

Discontinuous constituents in Fox *

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Fox (Algonquian) is a language of the nonconfigurational type: that is, grammatical relations are not expressed by phrase structure configurations. Instead, information carried by the verb allows nominal arguments to be linked to the appropriate grammatical functions. One consequence of this nonconfigurationality is that a great many word order patterns are available for discourse purposes. However, though it is evident that the order of elements within a clause must be determined by contextual factors, exactly what these factors may be is not yet well understood.¹ The complexity of the problem is compounded by the frequent occurrence of discontinuous constituents as in (1).

- (1) neswi e-h=ayo-wa-či nakamo-nani
three use 3p-inan/aor songs
'they use three songs' B72:24.7-8²

In (1) *neswi nakamo-nani* 'three songs' is a discontinuous NP, with *neswi* occurring before the verb and *nakamo-nani* following.

In contrast to the variable order of major constituents, there are only two basic templates available for discontinuous constituents, one template for noun phrases, and the other for compound verbs. The two templates may interact with each other, and the one for noun phrases allows recursion. Furthermore, these discontinuous constituents are apparently subject to certain syntactic constraints, to be discussed below.³

This paper is intended, first of all, to contribute to the eventual understanding of Fox word order by showing that some of the apparent complexity in fact results from the interaction of the two templates for discontinuous constituents. An additional goal is to describe aspects of the language which bear upon more general issues in nonconfigurational languages. For example, the template for discontinuous noun phrases reflects the regularity of phrase structure patterns — albeit of a rather exotic sort — which holds even in a language in which phrase structure relations play an extremely limited syntactic role. Noun phrases are discussed in section 2. Compound verbs, discussed in section 3, participate in a different construction; here the discontinuity is not at the phrasal level, but operates instead on a lexical category. As a consequence, pieces of discontinuous morphemes (involving word-level processes of affixation, cliticization, and ablaut) may appear on syntactically separated pieces of the verb. The first section of the paper presents a brief introduction to Fox morphosyntax.

1. Background

The examples below illustrate a small sample of the word order patterns mentioned above; they represent the six possible permutations of subject, object, and verb involving only syntactically unified constituents. The number of word order patterns increases when clauses

containing other arguments, such as second objects and obliques, are also taken into consideration.

- VSO (2) ...e-h=ina·či metemo·ka okwisani
 tell 3-obv/aor old-woman her-son-obv
 '...the old woman (prox) told her son (obv)' B85:40.23.
- VOS (3) ...e-h=ina·či o·šisemani pašito·ha
 tell 3-obv/aor his-g.child-obv old-man
 '...the old man (prox) told his grandchild (obv)' B72:38.2.
- SVO (4) mo·hkoma·na e·h=nešiwana·čiha·či neno·te·wahi
 white-man ruin 3-obv/aor Indian-obv.pl
 'the white man (prox) has ruined the Indians (obv)' B85:16.27-8.
- OVS (5) kekimesi=meko e·h=awanekowa·či wi·sahke·hani
 all emph take-along obv-3p/aor W.-obv
 'Wisahkeha (obv) took all [the people] (prox) along' AR40:56.22
- SOV (6) maneto·wani ma·haki ketemina·ko·ki
 manitou-obv these bless obv-3p/ind
 'the manitou (obv) blessed these [people] (prox)' B85:10.22-3.
- OSV (7) pepikwe·škwī meso·te·we=meko maneto·wa wi·h=ka·škehtamwa
 flute every emph manitou fut hear 3-inan/ind
 'every single manitou (prox) will hear the flute (obv)' B72:42.6.

Subjects and objects are disambiguated by the verbal inflection for features of subject and object, in conjunction with a grammatical opposition within third person known as obviation. Obviation distinguishes a single "proximate" third person from all other "obviative" third persons. The obviative third persons are referred to by special marked forms (e.g., animate singular nouns are suffixed with *-ani*), while the proximate third person is referred to by unmarked third person forms. The marking of obviation is obligatory in certain syntactic contexts: for example, whenever a clause contains more than one third person, as (2-7) do, only one third person may be proximate and all others must be marked obviative. The choice of which third person is to be singled out as proximate, however, is governed by discourse factors, not by syntactic criteria. Proximate may be thought of as roughly equivalent to discourse topic; more precise characterizations can be found in Goddard 1984 or Dahlstrom 1986b, chapter 4. As inspection of (2-7) will show, proximate is not equivalent to subject (cf. 5 and 6), nor does proximate necessarily precede obviative (cf. 3, 6, and 7).

The way in which verb inflection functions to pick out subject and object will be illustrated by going through example (4). The lexical and grammatical information contributed by the three lexical items in (4) is listed below, using an informal notation similar to the functional structures of Lexical Functional Grammar (Bresnan 1982).

(8)

<table style="border-collapse: collapse; width: 100%;"> <tr><td colspan="2" style="text-align: center;"><i>mo-hkoma-na</i></td></tr> <tr><td>Pred</td><td>'white-man'</td></tr> <tr><td>Pers</td><td>3</td></tr> <tr><td>Gend</td><td>anim</td></tr> <tr><td>Num</td><td>sg</td></tr> <tr><td>Obv</td><td>-</td></tr> </table>	<i>mo-hkoma-na</i>		Pred	'white-man'	Pers	3	Gend	anim	Num	sg	Obv	-	<table style="border-collapse: collapse; width: 100%;"> <tr><td colspan="2" style="text-align: center;"><i>nenote-wahi</i></td></tr> <tr><td>Pred</td><td>'Indian'</td></tr> <tr><td>Pers</td><td>3</td></tr> <tr><td>Gend</td><td>anim</td></tr> <tr><td>Num</td><td>pl</td></tr> <tr><td>Obv</td><td>+</td></tr> </table>	<i>nenote-wahi</i>		Pred	'Indian'	Pers	3	Gend	anim	Num	pl	Obv	+	<table style="border-collapse: collapse; width: 100%;"> <tr><td colspan="2" style="text-align: center;"><i>e-h=nesiwana-ciha-ci</i></td></tr> <tr><td colspan="2" style="text-align: center;">Pred 'ruin <Subj, Obj>'</td></tr> <tr><td style="padding-right: 10px;">Subj</td><td style="border-left: 1px solid black; border-right: 1px solid black; padding: 5px;"> <table style="border-collapse: collapse; width: 100%;"> <tr><td>Pers</td><td>3</td></tr> <tr><td>Gend</td><td>anim</td></tr> <tr><td>Num</td><td>sg</td></tr> <tr><td>Obv</td><td>-</td></tr> </table> </td></tr> <tr><td style="padding-right: 10px;">Obj</td><td style="border-left: 1px solid black; border-right: 1px solid black; padding: 5px;"> <table style="border-collapse: collapse; width: 100%;"> <tr><td>Pers</td><td>3</td></tr> <tr><td>Gend</td><td>anim</td></tr> <tr><td>Obv</td><td>+</td></tr> </table> </td></tr> </table>	<i>e-h=nesiwana-ciha-ci</i>		Pred 'ruin <Subj, Obj>'		Subj	<table style="border-collapse: collapse; width: 100%;"> <tr><td>Pers</td><td>3</td></tr> <tr><td>Gend</td><td>anim</td></tr> <tr><td>Num</td><td>sg</td></tr> <tr><td>Obv</td><td>-</td></tr> </table>	Pers	3	Gend	anim	Num	sg	Obv	-	Obj	<table style="border-collapse: collapse; width: 100%;"> <tr><td>Pers</td><td>3</td></tr> <tr><td>Gend</td><td>anim</td></tr> <tr><td>Obv</td><td>+</td></tr> </table>	Pers	3	Gend	anim	Obv	+
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In other words, the noun stem *mo-hkoma-n-* means 'white-man' and is third person, animate gender. It is inflected for singular number, and is not obviative (i.e., it is proximate). The noun stem *nenote-w-* means 'Indian' and is also third person animate, here inflected for obviative plural. The verb stem *nesiwana-ci-* means 'ruin' and is subcategorized for a subject and an object; it is inflected here for a third person animate singular proximate subject and a third person animate obviative object.

The individual lexical items in (8) combine to give the following representation of the entire clause:

(9) *mo-hkoma-na e-h=nesiwana-ciha-ci nenote-wahi*

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The nouns in (8) are not identified as being either subject or object. The verbal inflection, on the other hand, specifically links a complex of grammatical features to subject and another to object. To create a representation of the entire clause, the nouns in (8) must be linked to subject and object in a way that avoids any mismatches of grammatical features. In this case, *mo-hkoma-na* 'white-man' must be subject, because it is proximate singular, and *nenote-wahi* 'Indians' can only be object, because it is obviative. The nouns flesh out the representation of subject and object by contributing Pred values and the number value for object.

The verbal inflection for subject and object may also function pronominally, in the absence of lexical subjects and objects. First and second person inflection is always pronominal, with independent pronouns used for contrastive focus or introducing new topics. Third person inflection, however, may either function as agreement or pronominally (Dahlstrom 1986a).

2. Noun phrases

Having seen how basic grammatical relations are encoded in Fox, we can now turn to a more detailed examination of discontinuous constituents, beginning with noun phrases. Within noun phrases, whether discontinuous or syntactically unified, modifiers generally precede the head. Quantifiers are not inflected at all, while demonstratives agree with the head in number, gender, obviation, and locative case. This is illustrated below using syntactically unified NPs:

(10) a-neta ma-hani mi-ša-mani
 some these-inan.pl sacred-pack-inan.pl
 'some of these sacred packs' B95:124.1

(11) i-nini nekoti anemo-hani
 that-obv one dog-obv
 'that one dog (obviative)' B89:30.7

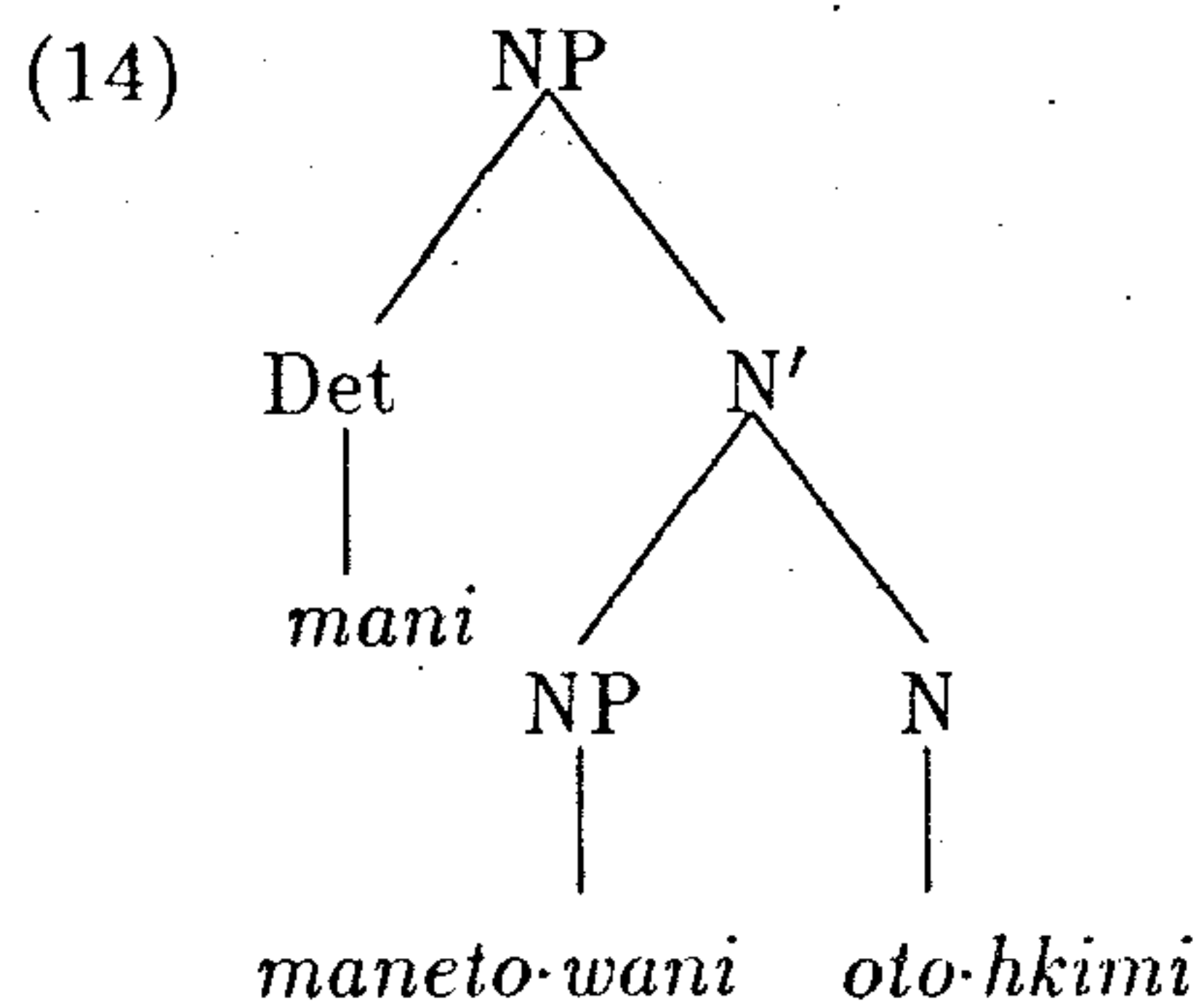
(12) ayo-hi meneseke
 this-loc island-loc
 'on this island' B85:32.22

In (10) the demonstrative and noun are both inflected for inanimate plural, in (11) the demonstrative and noun are obviative animate singular, and in (12), both items are inflected for locative case. (10) and (11) also show that quantifiers may precede demonstratives, or vice versa.

Another property of Fox noun phrases to be noted is that the head noun may be omitted, with a demonstrative or quantifier functioning alone as an NP (cf. *ma-haki* 'these' in (6) and *kekimesi* 'all' in (5)). Conversely, a noun in Fox does not require a demonstrative or other specifier, even when it has a definite reading (cf. the bare N subjects in (2) and (3)). These general properties of NPs raise questions for the proper representation of discontinuous NPs; these questions will be taken up in section 2.4.

In the Fox possessive construction, features of the possessor are cross-referenced on the possessed noun, and no special marking appears on the possessor. Possessors, like other modifiers, tend to occur to the left of the head.

- (13) mani maneto-wani oto-hkimi
 this-inan manitou-obv his-earth
 'this earth of the manitou's' B95:120:35



Discussion of the special properties of NPs containing relative clauses will be postponed until section 2.3.

2.1. Template for discontinuous NPs

Discontinuous arguments of verbs all follow the same basic pattern: a modifier which would ordinarily appear to the left of the head noun instead appears to the left of the verb, with the remainder of the NP following the verb. This is represented by the template in (15), and illustrated by (16-18). Throughout this section the pieces of discontinuous NPs will be underlined.

- (15) [_S ... Modifier ... V ... N' ...]

- (16) ma·haki kenohtamwihene wi·teko·waki
 these cause-to-understand 1-2/ind owl-pl
 'I made you understand these owls' B105:36.17-8

- (17) ma·ne=meko e·h=pya·wa·či aša·haki
 many emph come 3p/aor Sioux-pl
 'many Sioux came' B72:62.17

- (18) o=ayo·h=ke·hi otena·te·ke neto·škote·meki
 or this-loc and be-gotten-from inan/subj my-fire-loc
 'but if it is gotten out of this fire of mine,' B72:46.25-26

The discontinuous NP of (16) has a demonstrative appearing to the left of the verb, while that of (17) has a quantifier. In (18) both the demonstrative and the head noun are inflected for locative case.

As the ellipses in (15) suggest, other syntactic material may intervene between the pieces of the NP and the verb, as well as between the pieces of the NP and the clause boundaries. In (19), for example, the postpositional phrase *i-nahi oči* 'from that [place]' occurs between the verb and the righthand piece of the NP.

- (19) ma·ne e-h=nowiwenemeči i-nahi oči mehtose·neniwahi
 many carry-out X-obv/aor that-loc from person-obv.pl
 'many people were carried out from that place' (Kiyana 1913:272)

In the next example, the subject *mahkwa* 'bear' follows the righthand piece of the verb's oblique argument.

- (20) manahka oči-pye-wa we-ta·paniki mahkwa
 yon-loc from come 3/ind where-it-is-east bear
 'a bear came from over there in the east' (Kiyana 1912c:1).

If the lefthand piece of the NP is clause-initial, it may serve as host for proclitics and enclitics (e.g., *o=* and *=ke·hi* in (18)). Syntactically independent words may also precede or follow the lefthand piece of a discontinuous NP. *pe·hki* 'very' in (21) follows the lefthand piece of an NP, while *ma·haki* 'these people' in (22) precedes.

- (21) nekoti=pi pe·hki=meko e-h=owi·hka·niči kwi·yese·hani
 one quot very emph have-as-friend 3/aor boy-obv
 'he was very close friends with one boy, it's said' AR40:50.5-6
- (22) ma·haki a·neta e-h=sakisakihpokowa·či ihkwe·wahi
 these some redup bite obv-3p/aor woman-obv.pl
 'some women bit these [people] again and again' AR40:202.32-3

Parentheticals may be inserted between the verb and the righthand piece of the NP, as in the next two examples. (The verb stem *in-*, used with quotations, may be glossed either 'say to' or 'say about')

- (23) "nesate=ča·h=mani wa·patano," e-h=ineči, "mača·hini"
 kill 2-3/subj so this look-at 2-inan/imp tell X-3/aor finery
 '“and if you kill him, look at this finery,” he was told' (Kiyana 1912c:4) ⁴
- (24) "ma·hani wa·patano," e-h=ineči,
 these look-at 2-inan/imp say-about X-3/aor
 [_{N'} "ote·te·hkwa·ki ne·mate·nikini owa·pitepa·kanani pašito·ha."]
 his-temples-loc ones-which-are-standing his-white-hairs old-man
 '“Look at these white hairs of the old man's which are standing up
 on his temples,” was said about him.' (Kiyana 1912b:11-12)

As (24) shows, the righthand piece of a discontinuous NP may be quite lengthy, but it always forms a single N' constituent. However, the lefthand piece of the NP, represented by the cover term "Modifier" in (15), may be one of several syntactic categories. Besides demonstratives and quantifiers, the lefthand piece may be a possessor NP (cf. (14)).

- (25) kwi-yese-ha ki-ši-no-make-wi-na-kwa-niči okye-ni
 boy perf short-time leave obv/ch.c his-mother-obv
 'after the boy's mother had been gone a short time,' AR40:50.23-4

The lefthand piece of the NP may be a quantifier phrase:

- (26) [nekoti mehteno-hi] e-h=ne-wa-či neniwani
 one only see 3-obv/aor man-obv
 'he saw only one man' (Kiyana 1912b:17)
- (27) [katawi=meko kekimesi] e-h=pya-niči mehtose-neniwahi
 almost emph all come obv/aor person-obv.pl
 'almost all the people came' AR40:172.22

One example has been found in which both a demonstrative and a quantifier appear to the left of a verb with the rest of the noun phrase to the right:

- (28) nye-wi ma-hani e-h=ayo-ki nakamo-nani
 four these use X-inan/aor song-pl
 'these four songs are used' B72:20.32

It is more common, however, for only one modifier to appear on the left (also see (39) which has a quantifier on the left and a demonstrative on the right).

- (29) ma-hani e-h=ayo-ki nye-wi nakamo-nani
 these use X-inan/aor four song-pl
 'these four songs are used' B72:26.34

The discontinuous construction is found with all types of NPs. NPs of both animate and inanimate gender display this pattern (compare (27) and (28)). Moreover, the discontinuous NP may be either proximate or obviative:

- (30) ma-ne=meko e-h=wi-te-ma-wa-či ma-čiwena-čiki oškinawe-haki
 many emph go-with 3p-obv/aor those-who-lead-(obv) young man-pl
 'many young men (prox) who were showing him the way went with him'
 (Kiyana 1912c:4)
- (31) o-ni=pi ma-ne=meko e-h=anemi-wi-te-mekoči oškinawe-hahi
 and quot many emph continue go-with obv-3/aor young-man-obv.pl
 'and, it is said, many young men (obv) accompanied him' B72:64.21

There is also no restriction placed on the grammatical relation which the discontinuous NP may bear to its verb. As the examples above illustrate, a discontinuous NP may be subject of a transitive verb (22, 30, 31), subject of an intransitive (17, 19, 25, 27, 28, 29), object (1, 23, 24, 26), second object (16, 21), or oblique (18, 20).

An NP in an equational construction may also be discontinuous. Usually, the half of the equation which is functioning as a predicate corresponds to the verb of the template in (15), and is surrounded by the pieces of the discontinuous NP. ⁵

- (32) mani wi-h=ne-se-hekwiwa-či mi-ša-mi
 this that-which-will-heal-them sacred-pack
 'this sacred pack is what will heal them' B72:50.35-6

Although there is no restriction on the type of NP which may participate in the discontinuous NP construction, there seems to be a constraint preventing a verb from having more than one discontinuous argument. It is not uncommon for a verb to have more than one lexical NP argument, but no cases have been found in which a verb is surrounded by two or more discontinuous arguments.

2.2. Bounding restrictions

Another apparent constraint on discontinuous arguments of verbs is that the pieces of the NP are bounded by S. That is, a higher verb, or an argument of a higher verb, never intervenes between the pieces of the NP and the verb.

Of special interest for the question of bounding restrictions on discontinuous constituents is the behavior of NPs which are not arguments of verbs. In Fox, objects of postpositions and possessor NPs also participate in the discontinuous NP construction, but these NPs seem to be bounded by PP and NP, respectively. Though postpositional phrases of any sort are not particularly common in Fox, the object of a postposition may appear either as a syntactically unified NP, as in (33), or as a discontinuous NP, as in (34) and (35).

- (33) [i·ya·h=meko we·ta·paki] oči
 there emph where-it-is-east in-direction-of
 'at the east end' B89:44.24-25

- (34) ayo·h=oči mi-ša·meki
 this-loc from sacred-pack-loc
 'from this sacred pack' B72:40.43

- (35) ayo·h=iši wi·ki·ya·peki
 this-loc to house-loc
 'to this house' AR40:138.31

In both (34) and (35) a demonstrative appears to the left of the postposition, and the noun is to the right.⁶ These discontinuous objects of postpositions follow the same general pattern given in (15) for verbal arguments: here, the postposition, as head of PP, corresponds to the verb in (15), with the pieces of the NP object surrounding the head.

The same pattern may also be seen with possessor NPs: they may occur either as syntactically unified NPs or as discontinuous NPs. When the possessor is discontinuous, its two pieces surround the possessed noun, which is the head of the larger NP containing the possessor:

- (36) ma·haki omi·hkeče-wiwenwa-wi aška·pe·waki e·nečiki
 these their-work cer.runner-pl ones-who-are-called
 'the work of these people called "ceremonial runners"' B85:12.21

The generalization seems to be that the pieces of discontinuous NPs are bounded by the first branching constituent dominating them: object of postposition by PP, possessors by NP, and all arguments of verbs by S. Since Fox has no VP constituent, subjects and objects behave alike, both being bounded by S.

2.3. Relative clauses

Relative clauses may be identified by participle verb forms used in the lower clause (Goddard 1987), and these NPs may also be discontinuous. Though several examples have already been given (20, 24, 30, 33), the structural properties of relative clauses deserve special attention here. Fox relative clauses are internally-headed, with both an external and an internal position available for modifiers agreeing with the head. The behavior of internal and external modifiers provides additional support for the bounding constraint proposed in section 2.2. Moreover, relative clauses provide examples of recursive discontinuous NPs.

The constituents within a relative clause display the same variety of word order patterns found in other types of Fox clauses. However, examples like (37) and (38) show that the head of the relative clause (in italics below) must be analyzed as occurring clause-internally.

- (37) *i-na* *wi-čiso-ma-čihi* *še-škesi-he-hahi* *neniwa*
 that those(obv)-whom-he- girl-dim-obv.pl man
 has-as-fellow-clansmen

'young teenage girls (obv) who were in the same clan as that man (prox)'

AR40:166.43-44

- (38) *ki-h=pye-či-'ne-nemekočiki* *ni-na-na* *nekehkya-mena-naki* *maneto-wani*
 those-whom-(obv)-had-blessed we our-old-man-pl manitou-obv
 'our old men (prox) whom the manitou (obv) blessed in the past' B89:18.27.⁷

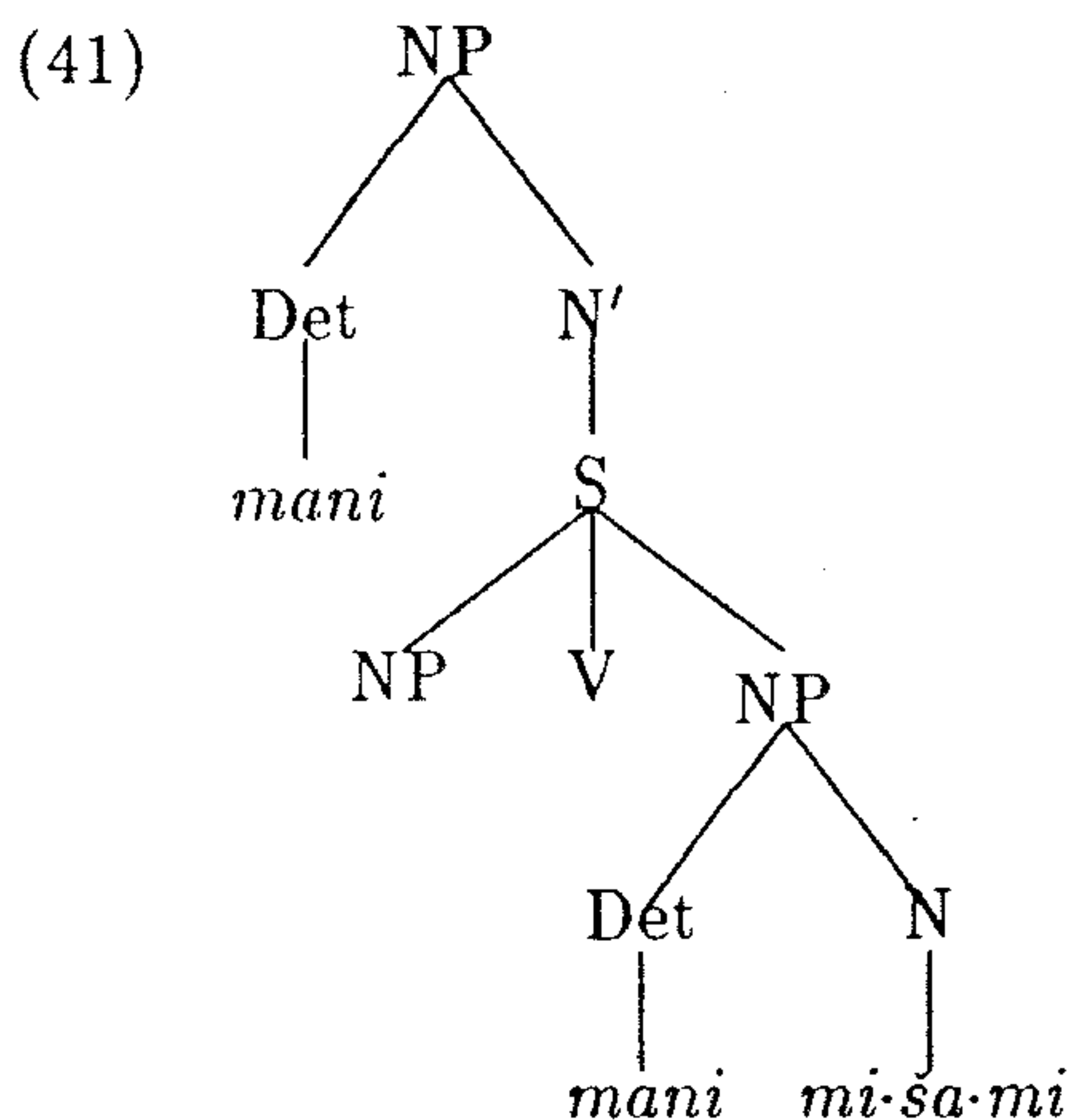
In the next example, the NP containing the relative clause is discontinuous: a quantifier *ma-ne* 'many' is to the left of the matrix verb, while the rest of the NP occurs to the right of the verb. The head N, *aša-haki* 'Sioux', is clearly clause-internal.

- (39) *ma-ne=ke-hi=pi* =meko *neseko-ki*
 many and quot emph kill obv-3p/ind
 i-niye-ka *pe-minehkawa-čiki* *aša-haki* *ihkwe-wani*
 those-absent ones-who-chase-(obv) Sioux-pl woman-obv

'and it is said they (obv) killed many of those Sioux (prox) who were chasing the woman (obv)' AR40:48.1-2

The clause-internal position of the head noun makes two positions available for modifiers agreeing with the head. There may be an internal modifier, sister to the head noun, and an external modifier, sister to the entire clause. Such a structure is demanded by examples like (40), in which both positions are filled. The constituent structure of (40) is given in (41).

- (40) *mani* wi-na maneto-wa mi-nenakwe *mani* mi-ša-mi
 this manitou-himself that-which-he-gave-us this sacred-pack
 'this sacred pack which the manitou himself gave us' B105:70.16-17.⁸



Examples with two identical modifiers agreeing with the head are rare, but they do permit both modifiers to participate in the discontinuous NP construction. The internal modifier appears to the left of the lower verb, and the external modifier appears to the left of the higher verb. In (42) the external modifier is underlined, as is the entire lower clause which forms the righthand portion of the discontinuous NP. Within the lower clause the internal modifier and the head noun (italicized) also form a discontinuous NP.

- (42) *mani*=čā-h=ne-se-hekwiye-kwe
 this so what-will-heal-you
 [*nanakote-ki* *mani* e-hte-ki *mi-ša-mi*]
 between-fires this that-which-is-[there] sacred-pack
 'this sacred pack which is between the fires is what will heal you'
 B72:52.32-33.

Since the internal NP is dominated by the lower S, the two pieces must remain within the lower clause. (This can be seen in (42): *nanakote-ki* 'between the fires' is the oblique argument of the lower verb.) The external modifier, however, forms an NP with the entire lower clause, and this NP is dominated by the root S. The pieces of the larger NP, therefore, may surround the higher verb in the sentence.

It is not always possible to identify a given modifier as internal or external. For example in (39), *ma-ne* 'many' must be an external modifier because it occurs to the left of the higher verb, while the remainder of the NP follows the verb. But it is not clear whether *i-niye-ka* 'those [absentative]' is an external modifier which has not been separated from the rest of the NP, or whether it is an internal modifier forming a discontinuous NP with the head noun *aša-haki* 'Sioux'. Perhaps when more is known about the discourse function of discontinuous NPs it will be possible to label modifiers like *i-niye-ka* in (39) as either internal or external; at this time, however, the question is impossible to decide.

(42) is a special case of a more general pattern of recursive discontinuous NPs. In (42) it is the internal head NP which is discontinuous, but non-head arguments of verbs in relative clauses may also be discontinuous, and may be nested within larger discontinuous NPs.

(43) mani e-yo-ta [ayo-hi e-hte-niki mi-ša-meki]
 this one-who-used-it this-loc that-which-is-in sacred-pack-loc
 'one who used this which was in this sacred pack' B72:30.20

(44) i-ni=ča-hi ketene-nemene
 that [way] so bless-thus 1-2/ind
 [mana e-ne-nemehki ni-ka-ni-kano-nehka]
 this-anim way-he-blessed-you one-who-first-spoke-to-you
 'so I bless you the way that this one who first spoke to you blessed you'
 AR40:76.25

Again, the pieces of the internal NP are italicized, and the pieces of the larger discontinuous NP are underlined. In (43) the internal discontinuous NP is the oblique argument of the lower verb, while in (44) it is the subject. In both examples the pieces of the internal discontinuous NPs are bounded by S.

2.4. Phrase structure representation

The preceding sections have described various aspects of the discontinuous NP construction: it is available for all types of NPs, regardless of gender, obviation, or grammatical function. The grammatical functions which are cross-referenced by inflection on the verb or head noun (subject, object, possessor) may be discontinuous, as may the grammatical functions which are not so cross-referenced (second object, oblique, and object of postposition). It has also been shown that the discontinuous NP construction is recursive, allowing one discontinuous NP to be nested within another. Furthermore, the data suggest that discontinuous NPs are constrained in two respects: a verb may have no more than one discontinuous argument, and the pieces of a discontinuous NP are subject to bounding restrictions, so that the pieces of discontinuous arguments of verbs, objects of postpositions, and possessors must remain within S, PP, and NP respectively.

This section will touch briefly upon a more theoretical issue. It has been assumed in this paper that the modifier which occurs to the left of a verb (or other head) and the N' which occurs to the right are two fragments of a single discontinuous NP. However, there is another possible way of representing this construction in phrase structure: one in which each piece of the discontinuous argument is itself a full NP. The section below will first sketch reasons why such an analysis might seem attractive, and then give reasons for preferring the single discontinuous NP analysis.

As mentioned earlier, a demonstrative or quantifier alone may function as an NP, and a bare noun may also function as an NP. In terms of their internal content, therefore, the two pieces of a discontinuous argument cannot be distinguished from two full NPs. It is also clear from examples like (2-7), which illustrate the numerous word order possibilities available for syntactically unified NPs, that a phrase structure rule expanding S must be able to generate any number of NP positions before the verb, and any number after it. Such a general phrase structure rule could also be used to generate each piece of a discontinuous argument as a separate NP, one before the verb, and one after it. The lexical and grammatical information contained in each NP could then be combined using a syntactic framework like that suggested in section 1, which unifies information contributed by separate lexical items into a representation of the entire clause. Assuming that each piece of a discontinuous argument is a full NP has the advantage of handling the phenomenon with rules and devices already needed elsewhere in the grammar. Analyzing the pieces as fragments of a single discontinuous NP, on the other hand, raises a host of issues for phrase structure theory in general (see McCawley 1982 for one possible way of representing discontinuous constituents in trees).

The disadvantage of analyzing discontinuous arguments as being two full NPs, however, is that it is too general. For example, it would not express the facts represented in the template of (15), which shows the modifier to the left of the verb and the remainder of the NP to the right. If the two pieces of a discontinuous argument are produced by a general rule allowing any number of NPs before and after the verb, then we should also find $*[...N'...V...Modifier]$, $*[Modifier...N'...V]$, or patterns in which the argument is split up into three or more NPs. Such patterns, however, are not attested. Instead the observed pattern has the modifier to the left, preserving the preferred structure for syntactically unified NPs, with the verb (or other head) serving as a pivot around which the pieces of the NP are placed.

Generating the pieces of a discontinuous argument as two separate NPs would also fail to capture the syntactic constraints that seem to apply to this construction. There would be nothing preventing a piece of an argument from occurring outside of its clause, and nothing preventing a single verb from taking two or more discontinuous arguments.

Regarding the constraint on the number of discontinuous arguments, it may be noted here that it does not seem possible to derive this constraint from more general conditions. For example, it is not the case that there is only one "slot" available to the left of the verb for demonstratives or quantifiers. Clauses frequently have two demonstratives, or a demonstrative and a quantifier, preceding the verb. In (45) each of the demonstratives functions as an NP.⁹

- (45) *kaši=yo=ye-toke=mana i-nihi wi-h=to-tawa-či?*
 what I-guess this-anim that-obv.pl that-which-he'll-do-to-(obv)
 'what, I wonder, will this [man] do with those [things]?' (Kiyana 1912b:4)

In conclusion, the apparent constraints upon the discontinuous argument phenomenon cannot be captured by expressing the two pieces as two full NPs. Instead, the availability of this construction for every type of NP in Fox, along with the fact that it is recursive, suggests that this is simply one possible expansion of NP in Fox.

3. Compound verbs

A second type of syntactic discontinuity in Fox involves compound verbs, where a preverb may appear separated from the remainder of the compound. This construction is typologically similar to the phenomenon of phrasal verbs found in Germanic and Ugric languages (Ackerman 1987). In Fox, however, the separation of preverb from verb has startling consequences for the inflectional morphology. Verbs may be inflected with discontinuous morphemes composed of both prefixes and suffixes: if a preverb is separated from its verb it carries along the prefix portion of the discontinuous morpheme. Two pieces of a single morpheme may thus end up on syntactically separated items.

3.1. The lexical status of compounds

Before looking at examples of discontinuous compound verbs, it will first be demonstrated that preverb plus verb combinations in general are best analyzed as single lexical items composed of two phonological words.

Certain preverbs (derived from what Algonquianists call "relative roots") increase the valence of the verb by adding a requirement for an oblique argument. For example, *iši-* requires an oblique argument expressing goal or manner, and *oči-* requires an oblique expressing source, instrument, or cause (cf. *oči-pye-wa* 'come from' in (20)). This ability to alter the valence of the verb is itself an argument for considering combinations of preverb and verb lexical compounds.

Not all preverbs increase valence, however; some contribute aspectual, modal, or other adverbial information. An example of an aspectual preverb, *ki-ši-* (perfective), may be seen in (46).

- (46) *keki-ši*=*koči* -*a-ya-čimohenepena*
 perf redup tell-to 1p-2/ind
 'we have finished explaining to you' (Kiyana 1912a:25)

The verb stem in (46) is a compound of two phonological words. Evidence for a phonological word boundary between the preverb and the verb comes from processes like placement of second position enclitics and reduplication. In (46) the enclitic =*koči* occurs after the preverb *ki-ši*. Reduplication has also applied to the second member of the compound, giving *a-ya-čimoh-* from *a-čimoh-*.

Grammatically, however, the preverb plus verb combination functions as a single lexical item. This can be seen from the placement of the inflectional affixes (italicized in (46)), which attach to the compound as if it were a single word. The prefix *ke-* is to the left of the preverb, and the suffixes *-enepena* are to the right of the verb.

Other inflectional processes also treat the compounds as single lexical items. The placement of the aorist proclitic *e·h=*, for example, is always to the left of the first preverb of the compound, and must be paired with inflectional suffixes from the conjunct verbal paradigm (or, rarely, the interrogative).

- (47) *e·h=pwa·wi-nepo·hiniči*
 not die obv/aor
 ‘he (obviative) didn’t die’ (Kiyana 1912a:5)

Certain other inflectional paradigms require an ablaut rule known as “initial change” to apply to the first vowel of the verb. In preverb plus verb compounds, it is the first vowel of the first preverb which undergoes initial change. Again, this ablaut process must be paired with inflectional suffixes from the conjunct or interrogative paradigms. In (48) a headless relative clause is formed by ablaut of the initial vowel and affixation of conjunct suffixes (cf. Goddard 1987).

- (48) *we·či-pwa·wi-mawi-nesa·či*
 why not go to kill 3-obv
 ‘the reason why he didn’t go kill him’ (Kiyana 1912a:7)
 (“initial change” on *oči-pwa·wi-mawi-nes-*)

Additional arguments for considering preverb-verb combinations lexical, not phrasal, categories may be found in Goddard (in press).

The compound verbs may also appear in a discontinuous construction, with syntactic material intervening between the first preverb and the remainder of the compound. Moreover, the same properties which argue for calling compound verbs single lexical items also hold true of the discontinuous compound verbs.

- (49) *nepye·či- keta·nesa -wa·pama·pena*
 come your daughter look at 1p-3/ind
 ‘we have come to see your daughter’ (Michelson 1917:51)

For example, in (49) the inflectional affixes are *ne- -a·pena*, which includes the discontinuous morpheme *ne- -pena* expressing the first person exclusive plural subject. As in other compounds, the prefix attaches to the left of the preverb and the suffixes to the right of the remainder of the verb stem. In (49), however, the two pieces of the compound stem are syntactically discontinuous, with the object, *keta·nesa* ‘your daughter’ occurring between preverb and verb. Similar patterns obtain for the ablaut rule of initial change and the placement of proclitics: the preverb is treated as part of the compound verb even when other syntactic material intervenes.

- (50) *e·h=pwa·wi-=meko nana·ši -ona·pe·miči*
 not emph ever take-husband 3/aor
 ‘she never married’ (Kiyana 1912a:31)

- (51) we-či- mehtose-neniwaki -tepa-na-wa-či ma-hahi aška-pe-wahi
 why person-pl [why]-they-love-(obv) these-obv cer.runner-obv.pl
 'why the people loved these ceremonial runners' B85:10.43-44
 (initial change on *oči-tepa-n-*)

3.2. Against an incorporation analysis

The fact that inflectional morphemes surround the preverb and verb combinations in (49-51) may suggest that the construction is really a type of incorporation of material into the verb. But in fact the evidence clearly shows that this construction is instead a discontinuous constituent.

First of all, it may be mentioned that noun incorporation *does* exist in Fox, but (as observed by Michelson 1917) the authentic cases of noun incorporation insert uninflected nominal elements into the middle of a simple verb stem. For example, the nominal stem for 'hand' is *-nehk-*:

- (52) onehki
 his-hand (o- 'his', -nehk- 'hand', -i inan.sg)

A verb stem like the following may include a medial element that resembles a nominal stem:

- (53) ki-škinēhke-šwe-wa
 sever-hand 3-obv/ind 'he (prox) cuts off his (obv) hand'

But the construction in (49) differs from the actual cases of noun incorporation in two ways: the noun *keta-nesa* in (49) 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).

The second argument against analyzing (49-51) 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 subject of intransitive or object of transitive. Instead, in this Fox construction, the intervening material may bear any grammatical relation including subject of transitive (cf. (51)). Or an entire adverbial phrase may occur between the preverb and the verb, as in the next example.

- (54) neki-ši- te-pi tasenwi -kano-na-wa
 perf enough so-many-times speak-to 1-3/ind
 'I have spoken to him the correct number of times' AR40:70.8

A parenthetical may even intervene:

- (55) wi-šiki-=mekoho, nešemi, -nenehke-netano e-šimenowakwe-ni
 strongly emph niece-voc think-of 2-inan/imp whatever-he-told-us
 'niece, keep what he told us firmly in mind' B72:48.16-17¹⁰

Furthermore, more than one syntactic constituent may intervene between the preverb and the verb. In (56) both the object and the oblique argument of the verb occur between the preverb and the verb:

- (56) e-h=nawači-=meko onese·ma·wani wa·peški-nenos-škaši-mi·ša·meki
 stop-to emph his-tobacco-obv white-buff.-hoof-sacred-pack-loc
 -pakina·či
 throw 3-obv/aor
 'he stopped to throw his tobacco on the White Buffalo's Hoof sacred pack'
 AR40:270.5-6

(57) has an adverb, *na·hka* 'again' and an oblique *na·wi*=meko -*nenoswahkiwe* 'right in the middle of a buffalo herd' intervening between preverb and verb.

- (57) e-h=ki·ša·koči-=či·h=meko na·hka na·wi=-meko -*nenoswahkiwe* -sekišiki
 extremely exclam emph again middle emph buffalo-herd lie 3/aor

'she was again lying right in the middle of a buffalo herd!' AR40:46:36-37

In (58) a separate clause intervenes between preverb and verb:

- (58) na·hkači we·či- ni·miwa·čini -wa·wawa·wa·kahamowa·či
 also why dance 3p/iter [why]-they-whoop
 'and why, whenever they dance, they whoop' B72:52.19-20

In short, the preverb and verb display properties typical of syntactically separated items; yet their inflectional pattern and, in some cases, their subcategorizational requirements point to their status as single lexical items.

3.3. Discontinuous NPs and discontinuous verbs

Complex word order patterns arise from the interaction of a discontinuous compound verb and a discontinuous NP. The modifier always appears between the preverb and the verb, with the rest of the NP following the verb. In the following examples, the pieces of the discontinuous verb are underlined, and the pieces of the discontinuous NP are italicized.

- (59) i·ni we·či- *ma·hani* -mi·na·soyakwe *nakamo·nani* ki·na·na.
 that why these [why]-we-are-given songs we-inclusive
 'that is why we were given these songs.' B72:58.15-16
- (60) nahi, natawi-=ni·hka *mani* -mawi·wa·pata·ta·we *owa·si·sani*
 hey seek exclam this go-to look-at 1p.inc-inan/imp nest
 'hey, let's try to go look at this nest!' (Leaf 1912:1)
- (61) ne·tawi- *mani* -we·we·ne·netakiki *netahkimi*
 seek this those-who-[seek-to]-control-it my-earth
 'the ones who sought to control my earth' (Kiyana 1913:1076)

From the description of the discontinuous NP construction in section 2, it may be seen that the complexity of (59-61) results from the interaction of the two discontinuous constructions available in Fox, one for NPs, and one for compound verbs.

One of the problems encountered in an investigation of Fox word order patterns is that it is difficult to know which piece of a discontinuous compound counts as being the verb of the clause. See, for example, (51), where the subject occurs between the preverb and the remainder of the compound, while the object is clause-final. Should (51) be considered VSXO, taking the preverb to be the "real" verb, or is it XSVO? Examples like (59-61), containing both discontinuous NPs and discontinuous verbs, provide evidence that it is the righthand piece of the compound which is functioning as the verb of the clause. The righthand piece is the part which serves as a pivot around which the pieces of the discontinuous NP are placed. (62) is a particularly clear illustration of this, with its two clauses displaying parallel structure.

- (62) "še·ški *mani* ki·h=awato·pena *či·ma·ni*" e·h=iyowa·či
 just this fut take 1p.inc-inan/ind canoe say 3p/aor
we·či- *i·ni* -awatawoči *oči·ma·ni*
 why that [why]-his- ...-was-taken his-canoe
 'Because they said, "Let's just take this canoe,"
 is why that canoe of his was taken' (Kiyana 1912a:13)

Each clause in (62) contains a discontinuous NP surrounding the verb of its clause. In the first clause the verb is not a compound, but in the second a preverb has been separated from the remainder of the compound. Nevertheless it is the righthand piece of the compound verb which serves as the reference point for the two pieces of the discontinuous NP. It may be concluded, then, that in the discontinuous verb construction it is the preverb which is appearing in an unusual position, separated from its verb, rather than the righthand piece of the compound verb. As a consequence, examples like (51) may be analyzed as special cases of SVO.

3.4. Some contexts favoring discontinuous verbs

The discourse conditions which favor the use of discontinuous constituents in Fox remain mysterious, but a few contexts may be pointed out here. If a negative element is the first preverb of a compound verb, it will frequently be separated from its verb, possibly so it will have scope over other elements in the clause. Quantified NPs show up especially frequently between negative preverbs and the verb.

- (63) e·h=pwa·wi- owi·ye·ha ke·ko·hi -inowe·či
 not someone something say-to-people 3/aor
 'no one said anything' (Kiyana 1913:416)
- (64) e·h=po·ni-=mekoho owi·ye·ha ke·ko·hi -išihiši-kanawiči
 cease emph someone something redup thus speak 3/aor
 'everyone ceased speaking in any way' B105:64.6-7

Scope motivations may also be the reason why *we·či-* 'why' is often separated from its verb (cf. especially (58)).

In the case of *pwa-wi-*, additional impetus for being separated comes from the distribution of the other negative elements, *a-kwi*, *ka-ta*, and *awita*, used for main clause indicative verbs, prohibitions, and potential verbs, respectively. (All other types of verbs are negated by the preverb *pwa-wi-*.) These elements are independent words which occur at or near the beginning of the clause. They are not considered preverbs because each may occur on its own, without a verb: *a-kwi* 'no', *ka-ta* 'don't', *awita* 'it couldn't happen'.

As (65-67) show, quantified NPs often occur between an independent negative particle and the verb.

- (65) *i-noki=wi-na a-kwi ke-ko-hi kehke-netakini mana mehtose-neniwa*
 today contrast not something know 3-inan/neg this person
 'but today the people don't know anything' B85:18.9-10
- (66) *ka-ta ke-ko-hi me-škwa-ki ki-wiweto-hkani*
 not something that-which-is-red carry-around 2-inan/proh
 'don't go around carrying anything red' B85:26.11-12
- (67) *awita=ke-h owi-ye-ha ke-ko-hi iši-mya-ne-netasa*
 not and someone something thus consider-bad 3-inan/pot
 'and no one would consider it bad in any way' B72:54.3

Presumably, part of the motivation for separating the preverb *pwa-wi-* from its verb is to have it mirror the preferred word order pattern of the independent negative elements.

Another possible factor in the separation of preverbs and verbs involves "relative roots" (cf. 3.1.) and oblique arguments. In general, the preferred position for an oblique argument is directly to the left of the relative root which requires it. In the examples below, the relative root *in-* (or *iš-*) 'thus' appears as the initial morpheme of the righthand piece of a compound verb. Separation of the preverb from the verb allows the oblique subcategorized by *in-* to be directly to the left of the relative root.

- (68) *i-ni we-či- mani -išihčike-yakwe*
 that why this [why]-we-(inc)-do-things-thus
 'that is why we do things this way' B105:56.21
- (69) *i-ni we-či- "mahkate-wi-no!" -inena-ni*
 that why fast - imp [why]-I-tell-you-thus
 'that is why I say to you, "Fast!"' B72:34.33
- (70) *i-ni wi-h=oči- i-ni -išite-he-ye-kwe*
 that fut why that [why]-you-[will]-think-thus
 'that is why you will think that way' B72:60.14

However, this pattern is only a tendency, not an absolute rule. (71) has the same structure as (68-70), but here the preverb and verb are not separated, and *mani*, the oblique argument of manner in (71), consequently does not immediately precede *iš-* 'thus'.

- (71) *i-ni mani wi-h=oči-'šihčike-ya-ke*
 that this fut why-we-(excl)-do-things-thus
 'that is why we are to do things this way' B105:56.18

Moreover in (72) the separation of the preverb results in the oblique source argument *i-nahi* 'there' following — not preceding — its relative root *oči-* 'from'.

- (72) a-kwi owi-ye-ha wi-h=oči- i-nahi -anemi-mya-ši-pema-tesičini
 not someone fut from there continue-to-have-bad-health 3/neg
 'no one will go from there continuing to be in bad health' B72:44.32-33

In conclusion, it has been shown in this paper that Fox freely allows syntactic phrases and compound lexical items to be split up, but the resulting discontinuous constituents follow regular patterns, preserving the relative order of modifier and head found in syntactically unified constituents. It is hoped that this description of discontinuous NPs and verbs will aid future investigation of their discourse function, and serve to bring the remaining word order problems of Fox into clearer focus.

Notes

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1. For discussion of word order in two other Algonquian languages, see Tomlin and Rhodes 1979 on Ojibwa and Starks 1987 on Woods Cree.

2. In the interlinear glosses, verbal inflectional categories are indicated following the stem. For example, "3p-inan/aor" means third person animate plural proximate subject acting on third person inanimate obviative object, in the aorist conjunct verbal paradigm. Other abbreviations for verbal paradigms are ind (independent indicative), ch.c (changed conjunct), iter (iterative), subj (subjunctive), neg (negative), pot (potential), imp (imperative), and proh (prohibitive). An unspecified subject is represented by "X".

All examples have been taken from texts written by native Fox speakers. One obvious writing error in Kiyana 1912c has been corrected, and examples drawn from published texts have been checked against the original manuscripts. The following abbreviations are used for the published texts: AR40 = Michelson 1925, B72 = Michelson 1921, B85 = Michelson 1927, B89 = Michelson 1929, B95 = Michelson 1930, B105 = Michelson 1932.

3. The corpus of texts is of sufficient size that the absence of counterexamples suggests syntactic constraints are at work. Of course, such claims must be checked in elicitation. If it turns out that the putative constraints are not, strictly speaking, syntactic ones, then the claims made here are nonetheless valid as a description of the preferred patterns in discourse.

4. An optional cliticization rule has attached *mani* to what precedes in (23); cf. Goddard 1987, note 2, for transcription conventions.

5. Examples where it is the predicate which seems to be split may be found in the titles of two texts in Michelson 1927: B85:58.1 and B85:74.1.

6. The optional cliticization rule mentioned in note 4 may also apply to postpositions. Cliticization is especially likely following a word ending in *hi*, such as *ayo·hi*.
7. The independent pronoun *ni·na·na* 'we exclusive' in (38) emphasizes the possessor of the head (Dahlstrom to appear).
8. Collocations like *wi·na maneto·wa* 'the manitou himself' are discussed in Dahlstrom (to appear)
9. Other examples with both a demonstrative and a quantifier before the verb are (28), where both items are part of a single discontinuous NP, and (22), where the quantifier is part of a discontinuous NP, but where the demonstrative is not.
10. *wi·šiki-* in (55) is indeed a preverb; cf. *ki·h=wī·šiki=-čā·h=meko -nenehke·neta* 'you must keep it firmly in mind' AR40:80.21, where the inflectional affixes *k-* *-a* surround the compound.

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