sample lexical entries:
 -*h*- 'cause <SUBJECT, OBJECT, SECONDARY PREDICATE>
 -*e·nem*- 'consider <SUBJECT, OBJECT, SECONDARY PREDICATE>'

For both 'cause' and 'consider' the requirement for a secondary predicate will be satisfied by the initial portion of the verb stem.

3 Preverb-verb compounds

In this section, we will look at one aspect of preverb behavior, which was first discussed by Goddard 1988. In the final section of the paper we will see that the preverbs may detach from their verbs, but the present section focuses on a different property: that the preverbs sometimes are realized as the initial portions of a simple verb stem.⁷

Let me begin by introducing some Algonquianist terminology for the internal structure of a verb stem. For a verb such as the one in (11), the stem can be broken down into three components, as shown in (12).

- (11) *ki·škinēhke·šwe·wa*
 ki·škinēhke·šw+e·+w+a
 sever.(object)'s.hand +DIRECT+3+(3).SG
 'He_i cuts off his_j hand.'
- (12) Structure of verb stem:
 INITIAL+MEDIAL+FINAL
ki·šk + *inēhke* + *ešw*
 sever + hand + by.cutting

(Again, for the moment we are ignoring the role played by inflectional morphology.) As (12) shows, the verb stem itself can be divided into an initial portion, glossed 'sever', a medial portion glossed 'hand', and a final which here indicates instrumentality, 'by cutting'. The medial position is where one finds incorporated nouns and classifiers.⁸

To a simple verb stem like the one in (11) may be added one or more preverbs. For example, the preverb *koči*- 'try' could be added to the verb of (11):

- (13) *koči·ki·škinēhke·šwe·wa*
 koči·ki·škinēhke·šw+e·+w+a
 try-sever.(object)'s.hand +DIRECT+3+(3).SG
 'He_i tries to cut off his_j hand.'

The preverb is a separate word phonologically which combines with a simple verb stem to form a compound verb. The compound of preverb(s) plus verb stem is inflected as if it were a single grammatical unit, as will be seen in section 5.1.

There are numerous preverbs in Fox, expressing a variety of functions. Some preverbs increase the valence of the verb, others add aspectual or modal information, some, like *koči*- 'try', correspond to complement-taking verbs in English, while others express quantification, scalar degrees, or manner. One preverb, *pwa·wi*- 'not', is used to negate verbs in certain inflectional modes. Some sample preverbs are listed in the chart in (14). Many more examples could be listed under each of the categories in the chart, except for the NEGATIVE category.

- (14) VALENCE-INCREASING PREVERBS
- | | | |
|----------------|-------------------------------|------------------------|
| <i>iši</i> - | 'thus; thither' | [adds an oblique arg] |
| <i>oči</i> - | 'from; because' | [adds an oblique arg] |
| <i>taši</i> - | 'there' [stationary location] | [adds an oblique arg] |
| <i>takwi</i> - | 'together with' | [adds a second object] |
| <i>keki</i> - | 'with; having' | [adds a second object] |
- ASPECTUAL OR QUASI-ASPECTUAL
- | | |
|----------------|-------------|
| <i>ki·ši</i> - | perfective |
| <i>taši</i> - | progressive |
| <i>we·pi</i> - | 'begin' |
| <i>anemi</i> - | 'become' |
| <i>po·ni</i> - | 'cease' |
- MODAL OR QUASI-MODAL
- | | |
|-----------------|-----------------------------------|
| <i>a·mi</i> - | 'would, could, should, might' |
| <i>kaški</i> - | 'be able to' |
| <i>a·nwi</i> - | 'fail to' |
| <i>nahi</i> - | 'know how to; be in the habit of' |
| <i>natawi</i> - | 'want to, seek to' |
| <i>koči</i> - | 'try to' |
- NEGATIVE
- | | |
|-----------------|-------|
| <i>pwa·wi</i> - | 'not' |
|-----------------|-------|
- DIRECTIONALS
- | | |
|-----------------|---|
| <i>pye·či</i> - | 'toward deictic center; till now; come in order to' |
| <i>anemi</i> - | 'away from deictic center; in the future' |
| <i>mawi</i> - | 'go in order to' |
| <i>ki·wi</i> - | 'around' |
- NUMERALS, QUANTIFIERS, DEGREE WORDS
- | | |
|-----------------|---------|
| <i>nekoti</i> - | 'one' |
| <i>ni·šwi</i> - | 'two' |
| <i>neswi</i> - | 'three' |
| <i>nye·wi</i> - | 'four' |
| <i>ča·ki</i> - | 'all' |

<i>ki·ša·koči-</i>	'as much as possible'
<i>po·si-</i>	'very; much'
<i>kehči-</i>	'greatly'
<i>katawi-</i>	'almost, about to'

MANNER ADVERBIALS

<i>menwi-</i>	'well'
<i>mya·ši-</i>	'badly'
<i>wa·paši-</i>	'mockingly'
<i>wi·ke·či-</i>	'carefully'
<i>mahlkwa·či-</i>	'quietly, seriously'
<i>kekeni-</i>	'quickly'

More than one preverb may be used with a simple verb stem. The following compound stem is attested in a text, with three preverbs compounded with the simple verb stem *nes-* 'kill'.

- (15) *iši-pwa-wi-kaški-nes-*
 thus-not-able-kill
 'not be able to kill O in such a way' N25M

Each preverb is a separate phonological word, which means that it may be stressed as a separate word, the final vowel of the preverb may be devoiced (Goddard 1991), and the preverb may serve as a host for an enclitic. In (16), the emphatic *meko* is cliticized to the preverb *po·ni-* 'cease'.

- (16) *po·nimeko -nenehke·netamwa*
 po·ni-=meko -nenehke·net+am+w+a
 cease=EMPH -think.about+0.OBJ+3+(3).SG
 'He really stopped thinking about it.' (adapted from N17E)

Furthermore, since there is a phonological word boundary between the preverb and the verb stem, the left edge of the verb stem may be the locus of reduplication:

- (17) *ki·ši-a·ya·čimoči*
 IC+ki·ši-a·y+a·čimo+t+i
 IC+PERF-REDUP+tell.story+3+MODE.SUFFIX
 'After he had finished telling his stories' N26I [changed conjunct]
- (18) *ki·ši-ča·ki-ka·ki·watenikini*
 IC+ki·ši-ča·ki-ka·+ki·waten+ni+k+ini
 IC+PERF-all-REDUP+freeze.around+OBV+0+MODE.SUFFIX
 'Whenever it had completely frozen all around' N1K [iterative]

(See section 4.2. for how verbal modes such as the changed conjunct and the iterative are indicated by a combination of mode suffixes and initial change, indicated by IC in the morpheme-by-morpheme representations above.)

The majority of preverbs in Fox have a corresponding form which appears in the initial position of simple verb stems (Goddard 1988; Ackerman and LeSourd 1993:11).⁹ Consider the following two sets of examples: first, compound stems containing a preverb, and then simple verb stems.

- (19) a. *asa·mi-neškim-* 'scold O too much'
 too.much-scold
 b. *menwi-pemen-* 'take good care of'
 well-take.care.of
 c. *nahi-mi-hkečihwe-* 'know how to doctor people'
 know.how-doctor.people
 d. *ni·šwi-pemen-* 'take care of two of O'
 two-take.care.of
 e. *po·ni-anenwi-* 'stop swimming'
 cease-swim
 f. *pye·či-kehta·pam-* 'stare hither at O'
 hither-look.fixedly.at
- (20) a. *asa·mekwa·m-* 'oversleep'
 asa·m+ekwa·m
 too.much+sleep
 b. *menwisenyē-* 'eat well'
 menw+isenye·
 well+eat
 c. *nahikwa·so-* 'know how to sew'
 nah+ikwa·so
 know.how+sew
 d. *ni·šwih-* 'have, get two of O'
 ni·šw+ih
 two+have
 e. *po·neka-* 'stop dancing'
 po·n+eka·
 cease+dance
 f. *pye·ta·mo-* 'flee hither'
 pye·t+a·mo
 hither+flee

It is easy to see that the preverbs in (19) are composed of the initial morphemes in (20) plus *-i*, the ending for preverbs. However, the stems in (19) have a phonological word boundary between the preverb and the simple verb stem while in (20) there is no phonological word boundary between the initial and the final. For example, an enclitic cannot follow the initial morpheme in (21), nor can

reduplication apply to the portion of the stem following the initial. Moreover, the verb stems following the preverbs in (19) may be used on their own: e.g. *neškim-* 'scold' in (19a) may be inflected for a subject and object to form an ordinary verb. However, if the initial portion of the stems in (20) is removed, the remainder cannot function as a verb stem. For example, *-ekwa·m-* 'sleep' in (20a) cannot be inflected for a subject; it is not a full stem on its own.

Since it is clear that the same morphemes may appear as preverbs in (19) and as initials in (20), what determines whether a given morpheme is realized as a preverb or as an initial? The determining factor is the morphological constituent that the preverb/initial is combining with. For example, consider the verb 'sleep':

- (21) *kenepa·pwa* 'you (plural) sleep'
 ke+nepa·+pwa
 2+sleep+(2).PL

If 'sleep' is used on its own, the form of the stem is *nepa-*, as in *kenepa·pwa* 'you (pl) sleep' (independent indicative). However, 'sleep' also has a suppletive final form, *-ekwa·m-*, which combines with initials such as *asa·m-* 'too much' in (20a): *asa·mekwa·m-* 'oversleep'. Other verb stems containing the final *-ekwa·m-* are listed below:

- (22) a. *menokwa·m-* 'sleep well'
 menw +ekwa·m
 well+sleep
 b. *ki·ša·kotekwa·m-* 'sleep dead to the world'
 ki·ša·kot+ekwa·m
 as.much.as.possible+sleep
 c. *šekikwa·m-* 'wet the bed'
 šeki+ekwa·m
 urinate+sleep
 d. *wi·šasokwa·m-* 'sweat in one's sleep'
 wi·šaso+ekwa·m
 sweat+sleep
 e. *inekwa·m-* 'sleep [thus]'
 in+ekwa·m
 thus+sleep
 f. *tanekwa·m-* 'sleep [there]'
 tan+ekwa·m
 there+sleep

The forms in (22e-f) contain initials which require an oblique argument of manner or stationary location, respectively.

The final *-ekwa·m-* 'sleep' may also combine with an initial plus a medial:

- (23) *mešketone·kwa·m-* 'sleep with one's mouth open'
 mešk+etone·+ekwa·m
 open+mouth+sleep

The verb stem *neškim-* 'scold', on the other hand, and the other stems combined with preverbs in (19), do not have an associated derived or suppletive final. Compare the following (partial) entries for 'sleep', 'scold', and 'too much':

- (24) 'sleep <SUBJECT>' 'scold <SUBJECT, OBJECT>' 'too much'
nepa- (stem) *neškim-* (stem) *asa·m-* (initial)
-ekwa·m- (final) *asa·mi-* (preverb)

Because there is a final form in the lexical entry for 'sleep' it is preferred in stem formation processes.¹⁰ Since *-ekwa·m-* is morphologically a final, it must combine with an initial to form a complete stem. The initial form of 'too much', *asa·m-*, is therefore chosen: *asa·mekwa·m-* 'oversleep'. The verb 'scold', however, has only a full stem listed in its lexical entry, with no final form. If one wants to combine 'scold' with 'too much', *asa·mi-* must be realized as a preverb, not as an initial, as in (19a), *asa·mi-neškim-* 'scold O too much'. The initial form of 'too much' cannot be used because the initial position of the stem is already filled.

What is the significance of the preverb/initial alternation for our theory of the lexicon? In the previous section we saw evidence that argument-taking predicates may be expressed as verbal suffixes, and that their requirement for a secondary predicate is satisfied by another morpheme within the same verb stem. In this section we can see that the lexical entries as sketched in (24) must be fairly complex, and that variation is possible regarding the categorial realization of certain lexical items. I have listed 'too much' as having two realizations, one a preverb and one an initial, but it would probably be preferable to have a single listing, underspecified for morphological category, which could be realized either as a preverb or as an initial depending on the material it combines with. The entry for 'sleep', on the other hand, must be represented as having two separate listings, since the final form is suppletive. Moreover, there needs to be a ranking associated with the two listings, so that the final form will be preferred when combining with other morphological material.

4 Background on verb inflection

In the remainder of the paper we will consider the significance of discontinuous compound verbs for a theory of the lexicon. However, since such verbs produce complications for the distribution of inflectional morphology on the verb, I first need to give some background on verb inflection in Fox.¹¹ I will pay special attention to inflectional categories realized by discontinuous morphemes.

Fox has an extremely complex system of verb inflection (see Bloomfield 1927 and the paradigms in Goddard 1994:190-207). Verbs are inflected in one of twenty-six paradigms—known as MODES—for subject and object; verbs in relative clauses are additionally inflected for the head of the relative clause. The choice of mode depends both upon syntactic factors (e.g. main vs. subordinate clause) and semantic/pragmatic factors (e.g. mood, tense, negation, evidentiality).

There are two aspects of verb inflection that I want to draw attention to here, both involving combinations of a prefix plus one or more suffixes. In 4.1. I discuss the affixes used in the independent indicative mode for encoding person and number features of subjects and objects. 4.2. focuses on another part of the morphology, that which indicates which mode of verbal inflection is being used.

4.1 Person/number affixes

The twenty-six modes of inflection in Fox form subgroupings based upon partial formal similarities. The Algonquianist term for these subgroupings is ORDER. The four modes of the independent order, for example, split up the encoding of person/number features of nonthird person arguments, as in the independent indicative forms of *nowi-* 'go out' given below.¹² (The independent indicative is used in nonnegated main clause assertions.)

- | | | |
|------|-----------------------|-------------------------|
| (25) | a. <i>nenowi</i> | 'I go out' |
| | ne+nowi· | |
| | 1+go.out | |
| | b. <i>kenowi</i> | 'you go out' |
| | ke+nowi· | |
| | 2+go.out | |
| | c. <i>nenowi-pena</i> | 'we (exclusive) go out' |
| | ne+nowi·+pena | |
| | 1+go.out+(1).PL | |
| | d. <i>kenowi-pena</i> | 'we (inclusive) go out' |
| | ke+nowi·+pena | |
| | 2+go.out+(1).PL | |
| | e. <i>kenowi-pwa</i> | 'you (plural) go out' |
| | ke+nowi·+pwa | |
| | 2+go.out+(2).PL | |
| | f. <i>nowi-wa</i> | 'he/she goes out' |
| | nowi·+w+a | |
| | go.out+3+(3).SG | |
| | g. <i>nowi-waki</i> | 'they go out' |
| | nowi·+w+aki | |
| | go.out+3+(3).PL | |

Consider the non-third person forms in (25a-e). The prefix *ne-* expresses first person, and the prefix *ke-* expresses second person. Plural first and second person

subjects are indicated by an inflectional suffix: *-pwa* for second person plural and *-pena* for first person plural. The absence of a suffix indicates that the first or second person argument is singular. (The stem-final vowel in (25a) and (25b) is shortened in word final position.) Note that the difference between first person exclusive and inclusive plural is expressed by the inflectional prefix: the second person prefix combines with the first person plural suffix to express first person plural inclusive, while the first person prefix plus the first person plural suffix indicates the exclusive plural.

The verb stem in (25) is an intransitive one, inflected only for a subject. When we consider transitive verbs, however, the picture gets more complicated.¹³ Here we find that the prefixes *ne-* and *ke-* are used to indicate person features not only of subjects, but also of objects. In other words, Algonquian verbs do not have specialized slots for subject and object inflection, nor do the affixes used for subject and object differ in shape. Consider the following transitive verb forms:

- | | | |
|------|----------------------------|-------------------|
| (26) | a. <i>newa-pama-wa</i> | 'I look at him' |
| | ne+wa·pam+a·w+a | |
| | 1+look.at+DIRECT+3+(3).SG | |
| | b. <i>newa-pamekwa</i> | 'he looks at me' |
| | ne+wa·pam+ekw+w+a | |
| | 1+look.at+INVERSE+3+(3).SG | |
| (27) | a. <i>kewa-pama-wa</i> | 'you look at him' |
| | ke+wa·pam+a·w+a | |
| | 2+look.at+DIRECT+3+(3).SG | |
| | b. <i>kewa-pamekwa</i> | 'he looks at you' |
| | ke+wa·pam+ekw+w+a | |
| | 2+look.at+INVERSE+3+(3).SG | |

The stem in each verb is the same, *wa-pam-* 'look at'. Both verbs in (26) contain the prefix *ne-*, indicating first person, and the suffixes *-w* and *-a*, indicating a singular third person animate argument. (The absence of a first person plural suffix indicates that the first person argument is singular.) (27) works the same way, with the prefix *ke-* indicating second person. The only difference between each pair of verbs is in the choice of a suffix known as the THEME SIGN, in bold in the above examples. (26a) and (27a) contain the DIRECT theme sign *-a-*, while (26b) and (27b) contain the INVERSE theme sign *-ekw-*. Direct and inverse here refer to the relative positions of subject and object on a hierarchy of person and animacy, as schematized below:

- (28) NONTHIRD > THIRD PROXIMATE > THIRD OBVIATIVE > INANIMATE

The direct theme sign is used when the subject outranks the object on the hierarchy, and the inverse theme sign is used when the object outranks the subject.¹⁴ The terms PROXIMATE and OBVIATIVE refer to a discourse-based

opposition within third person: the proximate third person is the one most central to the discourse.

A question we might ask at this point is: are prefix-suffix combinations such as *ke-* *-pena* in (25d) discontinuous morphemes? Strictly speaking, the answer is no, because each affix can be given a distinct gloss. It is important to note, however, that the prefixes and suffixes work together to provide complete grammatical information regarding subject and object. If one hears a prefix such as *ke-*, all one knows is that a second person is somehow involved. One must wait to hear the inflectional suffixes (if any) to find out whether it is the subject or the object which is second person on a transitive verb, whether a first person is also involved, as in (25d), and to learn whether the second person argument is singular or plural.

4.2 Morphology identifying verbal mode

We now turn to a different sort of inflectional phenomenon, one with a better claim to be labelled a discontinuous morpheme, namely the morphology distinguishing particular modes of verb inflection from one another. Many of the modes require morphology split between the left and right edge of the verb stem, similar to that seen in the split of person/number features above. The grammatical information contributed by the mode morphology includes values for tense, aspect, or mood; it may also identify the grammatical function of the clause containing the verb in question (e.g. adjunct clause, relative clause).

The examples in this section come from the set of inflectional modes known as the conjunct order. As mentioned above, the justification for grouping modes together into an order is that the modes display certain formal similarities in person/number marking. For example, the suffix expressing third person throughout the conjunct order is *-i*. (Compare the *-w* suffix in (25f-g) above.) Additional morphology on the verb identifies the particular mode of the conjunct order being used. For example, the following forms of *mahkate-wi-* 'fast' are inflected for a third person singular subject in three different conjunct order modes:

- (29) a. *mahkate-wi-či* 'he would fast'
 mahkate-wi-+t+i Plain conjunct: Ø- *-i*
 fast+3+MODE.SUFFIX
- b. *e-hmahkate-wi-či* '... that he fasted'
 e-h+mahkate-wi-+t+i Aorist conjunct: **e-h-** *-i*
 AOR+fast+3+MODE.SUFFIX
- c. *me-hkate-wi-či* 'when he fasted, ...'
 IC+mahkate-wi-+t+i Changed conjunct: **IC-** *-i*
 IC+fast+3+MODE.SUFFIX [IC = 'initial change']

The suffix *-i*, palatalized to *č* by a following *i*, marks third person singular subject in each of these forms. The plain conjunct, used in certain conditional

constructions, is indicated simply by the suffix *-i*. The aorist conjunct, used in complement clauses, some adjunct clauses, and in main clauses in traditional narratives, is marked by the combination of *e-h-* *-i*.¹⁵ The changed conjunct forms temporal adverbial clauses glossed 'when...[in the past]' and requires the application of an ablaut rule known as INITIAL CHANGE, plus the suffix *-i*. (In the morpheme-by-morpheme representations I have treated initial change as if it were a prefix on the verb.) Initial change alters the quality and quantity of the vowel in the first syllable of the verb, as schematized below:

- (30) INITIAL CHANGE
 Short vowels: Long vowels: no change
 {a, e, i} → e·
 o → we·

In other words, initial change in Fox changes short *a*, *e*, and *i* to long *e·*, and short *o* to *we·*. Long vowels in Fox are unaffected by initial change.¹⁶

Initial change is part of the inflection for several other paradigms within the conjunct order. For example, the iterative paradigm is distinguished from the negative paradigm by the presence of initial change:

- (31) a. *me-hkate-wi-či* 'whenever he fasted, ...'
 IC+mahkate-wi-+t+ini Iterative: **IC-** *-ini*
 IC+fast+3+MODE.SUFFIX
- b. *a-kwi mahkate-wi-či* 'He didn't fast.'
 a-kwi mahkate-wi-+t+ini Negative: Ø- *-ini*
 not fast+3+mode.suffix

The iterative paradigm is used in adverbial clauses glossed 'whenever...', and requires both initial change and the suffix *-ini*. The suffix *-ini* used on its own, without initial change, would mark a verb as belonging to the negative paradigm, used for verbs in negated main clause assertions.

A similar pairing can be made of the changed unreal paradigm and the unreal:

- (32) a. *keye-hapa me-hkate-wi-tehe* 'It turns out he fasted!'
 keye-hapa IC+mahkate-wi-+t+ehe Changed unreal: **IC-** *-ehe*
 in.fact IC+fast+3+MODE.SUFFIX
- b. *mahkate-wi-tehe* 'if he had fasted, ...'
 mahkate-wi-+t+ehe Unreal: Ø- *-ehe*
 fast+3+MODE.SUFFIX

The changed unreal is used in exclamations of surprise, while the unreal forms counterfactual conditional clauses.

More examples could be presented, both of paradigms requiring initial change and those requiring the prefix *e-h-*, but the basic point is clear. In order to correctly identify which mode of verb inflection is being used, reference must be made to both the left and the right edge of the verb. The beginning of the verb must be checked to see if there is no prefix, the prefix *e-h-*, or if the first syllable has undergone initial change. Furthermore, the right edge of the verb must also be checked, to identify the particular suffix being used. It is the combination of prefixed material plus the suffix that identifies the mode, which in turn contributes grammatical information such as aspect or mood.

It is not possible to break down the various prefix-suffix combinations and assign discrete features to each of the morphological components, as was done above for the person/number features. For example, there is no feature in common between the iterative and negative modes (31a, b) which could be factored out and associated with the suffix *-ini*. Nor is there a grammatical feature shared by all modes requiring initial change which could be associated with the ablaut phenomenon.¹⁷ Initial change is simply part of the marking of these particular modes. Exactly the same argument can be made for the prefix *e-h-*: it is required by several modes in the conjunct order and in the interrogative order but no single function can be associated with the prefix.

5 Discontinuous compound verbs

We return now to the phenomenon of preverb-verb compounds. We will first argue that a compound of a preverb and a verb is in some sense a single grammatical word, despite the fact that the preverb constitutes a separate phonological word. However, preverbs in Fox have an interesting property: they may detach from the remainder of the verb and appear on the left edge of the clause.

5.1 Arguments for wordhood of compounds

There are at least three reasons for considering a compound of preverb plus verb to be a word. First of all, as noted above, some preverbs alter the argument structure of the verb by adding a requirement for an oblique or a second object. Consider the examples below:

- (33) *nemahkate-wi-pena* 'we fasted'
 ne+mahkate-wi+pena
 1+fast+(1).PL
- (34) *meneseki netaši-mahkate-wi-pena* 'we fasted on the island'
 menes+eki ne+taši-mahkate-wi+pena
 island+LOC 1+[there]-fast+(1).pl
- (35) *nenowi-pena* 'we went out'
 ne+nowi+pena
 1+go.out+(1).PL

- (36) *i-tepi netoči-nowi-pena* 'we went out from there'
 i-tepi net+oči-nowi+pena
 there 1+from-go.out+(1).PL

In (33) the verb is intransitive, inflected for a first person exclusive plural subject. In (34), the preverb *taši* adds a requirement for an oblique argument expressing stationary location. This subcategorizational requirement is then satisfied by the locative casemarked NP *meneseki* 'island', appearing immediately to the left of the verb in the usual position for obliques in Fox. Similarly, the intransitive verb of (35) may take the preverb *oči* 'from' to create a compound verb stem in (36), subcategorized for a subject and an oblique expressing source. Again, the NP satisfying the oblique requirement appears immediately to the left of the verb.

(34) and (36) also illustrate a second reason for considering preverb-verb compounds in Fox to be words: inflectional morphology applies to the compound as if it were a single unit. That is, an inflectional prefix such as first person *ne-* attaches to the left of the preverb, while inflectional suffixes attach to the right of the simple verb stem. This pattern also holds for the morphology identifying verbal modes discussed above in 4.2. The aorist conjunct is marked by *e-h-* attaching to the left of the preverb and *-i* as the final suffix on the verb stem:

- (37) *i-tepi e-hoči-nowi-či*
 i-tepi e-h+oči-nowi+tt+i
 there AOR+from-go.out+3+MODE.SUFFIX
 '... that he went out from there' [aorist conjunct]

Likewise, in modes requiring initial change, it is the first syllable of the preverb that undergoes initial change, not the first syllable of the verb stem:

- (38) *i-tepi we-či-nowi-či*
 i-tepi IC+oči-nowi+tt+i
 there IC+from-go.out+3+MODE.SUFFIX
 'when he went out from there' [changed conjunct]

In (38), initial change applies to the first syllable of the preverb *oči* 'from', producing *we-či*. If initial change had applied to the first syllable of the simple verb stem, the verb would be **oči-nwe-wi-či*.

No matter how many preverbs are combined with a verb stem to form a compound, initial change always applies to the first syllable of the leftmost preverb, as in the following textual example:

- (39) *we-či-pwa-wi-mawi-nesa-či*
 IC+oči-pwa-wi-mawi-nes+a+tt+i
 IC+because-not-go.to-kill+DIRECT+3+OBL.HEAD
 'why he didn't go to kill him' M7I [conjunct participle]

The verb in (39) has three preverbs preceding the simple verb stem *nes-* 'kill'. Initial change applies to the leftmost preverb *oči-*, here glossed 'because'. (Participle inflection is used on verbs in relative clauses; the head of the relative clause in (39) is coreferential to the oblique argument associated with *oči-*.)

A third reason for considering preverb-verb compounds to be words is that the compound may be the input for further derivation. In the following textual example, the causative suffix (in boldface) has scope over both the preverb and the verb stem:

- (40) *e-hpo-ni-mehtose-neniwihto-ye-kwe ki-ya-wa-wi*
 e-h+po-ni-mehtose-neniwi+ht+o+ye-kwe ki-ya-wa-wi
 AOR+cease-be.alive+CAUSE+INAN.OBJ+2P yourselves
 '... that you make yourselves stop living' W1016 [aorist conjunct]

(40) is taken from a discussion of suicide. If the causative did not have scope over the preverb, the gloss would be 'you stop causing yourselves to be alive.'¹⁸

5.2 Separable preverbs

The property of most interest for our purposes here, however, is that preverbs may be separated from their verb stems, occurring at or near the left edge of the clause.

5.2.1 Inflectional morphology on separated preverbs

Consider the following example, taken from Michelson 1917, of a preverb separated from its verb stem:

- (41) *nepye-či- keta-nesa -wa-pama-pena*
 ne+pye-či- ke+ta-nes+a -wa-pam+a+pena
 1+come- 2+daughter+SG -look.at+DIRECT+(1)P
 'We have come to see your daughter'

The distribution of inflectional morphology discussed above for simple stems and for syntactically unified preverb-verb compounds can be seen as well with the discontinuous compound verb in (41). The inflectional prefix *ne-* attaches to the left of the preverb and the inflectional suffixes *-a-pena* attach to the right of the verb, even though the verb's object intervenes between the preverb and the verb.

Similar patterns obtain for the placement of inflectional morphology identifying verbal mode. The preverb is treated as part of the compound verb even when other syntactic material intervenes:

- (42) *e-hpwa-wimeko nana-ši -ona-pe-miči*
 e-h+pwa-wi-==meko nana-ši -ona-pe-mi+ti
 AOR+not-==EMPH ever -take.husband+3+MODE.SUFFIX
 'She never married' M31 [aorist conjunct]

- (43) *we-či- mehtose-neniwaki -tepa-na-wa-či ma-hahi aška-pe-wahi*
 IC+oči- mehtose-neniw+aki -tepa-n+a+wa+ti+ti
 IC+because- person+PL -love+DIRECT+(3)P+3+OBL.HEAD
 ma-h+ahi aška-pe-w+ahi
 this+OBV.PL ceremonial.runner+OBV.PL
 'why the people loved these ceremonial runners' B85:10.43-44
 [conjunct participle]

In (42) the prefix *e-h-* precedes the preverb *pwa-wi-* 'not', while the inflectional suffixes *-či* are attached to the right of the verb stem. The compound stem of (43) is *oči-tepa-n-* 'love O for such a reason'; it is inflected with initial change and the suffixes *-a-wa-či*, though separated by the subject of the verb.

5.2.2 Against an incorporation analysis

The examples in 5.2.1. show that the same inflectional patterns seen with unified preverb-verb compounds are also found on the discontinuous compound verbs. However, we have not yet demonstrated that this construction must be analyzed as the preverb separating from the remainder of the verb: in each of the above examples there is a single word intervening between the preverb and verb, so it might be thought that this construction is really a type of incorporation of material into the verb. The evidence, however, clearly shows that this construction is not incorporation but instead involves discontinuous compound verbs.¹⁹

As observed by Michelson 1917, the authentic cases of noun incorporation insert uninflected nominal elements into the medial position of a simple verb stem. Recall the example in (13), repeated below:

- (44) *ki-škinehke-šwe-wa*
 ki-šk+inehke+ešw+e+w+a
 sever+hand+by.cutting+DIRECT+3+(3).SG
 'He_i cuts off his_j hand.'

The medial element *-inehke-* 'hand' is the patient of the action; the object of the verb is understood to be the possessor of the incorporated body part.

The separable preverb construction, however, differs from the actual cases of noun incorporation in two ways: the noun *keta-nesa* 'your daughter' in (41) occurs between the preverb and the verb, not in the middle of a simple verb stem, and it is fully inflected for gender, number, and obviation, as well as for possessor (*ke-* 'your', *-ta-nes-* 'daughter', *-a* proximate animate singular).

Another argument against analyzing separable verbs as examples of incorporation is that the intervening material is not restricted to bearing a particular grammatical relation to the verb. Again, this is not typical of noun incorporation constructions, in which the incorporated noun tends to be the subject of an intransitive verb or the object of a transitive verb. Instead, in the discontinuous compound verb construction, the intervening material may bear any

grammatical relation to the verb. For example, in (43) the subject of a transitive verb appears between the preverb and the verb; in (42) an adverbial occurs between the preverb and the verb. (The intervening material may also be a direct quote, or a vocative.) Further evidence against an incorporation account is that more than one word may appear between the preverb and the verb, or indeed, more than one constituent:

- (45) *e·hpwa·wi- owiye·ha ke·ko·hi -inowe·či*
 e·h+pwa·wi- owiye·ha ke·ko·hi -inowe·+t+i
 AOR+not- anyone any.way -speak.thus+3+MODE.SUFFIX
 'No one said anything.' W416 [aorist conjunct]

The intervening material need not even be a constituent of the same clause as the discontinuous verb: in (46) an adverbial clause intervenes between the preverb and the verb.

- (46) *we·či- ni·miwa·čini -wa·wawa·wa·kahamowa·či*
 IC+oči- ni·mi+wa·+t+ini
 IC+because- dance+(3)P+3+MODE.SUFFIX
 -wa·wa+wa·wa·kah+amo+wa·+t+i
 -REDUP+whoop+0.OBJ+(3)P+3+OBL.HEAD
 'why, whenever they dance [iterative],
 they whoop' O118D [conjunct participle]

The conclusion must be that it is the preverb which is appearing in a position separated from its verb, not that this is a variety of incorporation placing material inside a compound verb. The question that naturally follows next is under what circumstances does this separation of preverb and verb take place? This is a more difficult question to answer for all instances of separated preverbs, but in the case of the negative preverb *pwa·wi-* something can be said. I have argued elsewhere (Dahlstrom 1993, 1995) that word order in Fox is sensitive to a template like the one in (47):

- (47) s_1 [TOPIC s_2 [NEG FOCUS OBLIQUE V {SUBJECT, OBJECT, OBJECT2, COMP}]]

The template in (47) was proposed on the basis of syntactically unified elements. In the case of the position labeled NEG, negative words such as *a·kwi*, *ka·ta*, and *awita* all appear in the leftmost position within the clause, preceded only by overt topics:

- (48) *i·nokiwi·na a·kwi ke·ko·hi kehke·netakini mana mehtose·neniwa*
 i·noki=wi·na a·kwi ke·ko·hi kehke·net+am+k+ini
 today=CONTR not anything know+0.OBJ+3+MODE.SUFFIX
 TOPIC NEG FOCUS V

man+a mehtose·neniw+a
 this+SG person+SG
 SUBJECT

- 'But today the people don't know anything.' B85:18.9-10 [negative]
 (49) *ka·ta ke·ko·hi me·škwa·ki ki·wiweto·hkani*
 ka·ta ke·ko·hi IC+meškwa+k+i ki·wiwet+o+hkani
 not anything IC+be.red+0+0.HEAD carry.around+0.OBJ+2
 NEG FOCUS V
 'Don't go around carrying anything red' B85:26:11-12 [prohibitive]
 (50) *awitake·h owiye·ha ke·ko·hi iši·mya·ne·netasa*
 awita=ke·h owiye·ha ke·ko·hi iši·mya·ne·net+a+sa
 not=and anyone any.way thus-think.bad+0.OBJ+3
 NEG FOCUS OBLIQUE V
 'And no one would consider it bad in any way.' O122G [potential]

a·kwi, *ka·ta*, and *awita* never appear as preverbs; they are independent syntactic elements. *a·kwi* is used with asserted main clauses, *ka·ta* with imperatives, and *awita* with modal clauses expressing 'would, could, should'. Clauses of all other types are negated with the preverb *pwa·wi-*.

pwa·wi-, though a preverb, frequently detaches from its verb, especially when there are elements to the left of the verb which are in the scope of negation. Its landing site is the NEG position shown in (47). As a consequence, it precedes elements in the FOCUS position and in the OBLIQUE position. The sentence in (45) fits into the syntactic template as shown in (51):

- (51) *e·hpwa·wi- owiye·ha ke·ko·hi -inowe·či*
 e·h+pwa·wi- owiye·ha ke·ko·hi -inowe·+t+i
 AOR+not- anyone any.way -speak.thus+3+MODE.SUFFIX
 NEG FOCUS OBLIQUE V
 'No one said anything.' W416 [aorist conjunct]

The examples in this section have established that a preverb may appear in a position syntactically separated from the remainder of the verb and that—at least in the case of *pwa·wi-* 'not'—the separable preverbs are sensitive to the general word order template governing the distribution of syntactically unified constituents.

6 Concluding remarks

Let us now return to the two assumptions identified by Ackerman and Webelhuth 1998 as underlying much current syntactic work. The data from Fox provides compelling evidence that neither the strong version of Lexical Integrity nor Morphological Expression can be maintained. Lexical Integrity is called into question not only by the word-internal syntactic processes discussed in section 2, such as the causative and the incorporated secondary predicate construction, but

also by the discontinuous morphemes examined in section 4.2, which may be realized on syntactically discontinuous elements. Those syntactically discontinuous elements, investigated in section 5, show that the assumption of Morphological Expression—that a predicate will be expressed by a morphologically coherent unit—is equally problematic for Fox predicates.

What kind of information do we need in lexical entries in order to accommodate separable preverbs in Fox? In (24) I sketched three partial lexical entries which could handle the varying realization of preverbs and initials: there, the element 'too much' was listed as having an initial form of *asa-m-* and a preverb form of *asa-mi*. We can now go further and say that the preverbs may also be expressed as syntactically independent elements, capable of filling some of the slots in the word order template of (47). In other words, when a preverb is compounded with a verb stem there are three different structural possibilities for the output: a simple verb, consisting of a single phonological word; a syntactically unified preverb-verb compound of two phonological words; or a collocation of two separate syntactic elements, the preverb and the verb, which need not be adjacent in the clause. This structural variation is reminiscent of the separable preverb constructions in Hungarian and other languages discussed in Ackerman and LeSourd 1993, 1997 and Ackerman and Webelhuth 1998. In Fox, however, a preverb which appears as a syntactically independent element differs in two ways from more prototypical members of the class of independent words, such as adverbs or the negative words seen in (48)-(50): first, an independent preverb bears the prefixes of verb inflection; second, a separated preverb in Fox must be used with a verb elsewhere in the clause: it cannot be used on its own as an elliptical response, unlike the negative words of (48)-(50) (and also unlike Hungarian preverbs (Ackerman and LeSourd 1997:89)).

Finally, we may observe that the lexical entries of Fox predicates should also be able to account for the distribution of inflectional verbal morphology. The fact that inflectional prefixes are realized on separated preverbs is not only a property that distinguishes preverbs from more prototypical independent elements; this distribution also presents a challenge for morphological theory. Our theory of morphology must of course be able to handle the routine cases of verb inflection, where prefixes are attached to the left edge of a simple verb stem. Yet the theory must mark an utterance as ill-formed which contains the exact same inflected simple verb if the utterance also contains a separated preverb. Moreover, the morphological component of the grammar must be able to rule out ill-formed combinations of inflectional prefixes and suffixes: for example, the ungrammatical combination of the independent indicative prefix for first person *ne-* combining with *-pwa*, the suffix indicating second person plural. The most logical place to check either type of morphological ill-formedness is the lexicon, since it is only in the lexical entry that the preverb and verb are listed together as a functional unit. A theory of the lexicon such as that outlined by Ackerman and Webelhuth 1998 provides the power and flexibility necessary to account for the morphosyntactic mismatches associated with Fox argument-taking predicates.

Notes

¹ In the paper I present only examples from Fox, but the phenomena discussed are found throughout the family of Algonquian languages. In the notes below I have cited discussions of cognate constructions in the Algonquian language Cree. The following abbreviations are used in this paper: 3 = animate third person proximate, 0 = inanimate, O.HEAD = inanimate head of relative clause, O.OBJ = inanimate object, AOR = aorist prefix, EMPH = emphatic, IC = initial change, LOC = locative case, OBL.HEAD = head of relative clause is coreferential to the oblique argument of the lower verb, OBV = obviative, PERF = perfective aspect, PL = plural, RECIP = reciprocal, REDUP = reduplication, SG = singular. The raised dot indicates vowel length; a hyphen separates preverbs from verbs. If a preverb and verb are discontinuous, each portion bears a hyphen. Sources for textual examples: B85 = Michelson 1927, M = Kiyana 1912a, N = Kiyana 1912b, O = Kiyana 1914, W = Kiyana 1913. An earlier version of the material in sections 4 and 5 was presented at the LFG97 conference, San Diego, June 1997.

² Similar arguments can be made for the cognate morphemes in Cree; see Dahlstrom 1991:140-146 for discussion.

³ To simplify the presentation I am ignoring the division of Algonquian verb stems into classes based upon the gender (animate or inanimate) of one of the verb's arguments: Transitive Animate and Transitive Inanimate, depending on the gender of the object; Animate Intransitive and Inanimate Intransitive, depending on the gender of the subject.

⁴ Unless otherwise indicated, verbs in the examples are inflected in the independent indicative mode.

⁵ See Appelbaum 1996 for a survey of how aspect is expressed in Fox.

⁶ Note that the inflectional prefix is followed by an epenthetic *t* when it attaches to a vowel-initial stem.

⁷ This phenomenon is found in Cree as well as in Fox (cf. Wolfart 1973:76).

⁸ It should be pointed out that the evidence for incorporation of nominal objects being transparent to the syntax is far less robust for Fox than it is for Greenlandic (Sadock 1980, 1986), Southern Tiwa (Allen, Gardiner, and Frantz 1984) or Crow (Graczyk 1991).

⁹ See also Hotta 1996 for a discussion of the morphosyntactic problems raised by the relationship between preverbs and initials in Fox.

¹⁰ The existence of the final form *-ekwa-mi-* for 'sleep' does not entirely block the stem *nepa-* from forming compounds with preverbs. For example, the following compounds are attested in texts: *kehči-nepa-* 'sleep soundly', *mehči-nepa-* 'sleep outdoors', *anemi-nepa-* 'sleep along the way (on a journey)', *katawi-nepa-* 'be almost asleep'. The compound with *katawi-* 'almost' can be explained by the absence of a corresponding initial for 'almost', but *kehči-* 'greatly', *mehči-* 'openly, plainly', and *anemi-* 'motion away from speaker' each have initial counterparts. The conclusion must be that there is a strong preference for using the final form of 'sleep' in compounds, but this is not an absolute rule.

¹¹ The remarks here also apply to verb inflection in Cree (Dahlstrom 1991:9-57; 131-134).

¹² The four modes of the independent order all use the prefixes *ne-* and *ke-* for first and second person respectively, but the four modes vary in the shape of the suffixes used.

¹³ Accounting for the entire transitive system is beyond the scope of this paper; I here discuss only forms with one nonthird person argument and one third person argument, where both arguments are singular.

¹⁴ The opposition of direct and inverse verbs in Algonquian has received a great deal of attention. See, for example, the morphological treatments of Anderson 1992, Halle and Marantz 1993, and Steele 1995, all on Potawatomi.

¹⁵ See Dahlstrom 1996 for discussion of the status of *e-h*, in particular for whether it should be analyzed as a proclitic or as a prefix. For the purposes of the discussion here I am treating it as an ordinary prefix.

¹⁶ Initial change is found throughout the Algonquian family, though the specific effects associated with the rule vary among the daughter languages. In some of the languages, the long vowels also undergo changes. See Costa 1996.

¹⁷ Besides the paradigms already illustrated, initial change is found on verbs in (most) relative clauses, plus certain modes in the interrogative order: the prioritive, used to form temporal adverbial clauses specifying that the action of the main clause happened before some other action, and the changed interrogative, used in conditional clauses.

¹⁸ The reflexive pronoun in (40) is literally 'your (pl.) body'. Since 'body' is a grammatically inanimate noun in Fox, the verb is inflected for an inanimate object and the form of the causative suffix is that appropriate for verbs with inanimate objects.

¹⁹ Some of these arguments were first made in Dahlstrom 1987.

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