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RELATIONAL PREVERBS IN SOME LANGUAGES OF THE AMERICAS: TYPOLOGICAL AND HISTORICAL PERSPECTIVES

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In the verbal morphology of many languages of the world, certain elements define the semantic functions of particular arguments of the verb, e.g. the benefactive relation, the instrumental, and the locative. Often these elements are clearly adpositional in origin. In some of the New World languages examined here, the source of these elements, which we call RELATIONAL PREVERBS, is clearly the postposition. The hypothesis that relational preverbs are incorporated into the verb by means of a syntactic rule accounts for their observed properties in some languages, but not in others. An adequate picture of their nature emerges only when their typology is interpreted in both synchronic and diachronic perspective.*

INTRODUCTION

1. In many languages of the New World, particularly SOV languages, the verb word may include a prefixal element whose semantic content falls within the range generally attributed to so-called oblique relations that are typically expressed by means of adpositions or semantic cases. We will refer to these prefixed elements as RELATIONAL PREVERBS. Here are two examples:¹

(1) a. Rama:

Ka-na-ngalbi-u

ELATIVE-1SG.SUBJ-run-ASP

'I ran away from (him).'

b. Winnebago:

Ho-ra-ninp-shannan.

INESSIVE-2SG.SUBJ-swim-DECL

'you swam in (it).'

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¹ The following abbreviations are used in the examples: ASP 'aspect', ASSOC 'associative', BEN 'benefactive', CLPV 'cliticized relational preverb', DEC 'declarative', DEF 'definite', DISC 'discourse particle', F 'formative', IND 'indefinite', INST 'instrument', LOC 'locative', OBJ 'object', POSS 'possessive', PSP 'postposition', PV 'relational preverb', SUB 'subordinate'.

The purpose of this paper is to develop an elementary grammatical analysis of these preverbal elements, primarily using data from three unrelated languages of the Americas in which the phenomenon has a productive use: Rama (Chibchan, Nicaragua), Nadëb (Maku, NW Brazil) and Winnebago (Siouan, North America).

The paper will be constructed as follows. After a general discussion of the phenomenon, we will present Rama and Winnebago in turn, in some detail, to illustrate various manifestations of the phenomenon and, in the process, to consider a procliticization hypothesis and an incorporation hypothesis. Some reference to other languages will be made at various points in the discussion. We will conclude by using our small but representative sample of languages to place the relational preverb phenomenon in both diachronic and universal typological perspectives. At that point, the phenomenon as it is realized in Nadëb (using data from the excellent description by Weir 1986) will be brought fully into the picture.

RELATIONAL PREVERBS: ON THEIR ORIGIN AND THEIR SYNTACTIC STATUS

2.1. FROM POSTPOSITIONS TO RELATIONAL PREVERBS. A reasonable, and to some extent defensible, view of relational preverbs in the languages we are considering is that they derive from adpositions—or, more specifically, from postpositions. This is so diachronically, and in many instances synchronically as well. The precise manner in which this comes about varies from language to language, but the fundamental process involved is some form of incorporation.

Languages will vary in the extent to which their relational preverbs are related to actual postpositions. Nadëb and Rama represent languages in which the relation between postpositions (PSP) and relational preverbs (PV) is obvious (see 2 below), while Winnebago represents a more common situation in the languages of North America, i.e. the situation in which the relation is often not obvious.

(2) a. Rama:

PSP: *Maukala i-park-i seem ngabang u.*
 net he-make-ASP same silkgrass PSP
 'He makes nets with silkgrass also.'

PV: *Nainguku naing taata ngabang yu-i-siik-i*
 thus my father silkgrass with-he-come-ASP
nguu ki.
 house in
 'That's why my father brings the silkgrass in the house.'

b. Nadëb:

PSP: *Kalapéé a-sooh bxaah yó.*
 child F-sit tree on
 'The child is sitting on the tree.'

clPV: *Bxaah kalapéé yó sooh.*
 tree child on sit
 'The child is sitting on the tree.'

- PV: *Bxaah kalapéé ya-sooh*
 tree child on-sit
 'The child is sitting on the tree.'

In Winnebago the inessive preverb *ho-* illustrated in 3a below is, by hypothesis, an incorporated postposition, although the paraphrase 3b, with an actual postpositional phrase, is not obviously related.

(3) Winnebago:

- a. *Kook-ra ho-nanzhin-je-enan.*
 BOX-DEF INESSIVE-stand-AUX-DECL
 'It is standing in the box.'
- b. *Kook-eja naanzhin-je-enan.*
 BOX-LOC stand-AUX-DECL
 'It is standing in the box.'

While the members of the pair 3a–b are probably not derivationally related, we believe nonetheless that 3a does indeed involve incorporation of a postposition, despite the fact that the relational preverb bears no resemblance to any actual postposition.

Let us turn now to the problem of the proper characterization of relational preverbs—and of the putative incorporation process—within an integrated theory of grammar.

It seems reasonable to begin by first establishing that what we are here calling preverbs are in fact integrated into the verb word. That is to say, they no longer have the syntactic status of postpositions, i.e., they are not the heads of syntactically separate phrases. This cannot, of course, always be seen in the linear string itself. For example, the position of the preverb in 3a is identical to that of the genuine postposition in 3b: both elements immediately precede the verb.

Phonological, morphophonological, and morphosyntactic arguments can be advanced to establish the syntactic status of the relational preverbs.

Consider Winnebago, for example, where the syntactic status of postpositions and preverbs can be established quite simply. For one thing, the preverb *o-* (phonetic [ho-] word-initially) is accentually part of the verb word (cf. Hale & White Eagle 1980), while the enclitic postposition *-eja* is accentually part of a preceding (and phonologically quite separate) word which includes the noun stem *kook* 'box'. Moreover, the preverb triggers vowel-shortening in the verb: The vowel of the manner prefix *naan-* 'by foot' is long if nothing precedes it within the same word. And this long vowel is in fact what appears in 3b, where the syntactically separate postpositional phrase precedes the manner prefix. But in 3a, where the preverb appears, the vowel of the manner prefix is shortened. These phonological considerations indicate unambiguously that, at some level at least, the syntactic postposition of 3b belongs to a separate constituent from the verb, while the preverb is thoroughly integrated into it.

Morphological evidence of the prefixal status of Winnebago relational preverbs comes from the observation that they can be preceded in the verb word by elements which are themselves prefixes without question. That is to say, the preverb is not always initial within the word. And when it is not, it is clearly

not linearly contiguous to the noun phrase with which it is relationally construed. Consider, in this connection, the following sentences:

(4) Winnebago:

- a. *Kook-ra ha-mink-shannan.*
 box-DEF SUPRAESSIVE-lie-DECL
 'He lay on the box.'
- b. *Kook-ra wa-a-mink-shannan.*
 box-DEF PL-SUPRAESSIVE-lie-DECL
 'He lay on the boxes.'

In 4b the supraessive relational preverb, in its underlying *h*-less form *a-*, follows the third person plural objective prefix *wa-*. At this surface structure level of linguistic representation, therefore, there can be no doubt about the morphosyntactic status of the preverb; it is clearly a prefix to the verb and not a postposition, whatever its underlying grammatical status might be. The Winnebago supraessive preverb, like the inessive, gives every evidence of its prefixal status: it is accentually part of the verb word, like any other prefix; it induces vowel-shortening (cf. the unprefixated verb root *miink* 'to lie'); and it bears no phonological resemblance to any actual postposition.

The case for prefixal status of relational preverbs is rather easy to make in Winnebago—so easy, in fact, that the hypothesis that it is derived from a postposition requires a considerable degree of abstraction, at least for the synchronic grammar. Winnebago stands at one end of a spectrum in this regard, while Rama stands closer to the center.

In Rama the putative grammatical relationship between preverb and postposition is more obvious in the surface form of sentences and, consequently, the potential for ambiguity of analysis is correspondingly greater. A given sentence may be entirely unambiguous, however, as in the case of 2, where the phonological shape of the preverb makes clear what the proper analysis is: the instrumental/comitative preverb is regularly *yu-*, while its postpositional cognate is *u*. Similar remarks apply to Nadëb (also illustrated in 2 above), where the prefixal form of the incorporated postposition consistently undergoes vocalic neutralization (to [a] or [i], depending on various factors).

In many languages—e.g. Navajo and other Athabaskan languages—a rather rich array of points on the spectrum is present in the data. Perhaps this is the commonest situation, in fact. Of the three Navajo sentences in 5 below, the first illustrates an unambiguous postposition, the second an ambiguous case, and the third an unambiguously integrated preverb. All are clearly postpositional in origin, however, as the objective prefix appearing on them cannot be explained otherwise:

(5) Navajo:

- a. PSP *b-á* *naa-sh-nish.*
 3OBJ-BEN ADV-1SG.SUBJ-work
 'I work for him.'
- b. PSP/PV? *b-ee(-)naa-sh-né.*
 3OBJ-INST(-)ADV-1SG.SUBJ-play
 'I make him cry.'

c. PV *b-a'-ni-s-tsóód.*
 3OBJ-GOAL-INDEF.OBJ-MODE-1SG.SUBJ-feed
 'I feed him.'

The benefactive element *-á* of 5a, we can assume, is a postposition, heading a syntactically separate postpositional phrase; its status as separate from the verb is clear from the fact that it can be stranded, so to speak, as for example in the reduced question *háish b-á* 'who for?' By contrast, the instrumental element appearing in the idiomatic 5b cannot be so stranded. This case is ambiguous, however, in that the instrumental *-ee* also appears as an unambiguous (and strandable) postposition, as in the less idiomatic reading of 5b according to which the verbal complex means 'to play (of a musical instrument)'. Finally, in 5c, the GOAL element *-a-* is clearly a preverb and not a postposition, in surface structure at least. There is no real postposition of that form, no stranding is possible, and the element in question is phonologically integrated into the verb word (as can be seen by the form which the immediately following indefinite object marker assumes; this would be *'a-* if it were word-initial).

Putting aside for present purposes the ambiguities in the full range of data, and putting aside idiomatic and other noncompositional cases as well, let us accept the proposition that the class of relational preverbs is a genuine category in the grammars of certain (probably many) languages of the world. We must now ask what the proper analysis of these elements should be.

2.2. THE CLITICIZATION ANALYSIS. The possibility exists, in theory, that relational preverbs are in reality postpositions at all syntactic levels of representation, and that their appearance in prefixal position is the result of a purely phonological rule of (pro)cliticization. According to this view, the verb phrase has the syntactic form depicted in Figure 1.

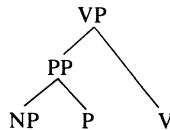


FIGURE 1.

We must assume that the PSP becomes phonologically dependent upon the overt material to its right, i.e. the verb. In the absence of any clear evidence concerning the actual form of the derived Phonological Form (PF) structure, we will assume that the postposition adjoins to V and, further, that movement in PF leaves no trace (resulting in the deletion of the original PP projection entirely). If this is so, then the derived structure—the actual surface structure of Fig. 1 at PF—is approximately as shown in Figure 2.

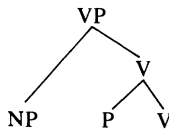


FIGURE 2.

We do not think that PF cliticization is a viable theory of relational preverb constructions for Winnebago, as we will argue in §4 below. But, as we will show in §3, it is a viable analysis for some of the Rama instances of relational preverbs, in the case of zero anaphora of the object NP.

In languages such as Winnebago, the PF-cliticization theory fails to capture the fact that the NP in such constructions is a direct argument of the verb—an object, in fact. That it is a direct argument can be shown in a number of ways. Thus, for example, where the argument in question is pronominal, it will appear as an objective prefix in the verb word, like any true object which is pronominal. This is illustrated in 6b below:

(6) Winnebago:

- a. *Kook-ra ha-nan-zhin-je-enan.*
 BOX-DEF SUPRAESSIVE-by.foot-stand-AUX-DECL
 'It is standing on the box.'
- b. *Ha-nan-nin-zhin-je-enan.*
 SUPRAESSIVE-by.foot-2OBJ-stand-AUX-DECL
 'It is standing on you.'

Furthermore, since a verb may have only one direct object, it will follow that no transitive verb may acquire an object through the process, whatever it proves ultimately to be, by which preverbal constructions are formed—unless, of course, a demotion process exists, putting the initial object en chômage (cf. Perlmutter & Postal 1982). This accounts for the ill-formedness of 7b, by contrast with 7a, in which the corresponding postpositional phrase appears (but see below for exceptions to the constraint on multiple objects in Winnebago).

(7) Winnebago:

- a. *Niin-eja kere-enan.*
 water-LOC stand-DECL
 'He stood him in the water.'
- b. **Niin-ra ho-kere-enan.*
 water-DEF INESSIVE-stand-DECL

The PF-cliticization theory cannot account for 7b, since, phonologically speaking, there is nothing whatsoever wrong with the verb word in that sentence. We must therefore assume that the process whereby relational preverb constructions arise in Winnebago—and presumably in other languages too—has to do directly with grammatical functions. In short, the process belongs to the class of grammatical mechanisms which define the argument structures of predicators, i.e. which define the associations between lexical conceptual structure and grammatical functions. If this is correct, then the PF-cliticization analysis must be abandoned.

2.3. THE 3-2 ADVANCEMENT ANALYSIS. The second possibility which we will briefly consider, in view of the Winnebago data above, is that the formation of relational preverb constructions belongs to the same class of relation-changing rules as so-called 'dative movement', or, in the terminology of Relational Grammar, '3-to-2 advancement'. According to this view, the argument structure of Fig. 2 is defined by means of a rule which advances an oblique argument—i.e. that contained in the postpositional phrase of Fig. 1—to the object

function. This idea has the desired property that it is relational. That is to say, it makes explicit reference to grammatical functions. And since grammatical functions are unique, it can account for the facts represented by 7 in a perfectly natural manner. Sentence 7b simply cannot be derived, since it violates the principle of functional uniqueness.

Despite its successes, we believe that this purely relational account cannot be entirely correct, precisely because it is purely relational and, therefore, formulated solely in terms of grammatical functions. A purely relational theory cannot express the central fact of the construction we are examining—namely, that it is a construction involving relational preverbs. The very existence of a set of relational preverbs with consistent semantic, or thematic, associations in the fully productive cases remains completely unexplained within a pure relational theory. We abandon this line of inquiry, therefore, and proceed to consider an alternative which, while retaining the positive characteristic of the pure relational theory, acknowledges the preverbs and seeks to account for them.

2.4. THE INCORPORATION ANALYSIS. It is clear that the theory we seek is, in an important sense, a combination of the cliticization theory and the relational one. Such a combination would recognize both the relational character of the process and the morphosyntactic fact of the preverb. We will consider a theory of these elements according to which they are the results of incorporation (in the sense of the detailed study by Baker 1985). We will for the most part limit our attention to incorporation as a syntactic process, though we recognize that the term is also applicable to the lexical process often referred to as compounding. In fact it is quite certain that many instances of complex verbs containing preverbs are thoroughly lexicalized. The grammatical analysis of relational preverbs must succeed in capturing both their morphological character—i.e. their status as verbal prefixes—and their syntactic function as elements which realize particular semantic relations.

The morphological status of relational preverbs must, obviously, result from a process of word formation in which the preverb is adjoined to a verbal theme at an appropriate level of morphological structure in the derivation of the verb word. For our purposes, it will be sufficient to identify the theme to which the preverb is adjoined as V and the preverb itself as P. The adjunction structure which results from the word formation process corresponds to the right-hand subtree of Fig. 2 above, reproduced as Figure 3.



FIGURE 3.

The structure depicted in Fig. 3 corresponds to the internal makeup of the verb of 6a above, set out in 8:

- (8) [_V a- [_V naan-zhin]] ('on (stand)') 'stand on'

This structure conforms to the common pattern in being right-headed. That is to say, it is the righthand constituent—i.e. the verb—which projects to define the category of the word as a whole. This is observationally correct in the languages we are considering.

It is obvious, of course, that Fig. 3 is precisely the structure obtained by cliticization of a postposition onto the verb. Thus, the hypothetical PF process of procliticization yields a word of the form depicted in Fig. 3. And to the extent that Fig. 3 is the actual structure of the complex verb words under consideration here, the PF cliticization theory of preverbs is correct from the point of view of the morphological structure involved.

2.5. LEXICALIZATION. We have mentioned, in our reference to the development of relational preverb constructions in Navajo, that the languages which exemplify the phenomenon typically possess verb words in which etymological preverbs can be recognized, and in some cases must be recognized for morphophonological reasons. But some of these preverbs can no longer be considered the result of synchronic incorporation, or even regular word-formation. At a later point in our discussion, in the course of our treatments of Winnebago and Rama, we will briefly consider the principles which might be at work in the lexicalization of relational preverbs.

2.6. A TYPOLOGICAL PERSPECTIVE. The two languages which figure most prominently in our discussion are basically verb-final, though one of them, Rama, also permits postverbal positioning of postpositional phrases. The third language, Nadëb, with basic order OSV, has the verb following its direct arguments, but it places postpositional phrases after the verb. However, the construction from which the relational preverb construction is most immediately derived has the relevant elements—a floated postposition and its object—before the verb. Thus, in the relevant constructions, all three languages are verb-final. Navajo, which we have illustrated only cursorily, is also verb-final.² It is very likely that this parameter is germane to the overall typological status of relational preverbs. We turn now to a more detailed consideration of relational preverbs in Rama.

IN DEFENSE OF A CLITICIZATION ANALYSIS: THE CASE OF RAMA

3.1. RELATIONAL PREVERBS AND POSTPOSITIONS. More often than not, the origin of relational preverbs is obscure, although in a number of languages an adpositional origin is postulated for some of them. What is interesting about the Rama version of the phenomenon is that it provides a clear example of a language in which relational preverbs originate in the adpositional system.

Making the point that relational preverbs in Rama are related to postpositions

² The grammatical phenomenon to which this paper is devoted, in its broadest perspective, is not limited to verb-final languages. The so-called 'applicative' or 'applied' suffixes of the Bantu languages have been identified (by Baker 1986, among others) as incorporated adpositions (prepositions, in the case of Bantu). It is, however, primarily (though not exclusively) verb-final languages which possess relational preverbs. This is for the most part in contrast to verb-medial languages, like Bantu, in which the corresponding incorporated elements are suffixal.

is facilitated by the co-occurrence in the language of morphologically related preverbs and postpositions. The existence of both postpositions and related relational preverbs further contributes to the feeling that the process of relational preverb affixation may be a relatively recent development in the grammar of Rama.

All instances of preverbal relational affixes in Rama are transparently related to postpositions in use in the language. The list of postpositions and corresponding verbal affixes is given in 9:

(9) Rama:

	Postpositions	Relational Preverbs
<i>bang#</i>	'goal, purpose'	<i>ba-</i>
<i>u#</i>	'associative, instrumental'	<i>yu-</i> (<i>y-u</i>)
<i>kang#</i>	'ablative, source'	<i>k(a)-</i>
<i>su#</i>	'locative'	<i>su-</i>
<i>aak#</i>	'dative'	<i>yaa-</i> (<i>y-a-</i>)
<i>ki#</i>	'locative'	
<i>kama#</i>	'beneficiary'	
<i>king#</i>	'beneficiary'	
<i>aing#</i>	'genitive'	

While it is certain that all relational preverbs noted in the data have a corresponding postposition, the reverse is not true: not all postpositions have corresponding relational preverbs. The verbal affixes are listed in 9 in order of frequency, based both on their numerical frequency in texts and on the number of different verbs with which they have been found.

Four patterns of postpositional phrases and relational preverbs can be observed in Rama. Postpositional phrases may occur either pre- or post-verbally, oblique NPs may be marked either by postpositions or relational preverbs, and the relational preverbs may occur with or without the lexical NP that would correspond to the object of the postposition:

(10) Patterns of Postpositions (PSP) and Relational Preverbs (PV) in Rama:

- | | |
|----------------------------------|--------------------------------|
| a. NP _{PSP} V | |
| b. X V NP _{PSP##} | |
| c. Ø _{PV-V} | |
| d. NP _{PV-V} | |
| a'. <i>Maa ka na-ngalbi-u.</i> | c'. <i>Ba-an-alpi-u.</i> |
| you PSP I-run-ASP | PV-they-look-ASP |
| 'I ran away from you.' | 'They looked for it.' |
| b'. <i>Na-ngalbi-u maa kang.</i> | d'. <i>Paalpa ba-an-alpi-u</i> |
| I-run-ASP you PSP | manatee PV-they-look-ASP |
| 'I ran (away) from you.' | 'They looked for the manatee.' |

A set of arguments aiming at establishing that there is indeed syntactic re-analysis from postposition to relational preverb can be presented for Rama (see Craig 1986b). The argumentation consists in demonstrating that a number of structural and semantic differences exist between preverbal postpositions and

verbal relational prefixes. The demonstration needs to be made in view of the facts of word order in Rama, in particular the contiguity between the preposed postpositional phrase and the verb in this S O PP V language.

3.2. CLITICIZATION IN CASE OF ZERO ANAPHORA. It appears that in Rama there are two types of relational preverbs. We will claim that one of these is the result of PROCLITICIZATION of postpositions whose objects are non-overt, while the other consists in the INCORPORATION of specific postpositions with specific verbs in an incipient process of lexicalization.

Cliticized relational preverbs contrast with incorporated relational preverbs on three counts: by the nature of the conditions under which they occur, by their degree of productivity, and by the semantic relation that holds between each type of relational preverb and its postposition of origin. We will consider first how these three criteria apply to the procliticized relational preverbs.

Procliticized relational preverbs seem to arise from a constraint on stranding postpositions in Rama. In case of zero anaphora affecting the object NP of a postposition, the postposition automatically attaches itself to the verb as a relational preverb. Certain patterns of oblique argument marking are therefore determined by the nature of the object NP: while an overt NP may be marked either by a postposition or by a relational preverb, a non-overt one will always be marked by a relational preverb. Although zero anaphora is the most common type of anaphoric expression of oblique NPs in Rama, an occasional third person personal pronoun may be used under certain discourse conditions which are not yet well analyzed. The fact that, on the rare occasion that the pronoun is used, it is accompanied by a postposition and not by a relational preverb further supports our claim that the trigger of the procliticization of a postposition is the non-overtness of the object NP itself.

Procliticization of the postposition is productive in the sense that the procliticized relational preverb may occur with all sorts of verbs. This contrasts with the incorporated relational preverbs, which will be shown later to be lexically restricted to combinations of specific postpositions with specific verbs. The high productivity of the procliticization process does not mean, however, that all postpositions in Rama are equally found as procliticized relational preverbs. Text studies show a marked difference in the propensity of specific postpositions to occur as procliticized relational preverbs: while instrumental, associative, and beneficiary/goal postpositions are commonly expressed as proclitics on the verb, locatives, for instance, are not. But the absence of procliticized locative relational preverbs is linked to the fact that the oblique NPs with which they are associated appear to be resistant to zero anaphora in Rama narratives. Although further research is needed to determine the extent of the phenomenon of zero anaphora in Rama, including determining which oblique NPs may be non-overt, and under what discourse conditions, it is clear that the non-overtness of an oblique NP triggers the cliticization of its associated postposition and is one of the sources of relational preverbs in the language.

The third factor that distinguishes procliticized relational preverbs from in-

corporated relational preverbs is their stable semantics. Procliticized relational preverbs maintain the interpretation that they would have as postpositions—unlike many fully incorporated relational preverbs, which exhibit semantic drift from their associated postpositions, as will be shown later.

Data on the instrumental/comitative postposition *u* and its corresponding relational preverb *yu-* will be used to illustrate the phenomenon of procliticization of a postposition in case of zero anaphora of its object NP. The pair *u* 'with/PSP' and *yu-* 'with /PV' is by far the most frequently encountered in texts. As a postposition, *u* is either associative (comitative) or instrumental, as shown in 11 and 12 below:

- (11) Rama: ASSOCIATIVE PSP: *u*
- a. *Nah aalal-i maa u.*
I play-ASP you with
'I play with you.'
 - b. *Naing taata u n-aakur-u taim ki.*
my father PSP/with I-be-ASP time in
'I lived with my father at the time.'
 - c. *Yaing kuuka kuka-rii alkiini u y-aasik-u.*
his woman choc.liq. pepper PSP/with she-boil-ASP
'His woman, she boiled the chocolate with pepper.'
- (12) Rama: INSTRUMENTAL PSP: *u*
- a. *Naing kaat i-kain-u plaanak u.*
this stick she-cut-ASP machete PSP/with
'She cut the stick with a machete.'
 - b. *Namangku y-at y-angais-i ariira u.*
now his-testicles she-tie-ASP string PSP/with
'Now she ties his testicles with a string.'

The text sample in 13 below shows the procliticization of the instrumental postposition *u* as an instrumental relational preverb *yu-* in case of zero anaphora of its object NP. The NP *kiskis* 'tongs' established in 13a is the referent of the oblique instrument arguments of the different verbs of 13b–e. In those clauses, the anaphoric instrumental NP is non-overt, and the verb takes an instrumental relational preverb *yu-* which corresponds to the instrumental postposition shown in 12 above. However, note how in 13f an instrumental postposition appears, specifically when the instrumental NP is a full lexical NP, this time the newly introduced contrastive instrument *nsu-suluk* 'our finger'. This switch to the postpositional phrase pattern is taken to support the claim that the relational preverbs in the preceding clauses are cliticized to the verb because of the non-overtness of their object NP.

- (13) Rama: cliticization of stranded PSP with 0 anaphora ():
- a. *Nainguku kiskis nsu-kuaakar-i,*
so tongs we-have-ASP
'That's why we have the tongs,
 - b. *suli-kaas () yu-nsu-auk-kama*
animal-meat () PV/with-we-roast-SUB
'for us to roast meat with (it),

- c. *sumuu* () *yu-nsu-apii-kama*,
 banana () PV/with-we-extract-SUB
 'for us to take out banana with (it),
- d. *an ungi karka salpka-kaas* () *yu-nsu-kaniis-kama*,
 and pot out.from fish-meat () PV/with-we-fry-SUB
 'and for us to fry fish from the pot with (it),
- e. *ungi yaadar tkua* () *yu-nsu-uung-kama*.
 pot thing hot () PV/with-we-make-SUB
 'for us to do hot thing in the pot with (it).'
- f. *Nsu-suluk u angka nsu-uung-i*
 our-finger PSP/with can't we-make-ASP
 'With our fingers we can't do it,
- g. *nsu-suluk y-auk-baing-uting*.
 our-finger it-burn-too.much-ASP
 'we would burn our fingers too much.'

Besides the illustrative alternation of [NP PSP] and [zero anaphora PV-Verb] patterns, the above text sample shows that the postposition in 13f and the cliticized relational preverbs of 13b–e are all given the same instrumental interpretation, i.e. that there is no semantic drift of the relational preverb. In addition, the example shows that the procliticized instrumental relational preverb associates with a variety of verbs: 'to roast' in 13b, 'to take out' in 13c, 'to fry' in 13d, and 'to make' in 13e. In other words, the process is productive. Finally, it demonstrates that the instrumental oblique argument of the same verb 'to make' can also be expressed through a postpositional phrase, as in 13f; the choice between postposition and relational preverb is a matter of the overt status of the instrumental NP itself, and not of the combination of specific postpositions with specific verbs.

3.3. INCORPORATED AND LEXICALIZED RELATIONAL PREVERBS. While the instances of procliticized relational preverbs discussed above are restricted to the pattern [zero anaphora PV-Verb], the reverse is not true, in that a number of relational preverbs associated with non-overt NPs are instances of INCORPORATED relational preverbs, to which we will now turn our attention.

The analysis of the Rama relational preverbs is based on a text study of the use of postpositions and preverbs which is summarized in Table 1.³ The table provides various kinds of information on relational preverbs and postpositions in Rama. These will be briefly considered before we focus on the incorporated and lexicalized relational preverbs, the most obvious instances of which are found in the pattern [NP PV-Verb] of column (d).

From left to right, the columns show the distribution of the various postpositions and relational preverbs across the different patterns found in the language. Column (a) is for postpositional phrases in general, whether pre- or post-verbal; column (b) illustrates the absence of stranded postpositions in the

³ The data base consists of 19 oral texts with a total of 1209 clauses. The texts are folk and personal narratives collected from two Rama speakers by Colette G. Craig and Bonny Tibbitts. The text counts were done by Bonny Tibbitts.

	a.	b.	c.	d.
PSP/pv	[NP PSP]	[Ø PSP]	Ø [pv-Verb]	NP [pv-Verb]
<i>u/ya</i> - ASSOC/INST	31% (35)	(0)	51% (57)	18% (20)
<i>a(ak)/ya</i> - DATIVE	49% (21)	(0)	39% (17)	12% (5)
<i>ba(ng)/ba</i> - PURPOSE	(0)	(0)	39% (13)	61% (20)
<i>su/su</i> - LOC	89% (34)	(0)	11% (4)	(0)
<i>ki/ki</i> - LOC	98% (90)	(0)	2% (2)	(0)

TABLE 1. Text counts of Rama postpositions and relational preverbs.

data; column (c) is a count of the instances of relational preverbs with zero anaphora of the oblique NP, which include (but are not all) cases of procliticized relational preverbs; column (d) refers to the pattern in which the full lexical NP co-occurs with the relational preverb. It is this last type of relational preverb that we will analyze as incorporated relational preverbs.

When read vertically, the figures in Table 1 show how likely it is that the different postpositions will appear as postpositions rather than relational preverbs, and how likely it is that particular relational preverbs will be used together with their associated full lexical NPs. The set of Rama postpositions can be divided into three subsets. One is found distributed across all patterns (*u/ya* 'instrumental and associative' and *a(ak)/ya*- 'dative, objective'), and the other two subsets are restricted to just some of the patterns. *Ba(ng)/ba*- 'goal, beneficiary' is mostly found as a relational preverb, while *su* and *ki* 'locative' are mostly found as postpositions, for instance.⁴ The apparent resistance of locative postpositions to becoming relational preverbs, particularly procliticized relational preverbs, was connected earlier with the resistance of the locative NPs themselves to undergoing non-overt zero anaphora.

We will be concerned now primarily with cases in which the NP object appears overtly before the preverb with which it is construed. Our proposed analysis of these cases is that something more than simple procliticization is involved and that these are cases of incorporation. In contrast to procliticized relational preverbs, incorporated relational preverbs exhibit the following characteristics: they co-occur with a full lexical NP, they appear in combinations of specific postpositions with specific verbs, and they have undergone semantic drift.

The first point to be made is that, unlike cliticized relational preverbs, incorporated relational preverbs co-occur with full lexical NPs, as illustrated in 14:

(14) Rama:

- a. PSP: *Maukala i-park-i seem ngabang u.*
 net he-make-ASP same silkgrass PSP/with
 'He makes nets with silkgrass.'
- b. PV: *Naing taata ngabang yu-i-siik-i nguu ki.*
 my father silkgrass PV/with-he-come-ASP house in
 'My father brings the silkgrass in the house.'

⁴ Although there was no instance of *bang* as postposition in the narrative texts analyzed, it surfaced in direct elicitation, as a goal or target as in jumping at/on somebody.

The text sample in 15 shows how consistent the association of the relational preverb *yu-* and the verb *siik* is, even in the presence of a full lexical NP object:

- (15) Rama: NP PV: incorporation of PSP:
- a. *Naing taata sumuu yu-i-siik-u,*
my father banana PV/with-3-come-ASP
'My father brings bananas,
 - b. *praanti yu-i-siik-u,*
plantain PV/with-3-come-ASP
'he brings plantain,
 - c. *yataaki yu-i-siik-u*
thing PV/with-3-come-ASP
'he brings all kinds of things.'
 - d. *Wiring Kii y-aakit-su,*
Wiring Cay 3-be-SUB
'As he used to stay in Wiring Cay,
 - e. *yu-i-siik-u.*
PV/with-3-come-ASP
'he would bring (them).'

Although clearer examples will be provided below, examples 14 and 15 also show how semantic shift is commonly associated with the incorporated type of relational preverb. In the particular association of the associative/comitative preverb *yu-* 'with' and the intransitive verb of movement *siik* 'to come', the semantic shift consists in the fact that the semantic interpretation of the complex word [PV-verb] is not that of an analytical construction meaning 'to come with', but rather that of the transitive verb 'to bring', as indicated by the difference between the morpheme-by-morpheme glosses and the free translations.

This particular semantic shift is more obvious when the object NP is an animate NP and when it clearly involves the notion of control, as illustrated in 16. As a free postposition the comitative marker *u* is associated with control on the part of its animate object NP (hence the notation [+control]), regardless of whether the referent of the oblique NP exercises control over moving or remaining still. By contrast, the corresponding incorporated relational preverb *yu-* is associated with LACK of control on the part of its object NP, which is interpreted as a patient of the agent subject of the verb of action:

- (16) The [-control] semantics of Rama incorporated PVS:
- a. PSP: ... *barka aa i-taak-u baaning anul u.*
[+control] but NEG she-go-ASP DISC them PSP/with
'... but she would not have gone with them.'
 - b. PSP: *Taa u m-taak-u.*
[+control] who PSP/with you-go-ASP
'With whom did you go?'

⁵ In spite of the absence of overt NP in 15e, the relational preverb *yu-* is not a procliticized relational preverb, but rather an incorporated preverb whose NP happens to be non-overt. This is an example of what was stated earlier: while all procliticized relational preverbs are to be found in constructions in which the NP is non-overt, the reverse is not true, i.e., not all relational preverbs with non-overt NPs are of the procliticized sort.

- c. PV: *Tiiskam taa yu-taak-u*
 [–control] child who PV/with-go-ASP
 ‘Who took (carried) the child?’
- d. PV: *ngurii psutki yaing tiiskama yu-i-taak-u*
 [–control] hole inside her child PV/with-she-go-ASP
 ‘Inside the hole she took her child.’
- e. PSP: *namaa y-aakar ngurii ki yaing tiiskama u*
 [+control] still she-stay hole in her child PSP/with
 ‘She stays still in the hole with her child.’

It is no coincidence that 16 shows a combination *yu-taak* (‘with-go’) meaning ‘to take, to carry’, while 14 and 15 have the parallel combination *yu-siik* (‘with-come’) meaning ‘to bring’. These are the most common instances of incorporated relational preverbs: the comitative postposition with either of the two basic verbs of movement. In fact, of the 20 instances in the text study of overt NP construed with the preverb *yu-*, 18 are in combination with either *siik-* ‘come’ or *taak-* ‘go’. The other two cases of overt NP construed with the preverb *yu-* do not involve either of these two verbs, but on closer scrutiny they turn out to be cases of left dislocation of the NP. Accordingly, they are to be analyzed as instances of procliticization triggered by the stranding effect of the dislocation.

One could argue that the cases of overt NPs construed with the relational preverb *yu-* are instances of syntactic incorporation which makes the NP the object of the verb. The absence of extensive morphosyntax in Rama (the language has no object or number agreement, no object case marking, no voice system) deprives us of some potentially convincing arguments for such an analysis, but a few standard arguments may be advanced. One is the structural argument of word order. Rama has strict SOV word order and both pre- and post-verbal postpositional phrases. In constructions involving a relational preverb and an overt NP to be construed with it, the NP is always in the preverbal object position. One could also advance a semantic argument to the effect that the semantic relation of [–control] of the overt NP to the verb is more typical of object NPs.⁶

In some instances the combination of certain verbs with certain relational preverbs is so systematic that one would need to talk about lexicalization. This is particularly the case with the relational preverb *ba-*, for instance. Of the 17 examples of this preverb which appeared in the text study, all but two involved verbs which are used only in combination with a relational preverb. They are the verbs *ba-alp-* ‘to look for’ (11 occurrences) and *ba-ting-* ‘to want’ (5 occurrences). There is also one instance of *ba-taak-* ‘go (look) for’, with the independent root *taak-* ‘go’, the same verb which (as we saw above) commonly

⁶ Although the notion of control, or agentivity, is generally considered to be more characteristic of subjects, and that of [–control] more characteristic of oblique NPs, the particular case we have been considering—that of the comitative—is a case where the oblique NP is characteristically [+control], and where the semantic drift from a [+control] oblique NP to [–control] object NP can be observed.

combines with another relational preverb. With the relational preverb *yu-* we are probably dealing with cases of syntactic incorporation, bordering on lexicalization. But with the relational preverb *ba-* in combination with the verbs mentioned above we are clearly dealing with more advanced degrees of lexicalization. In some cases the process of lexicalization is virtually complete, as in the aspect marker *baakar*, a compound *ba-aakar* [pv/for-V/be] ‘progressive’. *Ba-* is nonetheless clearly a member of the preverb class we are considering, since, among other things, it precedes inflectional morphology (subject agreement), as do the proclitic and incorporated instances of the instrumental/comitative preverb *yu-*. The phenomenon of lexicalized relational preverbs will be illustrated in a later section of this paper, for a language in which it plays a more important role than in Rama.

3.4. SUMMARY OF RAMA RELATIONAL PREVERBS. One of the most common instances of relational preverbs in Rama is the surface phenomenon of procliticization of postpositions stranded by virtue of zero anaphora.⁷ The procliticization applies to all postpositions whose NP object is subject to zero anaphora, independent of the semantics of the verb; furthermore, the proclitic relational preverb retains faithfully the semantics of its postpositional source. Rama also has instances of incorporation and lexicalization of specific postpositions with specific verbs, but these latter phenomena are more limited than in certain other languages.

INCORPORATION: THE CASE OF WINNEBAGO

4.1. THE GRAMMAR OF P-INCORPORATION. It is clear that the Winnebago relational preverb construction exemplified by 6 above and repeated below as 17 cannot be an instance of PF cliticization. This follows because the argument bearing the semantic relation ‘place (on which)’—presumably assigned by the preverb, in some sense—is the syntactic direct object of the derived verb, as can be seen from the fact that this argument, when pronominal, is realized by objective inflection in the verb word.

(17) Winnebago:

- a. *Kook-ra ha-nanzhin-je-enan.*
 BOX-DEF SUPRAESSIVE-stand-AUX-DECL
 ‘It is standing on the box.’
- b. *Ha-nan-nin-zhin-je-enan.*
 SUPRAESSIVE-by-foot-2OBJ-stand-AUX-DECL
 ‘It is standing on you.’

Thus, the noun phrase *kook-ra* ‘the box’ in 17a bears the object relation to the derived verb *a-nan-zhin* ‘stand on’; and it bears the same relation to the derived verb *o-nan-zhin* ‘stand in’ in 3a above, repeated here as 18a:

⁷ If we assume that this operation is procliticization in the PF-component, then presumably the status in terms of government of the empty category left behind is not at issue. Therefore we are not committed to the assumption that the complex verb word resulting from procliticization governs the stranded empty category, as we are in the case of the incorporated Rama relational preverbs and the Winnebago relational preverb to be presented below.

(18) Winnebago:

- a. *Kook-ra ho-nanzhin-je-enan.*
 BOX-DEF INESSIVE-stand-AUX-DECL
 'It is standing in the box.'
- b. *Kook-eja naanzhin-je-enan.*
 BOX-LOC stand-AUX-DECL
 'It is standing in the box.'

If we are correct in our view of the matter, then while the locational arguments at issue here are assigned their semantic roles (henceforth Theta-roles) by the relational preverbs, they do not bear the object grammatical relation to those elements. Rather, they bear that relation to the derived verb. And clearly, they are not objects of postpositions—certainly not in the usual sense, e.g. in the sense that *kook* 'box' is the object of the postposition *-eja* 'in' in 18b.

For expository purposes, let us refer to the noun phrase *kook-ra* in 17a and 18a as a PV-object. And let us extend this terminology to all such arguments, nominal or pronominal—i.e. to the direct object of any verb containing a relational preverb where the preverb is involved in assigning a Theta-role to said direct object.

The relational preverb constructions present linguistic theory with an apparent contradiction. In the normal course of events, if a lexical category X assigns a Theta-role to a noun phrase NP, then X is also the governor of NP. And furthermore, if NP bears the object relation to a lexical category X (as reflected in e.g. case assignment or agreement), then, again, X is the governor of NP. Thus, the object relation and direct Theta-role assignment are uniform in relation to government: for a given NP, they involve one and the same governor.

However, PV-objects are not uniform in this regard. They bear the object relation to the verb, but their Theta-roles are assigned (in a manner yet to be made precise) by the relational preverb. How can this effect be achieved? If we succeed in this, then we will have an account of relational preverbs which properly expresses their combined morphological and relational properties.

It seems clear, at least for Winnebago, that we must recognize a grammatical process which creates words of the form depicted in Fig. 3. This is simply a matter of descriptive adequacy. There exists in the language a word (a verb theme) of the form given in 19a below, beside another word of the form given in 19b, and yet another of the form given in 19c. The second and third words differ from the first in that each bears a relational preverb, and the semantic relation among the three words is entirely compositional. We cannot deny the existence of the words themselves, the semantic relations among them, or their morphological structure.

(19) Winnebago:

- a. *naan-zhin* 'stand'
 b. *ho-nan-zhin* 'stand in'
 c. *ha-nan-zhin* 'stand on'

If we say that the verbal theme in 19a is an instance of the lexical category V, and if we say that the initial prefixes of 19b–c are of the category P (ad-

position), then the structure of these words is presumably that depicted in Fig. 3 and the grammar of Winnebago must include a process whereby this structure is defined. The question is, where does the prefix come from, and how can we account for the fact that it is involved in the assignment of a particular Theta-role to a noun phrase which functions as the object of the derived verb?

It has been argued by Baker (1986, 1987) that the answer to this question is given by the theory of grammar, as articulated in the Government and Binding (GB) framework. Within GB, the existence of the relational preverb construction is to be expected, and its failure to be realized in any attested language would be entirely accidental and perhaps surprising, as would the non-attestation (in any language of the world) of, say, nasalized vowels, given our current understanding of segmental phonology.

This follows if we assume that the word-formation process giving rise to the morphological configuration depicted in Fig. 3 is an instance of what Baker identifies as (syntactic) incorporation—a grammatical process which, in turn, is simply an instance of the general syntactic process ‘Move-Alpha’ and, therefore, must exist as a theoretical possibility. Specifically, the morphological configuration in Fig. 3 is defined by the head-movement and adjunction provisions of the Move-Alpha theory of grammatical transformations. Within this theory, Fig. 3 is unremarkable, in and of itself, conforming as it does to the structure preservation constraint (cf. Chomsky 1986b; Emonds 1976), which permits only head-to-head or phrase-to-phrase movement and only substitution or adjunction in defining derived structures.

Now if Move-Alpha is the central grammatical process involved in the derivation of Winnebago sentences of the type represented by 17a and 18a, and of comparable Rama sentences such as the second of those appearing in 2a above, then it is clear, in principle at least, how it comes about that the relational preverb is involved in assigning a Theta-role to the *PV*-object. If we assume, as we shall, that the relational preverbs originate in postpositional phrases of which they are the heads, then they are in fact the governors of the *PV*-objects at some level of linguistic representation. Thus, the assignment of Theta-roles to *PV*-objects is likewise unremarkable and entirely conventional, being an instance of canonical Theta-role assignment under government by a lexical category.

If we are correct in assuming that the *PV*-object in 18a, for example, receives its Theta-role from a postposition which governs it, then we must assume that the *VP* of that sentence, at some level of representation, has the structure depicted in Figure 4.

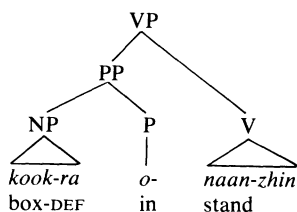


FIGURE 4.

This structure is, of course, highly abstract in relation to synchronic Winnebago surface structures, since the inessive postposition *o-* 'in' never appears as such. Instead, it is always incorporated. It is presumably a lexical property of the inessive element (and of the supraessive *a-* of 17 as well, of course) that it is bound, that it selects the category V as its sister in word-formation, and that it is a prefix. Its own syntactic category is P, and it assigns a Theta-role to a NP argument. It must, therefore, head a PP in syntax, as it does in Fig. 4. Its basic syntactic requirements are met in the underlying representations of sentences. But its lexical morphological requirements (i.e. prefixation to V) can only be met through the application of Move-Alpha. Through movement and adjunction, this process will form a word having the structure depicted in Fig. 3—and no special provisions are needed to guarantee this, since this is a conventional result of Move-Alpha.

We will assume—though it is technically incorrect to do so—that the syntactic structure which results from application of Move-Alpha in the VP of Fig. 4 is that shown in Figure 5.

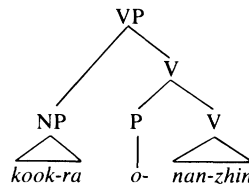


FIGURE 5.

Technically, this is a violation of the Projection Principle, which requires that the lexical properties of a verb (subcategorization, Theta-role assignment, and government relations) be preserved at all levels of syntactic representation (cf. Chomsky 1981, 1986a). For expository convenience, however, we will overlook this fact in the knowledge that there exists a formally correct analysis of the phenomenon (cf. Baker 1986, 1987) and that the desired structural relation, at least, is correctly expressed in Figure 4. The essential effect which Move-Alpha has in this derivation is that of rendering the PP node transparent to government by the verb, thereby permitting the verb to govern the PV-object. The PV-object, therefore, comes to bear the object relation to the verb, as desired, given the empirical evidence of sentences like the one in Fig. 5. We have represented this derived structural relation graphically there by simply deleting the PP node that appears in the putative source depicted in Fig. 4, a practice which (giving ourselves a certain amount of expository license) we will regard as an abbreviatory notational alternative to Baker's formal analysis.

4.2. LEXICALLY CONDITIONED INCORPORATION. As is obvious from the above discussion, the Winnebago relational preverb construction is, in part, lexically conditioned. Thus, for example, certain (putative) postpositions have the lexical property that they must incorporate (i.e., they have the morphological property that they are verbal prefixes). Moreover, it is only these postpositions which may incorporate. Our Winnebago examples include the inessive *o-* and the supraessive *a-* (word-initial [ho-] and [ha-], respectively), but the language

includes two other productive relational preverbs as well. The instrumental preverb *i-* (word-initial [hi-]) is illustrated in 20:

(20) Winnebago:

- a. *Kunnun-ga chaa-izhan wizhuk hi-guch-shannan.*
 K.-DEF deer-INDEF gun INST-shoot-DECL
 'Kunnun shot a deer with the gun.'
- b. *Kunnun-ga wizhuk-izhan hi-nin-guch-shannan.*
 K.-DEF gun-INDEF INST-2OBJ-shoot-DECL
 'Kunnun shot you with a gun.'

And the dative (benefactive, possessive) preverb *gi-* (reflexive *kra-* [kara]), appearing after the objective prefixes within the verb word, is illustrated in 21:

(21) Winnebago:

- a. *Chaa-izhan hin-gi-guch-shannan.*
 deer-INDEF 1OBJ-DAT-shoot-DECL
 'He shot a deer for me.'
- b. *Wa-in-gi-guch-shannan.*
 3PL.OBJ-1OBJ-DAT-shoot-DECL
 'He shot them for me / He shot mine (my ones).'
- c. *Homink-ra hu-un-ra-gi-mink-shannan.* (< *o-in-...*)
 bed-DEF INESSIVE-1OBJ-2SUBJ-DAT-lie-DECL
 'You lay (down) on my bed.'
- d. *Hinnink-haa-ra wazhantire-ra*
 son.my-DEF car-DEF
ha-kara-gi-i-shish-shannan
 1SUBJ-DAT.REFL-DAT-MEANS-break-DECL
 'I wrecked my son's car.'

As these examples show, a derived verb in Winnebago may have two 'objects', at least under certain circumstances. In 21a–b one of these objects is the original direct object of the verb, while in 21c the two objects are each licensed by a relational preverb—one by the inessive, the other by the dative. In 21d there are three 'objects': one of these is the original direct object and the other two are introduced in association with dative preverbs. Although research on this issue is still in progress, so that our claims about the sentences must be regarded as preliminary and tentative, it appears that these objects are not en chôme but are, instead, genuine objects of the verb. We base this claim on the observation that, where the verbal morphology is revealing in the relevant sense, each of these object categories is construed with objective morphology (cf. 21b, in which overt objective morphology appears for each of the two putative objects). We assume, therefore, that the arguments which, by hypothesis, come to be governed by the verb as a result of P-incorporation are assigned case by the verb. Moreover, we assume that an original direct object of the verb is not necessarily put en chôme in the process. In short, there is no demotion in Winnebago.⁸

⁸ There is, however, an interesting fact which should be noted in relation to the realization of complex verb words resulting from P-incorporation. Where a verb has two 'objects' as a result of P-incorporation, it is only the argument associated with P-incorporation, and not the d-structure

The fact, assuming it is one, that Winnebago does not demote arguments accounts for the observation that 22a has no counterpart employing the inessive relational preverb:

(22) Winnebago:

- a. *Niinkjank-nink-ra niin-eja kere-enan.*
 child-DIM-DEF water-LOC stand-DECL
 'He stood the little child in the water.'
- b. **Niinkjank-nink-ra niin-ra ho-kere-enan.*
 child-DIM-DEF water-DEF INESSIVE-stand-DECL

The mystery here, of course, is the unacceptability of 22b. A well-known limitation on multiple objects in derived structures in Winnebago is the morphological one. A derivation is blocked if overt prefixal morphology, from different sources, is forced to compete for a single prefixal position. Thus, for example, a sequence such as *in-nin-* (1OBJ-2OBJ), or the reverse, is impossible, and the corresponding sentence cannot surface.⁹ But this is not the problem in 22b. At least, it is not a problem of overt morphology. We suspect, rather, that the problem has to do with another sort of competition.

Notice that all instances of multiple objects are cases in which all, or all but one, are categories commonly thought of as 'adjunct' relations, i.e. adjunct in the sense that they are not a part of the lexical predicate argument structure of the verb. Instrument and beneficiary arguments are adjuncts. By contrast, a direct object can properly be called a part of the lexical predicate argument structure of the verb. Let us refer to such an argument as an L-argument, and let us say that such an argument is L-selected by the verb.

argument, which can be realized in the verb word by means of overt (first or second person) object pronominal morphology. Thus, 21b is unambiguous—it cannot mean 'He shot me for them'. The prefix *in-* (1OBJ) can only be the object introduced in conjunction with the dative preverb *gi-*. Where no P-incorporation has occurred, of course, this same prefix realizes the direct (d-structure) object:

- (i) *Hin-guch-shannan.*
 1OBJ-shoot-DECL
 'He shot me'

Given the morphological characteristics of Winnebago unaccusative verbs, whose 'subject' prefixes coincide formally with object prefixes, it is not surprising that the same lack of ambiguity extends to forms such as (ii):

- (ii) *hi-in-ship-re-enan.* (< *a-in...*)
 SUPRAESSIVE-1OBJ-fall-INCHOATIVE-DECL
 'He fell on me'

Here again, the prefix *-in* (1OBJ) realizes the introduced object, not the d-structure argument. Thus (ii) cannot mean 'I fell on him'. Without the supraessive prefix, of course, the same prefix does realize the d-structure argument, the 'subject' of the unaccusative verb:

- (iii) *Hin-ship-re-enan.*
 1OBJ-fall-INCHOATIVE-DECL
 'I fell.'

⁹ This does not mean, of course, that no two objective prefixes may appear in the same word. In 21b, for example, the 3PL.OBJ prefix *wa-* co-occurs with the 1OBJ prefix *in-*. This co-occurrence is possible because the two elements occupy distinct positions in the prefixal template. The 1OBJ and 2OBJ prefixes, by contrast, occupy the same position, and accordingly may not co-occur.

Now it is certainly true, observationally, that a verb cannot directly license two L-arguments, i.e., it cannot permit two L-arguments to bear the direct object role. And it is possible that this is because a verb can assign case to one and only one L-argument. Let us assume that this is true. And let us assume that the verb of 22a L-selects the locative expression as well as a direct object (*niinkjank-nink-ra* 'the little child' in 22a). The ungrammaticality of 22b follows straightforwardly from this assumption, since the verb there is faced with the impossible task of case-marking two distinct L-arguments.

The viability of the suggestion just made depends, of course, on the possibility of distinguishing L-arguments from adjuncts. The distinction cannot be detected in the configurational structure of Winnebago sentences, so far as we can tell at this point. It is therefore necessary to confront the issue squarely in the domain to which it truly belongs: the lexicon and the principles according to which the syntax is 'projected' from that component (cf. Chomsky 1981, 1986a). In a fully developed theory of semantic and categorial selection (of the sort implied in the work of Grimshaw 1979 and Pesetsky 1983, for example), L-arguments will be distinguished from adjuncts in that the former will constitute a part of the predicate argument structures of verbs (and other predicators), while the latter will not. The successful elaboration of this theory will, we suspect, require an understanding of the manner in which aspects of the 'lexical conceptual structures' (the lexical semantics) of predicators are realized in syntax (cf. Jackendoff 1983). If our proposal concerning the Winnebago verb of 22 is correct, then the locative is properly a part of the predicate argument structure of that verb. And we assume, therefore, that it must be the syntactic realization of a core element within the associated lexical conceptual structure.

We must add, however, that even if success is achieved in distinguishing L-arguments from adjuncts, and even if it is observationally correct that only one L-object may bear the object relation to a given verb, we have no explanation for this fact. It cannot be a matter of licensing through case assignment, since, evidently, derived verbs of the sort we are studying here are perfectly capable of case-marking more than one argument. Our proposal must therefore be understood as tentative and incomplete.

4.3. ON THE TYPOLOGICAL RANGE OF RELATIONAL PREVERB CONSTRUCTIONS. The typological variety which can be observed among languages of the world in relation to the phenomenon we are calling the relational preverb construction is constrained, in part at least, by considerations of case and government, such as those we have discussed above. Thus, we can assume that no relational preverb construction can exist unless the derived verb governs the PV-object. In other words, the head-movement variant of Move-Alpha cannot apply to incorporate a P into a verb word unless the target verb stands in exactly the right structural relation to the source PP; essentially, the verb must govern the latter. Given the appropriate formal characterization of incorporation (abbreviated here, but cf. Baker 1986, 1987), this constraint on the typology of relational preverb constructions follows from general principles of movement (trace theory) and government and need not be stipulated for this

construction in particular. Thus, it will follow without stipulation that a relational preverb cannot be construed with a PV-object in a different clause from its host verb, or with a PV-object located in a position which the verb does not govern; and so on.

All of this, of course, is open to question. It remains to be seen whether the predictions of the Move-Alpha theory of relational preverbs is empirically correct. In this connection, let us review briefly, in 23, some of the relational preverb categories attested in the languages we have considered. This is a rather restricted inventory of relational categories; and the fact that it is so restricted bodes well for the Move-Alpha account of them, since that account is maximally restrictive, limiting incorporation to structures in which a derived verb will govern its PV-object.

(23) Relational Preverb Categories:

- a. DATIVE:
 - i) Goal, Benefactive (BEN): Rama *ba-*; Winnebago *gi-*, *kra-*; Navajo OBJ-*aa-*; Nadëb *ha-*.
 - ii) Possessive (POSS): Winnebago *gi-*, *kra-*.
- b. SPATIAL:
 - i) Locative (LOC, INESSIVE, SUPRAESSIVE, etc.): Rama *su-*; Winnebago *o-*, *a-*; Navajo OBJ-*ii'*-, OBJ-*k'i-*; Nadëb *ga-*, *ba-*, *ya-*.
 - ii) Path (ALLATIVE, ILLATIVE, ABLATIVE, ELATIVE etc.): Rama *ka-*; Navajo OBJ-*iih-*, OBJ-*ts'á-*.
- c. INSTRUMENTAL: Rama *yu-*; Winnebago *i-*; Navajo OBJ-*ee(-)*; Nadëb *ma-*.
- d. COMITATIVE: Rama *yu-*; Navajo OBJ-*t(-)*.

However, there are within this array some categories which one might, a priori, class as counterexamples, since they belong to the type commonly termed adjuncts. These include the benefactive, the instrumental, and the comitative. If these are in fact adjunct PPs in underlying structure—i.e. adjoined to VP rather than contained within VP—then, technically at least, it should not be possible to incorporate P into the V head of VP. This follows because the noun phrase thus liberated would not be governed by the verb and, therefore, in the absence of any corrective principle, it would not come to bear the object relation to the verb, contrary to the observed facts.

There is, as a matter of fact, some reason for concern here, since certain alleged adjuncts do exhibit the behavior expected of them. It is sometimes suggested (cf. Bresnan 1982) that the English pseudopassive—as in *This bed was not slept in last night*—is made possible by virtue of reanalysis, involving (abstract) incorporation of the preposition into the verb. It is generally only L-selected PPs which can undergo this reanalysis, evidently:

- (24) a. ??*John was talked for last night.* (BEN)
 b. ??*This cane is seldom walked with.* (INST)
 c. ??*I am seldom dined with.* (COMIT)

Assuming that these sentences are ill-formed, it seems reasonable to attribute their ill-formedness to the fact that the PPs in them are adjuncts. They are

certainly not arguments of *V*, in the normal sense, i.e., they are certainly not *L*-selected by *V*. And it is quite possible that they are not sisters to *V* either. If not, then they are presumably adjoined to *VP* (if not higher up) and are therefore beyond the government domain of *V* (cf. Chomsky 1986a, b). Hence, reanalysis is impossible here, since the *NP* object of *P* would, when shed of *P*, be ungoverned and, consequently, could not bear the necessary grammatical relation (object) to the verb. The ill-formedness of the passive follows, either from the fact that the trace of *NP*-movement is ungoverned under the illicit reanalysis, or else, assuming no reanalysis, from the fact that the trace of *NP*-movement is case-marked (by *P*), violating a general condition on case-chains (cf. Chomsky 1986a).

Let us assume, tentatively, that this scenario is correct for English. Why, then, do these categories (benefactive, instrumental, comitative) enter into fully well-formed relational preverb constructions? We believe that the answer to this question must be formulated in terms of the typological position occupied by the languages which employ relational preverbs. Although we must be somewhat tentative in this regard, we feel that it is reasonably safe to say of these languages that the syntactic projection of the category *V* is not separate from that of the functional category *INFL*. Thus, for example, in Winnebago, Navajo, and Rama, verbal inflection is thoroughly integrated into the verb word. Assuming that this is a fundamental property of verbal projections in the syntax of these languages, in the sense that it is visible at *d*-structure, then it follows that the sentence is a projection of *V* (as well as of *INFL*), and there is no *VP* as a distinct maximal projection within the sentence.¹⁰

Evidence concerning the category *INFL* in Nadëb is not available to us. But the fact that Nadëb has *OSV* word order indicates that its sentences are also projections of *V*—at least, the language clearly does not have a *VP* which excludes the subject, assuming that its *OSV* order is basic. This characteristic—having *S* as a projection of the category *V*—is quite possibly the unmarked case for verb-final languages (cf. Fukui 1986; Speas 1986).

If this typological characterization is correct, then the well-formedness of relational preverb constructions involving benefactives, instrumentals, and comitatives follows straightforwardly from the fact that these categories cannot be adjuncts in the relevant languages, since they must be contained within the syntactic projection of the verb. They are, therefore, governed by the verb, under the appropriate definition of the government relation (e.g. that developed in Chomsky 1986b).¹¹

¹⁰ The GB term 'd-structure' refers to the initial syntactic structure projected from the lexicon. The 'd' is simply mnemonic, since the concept is distinct from that corresponding to the term's nomenclatural antecedent 'deep structure' within the Standard Theory of generative grammar. A parallel terminological usage is employed in relation to the output of transformational rules: thus, 's-structure' is terminologically, but not theoretically, a descendant of 'surface structure'.

¹¹ Interestingly, benefactives and instrumentals are abundantly represented in the Bantu applicative constructions (cf. Baker 1985, 1986, 1987), although Bantu is not now verb-final. Benefactives and instrumentals both follow the verb and, if they are adjuncts external to the *VP*, they could not be governed by it. If the applicative construction is an instance of *P*-incorporation, as claimed by

We should mention, however, that there is one construction type which remains a challenge to the Move-Alpha theory of relational preverbs, and that is the possessive use of the dative preverb in Winnebago, particularly in sentences of the type represented by 21d above. There, the possessive use of the dative occurs twice, and one of the possessor arguments is (semantically) contained in the other. This clearly cannot be a straightforward case of Move-Alpha; unfortunately we will have to postpone until another time a study of this class of cases.

Finally, we should also mention that there is, on the face of it, a problem with our proposal to the effect that the verb-final languages we have been considering project the verbal category to the sentence level. This would bring the subject under the governance of the verb. Subjects (i.e. d-structure subjects) are notoriously resistant to incorporation (cf. Baker 1985, 1986, 1987); but if the subject is governed by the verb, it should incorporate into it without any difficulty. We must assume, therefore, that some additional principle prevents subject incorporation. Most likely, the subject is extracted and adjoined to the maximal projection. Perhaps this is to satisfy the requirement embodied in the so-called 'extended projection principle' (cf. Chomsky 1986a and elsewhere), if this is taken to mean that each sentence consists of a subject paired with a predicate (cf. Rothstein 1983).

REMARKS ON THE PROCESS OF LEXICALIZATION

5. It has long been noted that there is a difference between the periphrastic causative of 25a and the synthetic causative of 25b:

- (25) a. *John caused the pot to break.*
 b. *John broke the pot.*

In 25a there are two events (and, correspondingly, two event places in the semantic structure; cf. Davidson 1980 and Higginbotham 1985, and see Fodor 1970 for detailed argumentation). Thus, one can say *John caused the pot to break on Tuesday by putting a magic ingredient in the clay on Monday*, but one can hardly say *John broke the pot on Tuesday by putting a magic ingredient in the clay on Monday*. This is the difference between direct and indirect causation, and reflects different processes of lexicalization. The single verb word expresses one event or circumstance, while two separate verb words express

Baker, then it is straightforwardly in contradiction to our proposal, since the incorporation is from an ungoverned position. Either we are wrong in our suggestion that benefactives and instrumentals are adjuncts, or Baker is wrong in his assumption that the applicative is the result of P-incorporation. Morphologically speaking, the applied suffix is verbal in character, like the causative (cf. Givón 1971 for an early claim about the verbal origin of Bantu suffixes and Rude 1987 for a demonstration of the verbal origin of similar verbal suffixes in Nez Perce.) It is possible, therefore, that these categories arise not through P-incorporation but rather through V-incorporation, as in the causative. According to this alternative, the applied suffix originates as a matrix verb, governing a complement clause. The complex verb results through incorporation, into the applicative, of the verb which heads the complement, just as in the formation of causatives. The trace of the incorporated verb is, of course, properly governed, as required.

two distinct events. Something similar happens in the process of forming the relational preverb construction. There is, in some cases, a readily perceptible change of meaning when one goes from the analytic, or postpositional, expression of a spatial relation (for example) to the corresponding synthetic expression using the relational preverb construction. This is most obvious in cases where a spatial expression is not L-selected by the verb. Consider, for instance, sentence 26:

(26) Winnebago:

Kunnun-ga kook-eja ghaak=je-enan.

K.-DEF box-LOC cry = AUX-DECL

'Kunnun is crying in the box.'

Although the situation depicted might be somewhat strange, the sentence which describes it is completely grammatical. It is clear, though, that the sentence embodies two separate circumstances, one of Kunnun crying (the main predication) and the other of Kunnun being in the box (the secondary predication).

Now consider the same general idea expressed in the relational preverb construction:

(27) *Kunnun-ga kook-ra ho-ghak=je-enan.*

K.-DEF box-DEF INESSIVE-CRY = AUX-DECL

This is not a straightforward paraphrase of 26. It is, however, understandable and it cannot be ruled out as ungrammatical. Its translation is more accurately rendered in 28:

(28) *Kunnun is using the box (as a place) for crying.*

That is to say, the circumstance of Kunnun being in the box is integrated into the main event of crying; the two become a single circumstance. This would follow automatically from a general theory of categorial projections according to which each word projects a unified Theta-grid (Stowell 1981), in which one and only one event place can appear. Assuming that a spatial relation such as that defined by the Winnebago postposition *-eja* 'in' counts as a Theta-relation, and specifically an event place, then the incorporation of this postposition (in reality, the preverb *o-*) into the verb *ghaak* 'cry' would necessarily effect a merger of the postpositional Theta-relation with the event place of the verb, thereby accounting for the change in meaning. This process would, in essence, be the process which Ross called 'wording up'¹².

This effect, we propose, is the initial step in the process of lexicalization. The change of meaning involved in the merger of event Theta-relations, however subtle, is the foot in the door for the process of semantic drift which may, in extreme cases, lead a derived form to abandon its semantic roots entirely. More often, of course, the drift is less drastic, and the changeling may coexist with its more faithful sibling, as in the following example:

¹² 'Wording up' is Haj Ross's often-heard expression for the process of compressing dyadic (or multiple) events into single events (p.c.).

(29) Winnebago:

Wiishgach-ra kook-ra ho-nanzhin = je-enan.

toy-DEF box-DEF INESSIVE-stand = AUX-DECL

a. 'The toy is standing in the box.'

b. 'The toy is wearing the box (like a shirt).'

Since incorporation of a postposition into a verb involves merger, or unification, of event Theta-relations in the resulting predicate argument structure, it is not surprising that verbs derived in this way come to be used to name phenomena which are typically viewed as single events. Thus, a conceptual structure which corresponds to an event or circumstance of 'being in something' could be expected to be applied conventionally to the concept 'wearing something' or 'having something (an article of clothing) on'. The idea that this particular application is entirely natural receives support from the observation that a similar locution is used in the Athabaskan language Navajo (which is totally unrelated to, and geographically very distant from, the Siouan language Winnebago), where 'getting dressed' is rendered as 'going into clothes':

(30) Navajo:

E'é' b-iih yi-sh-ááh.

garment 3OBJ-into INCR-1SUBJ-go.IMPERF

'I get dressed (lit. get into clothes).'

Actually, this conception of 'being dressed' or 'getting dressed' is present in literally hundreds of languages from all over the world, among them the Uto-Aztecan language Papago (*waakid* 'get into'); the Central Australian language Warlpiri (*yukami* 'enter'); and the Misumalpan language Miskitu (*[kwala] di-maia* 'enter [clothes]'). It is, so to speak, on the tip of the tongue in the human system of conceptual structures. And it is therefore a prime target for labeling by a unified verbal expression embodying the relation 'being internal to something'. Such an expression in Winnebago is *ho-nan-zhin* 'stand in' in 29 above. This expression is made available by incorporation, which effects the requisite 'unification' of event place roles in the predicate argument structure of the derived composite verb.

Be this as it may, there can be no doubt that relational preverb constructions lexicalize. In fact, in some languages, for example Winnebago and Navajo, the lexicon is replete with items containing semantically drifted relational preverbs—elements which are known to be preverbs etymologically but which apparently do not enter into the synchronic grammar of productive P-incorporation. In the Winnebago verb dictionary currently being compiled by Josephine White Eagle (of the Lexicon Project, Center for Cognitive Science, MIT), entries containing the spatial and instrumental preverbs predominate. And these entries do not include productive uses of the preverbs; inclusion of those would, of course, cause the number of preverbal entries to soar. Instead, forms entered in the dictionary as distinct lexical items contain preverbs whose grammar and semantics cannot, as far as we know, be subsumed in the productive grammar of Winnebago P-incorporation. Here are a few examples from the dictionary (in the orthography of the dictionary itself, with prothetic [h-]

and with much-abbreviated definitions):

(31) Winnebago:

- a. SUPRAESSIVE: *ha-ghep* 'rise'; *ha-gu* 'obtain'; *ha-ja* 'see'; *ha-nin* 'own'; *ha-pe* 'await'; *ha-ru-che* 'cross over'; *ha-ru-kan* 'cover'; *ha-wa-'an* 'hoist, hold aloft'; *ha-t'anp* 'jump over'.
- b. INESSIVE: *ho-gi-gunnin* 'become ingrained, habitual'; *ho-jin* 'hit, strike'; *ho-jan* 'wear (on foot)'; *ho-kannank* 'wear (on head)'; *ho-k'un* 'give'; *ho-nin* 'seek'; *ho-nan-se* 'close (as of door)'; *ho-ra-ghok* 'sip'.
- c. INSTRUMENTAL: *hi-'e* 'find'; *hi-'un* 'use'; *hi-ki-'o* 'touch'; *hi-ksha* 'laugh'; *hi-nan-zhin* 'depend on'; *hi-peres* 'know'; *hi-re* 'think'; *hi-t'et'e* 'speak'; *hi-wa-hi* 'spread (with hands)'; *hi-koroho* 'get ready'.

RELATIONAL PREVERBS IN TYPOLOGICAL AND DIACHRONIC PERSPECTIVE

6.1. In the foregoing section we made a number of observations regarding what might be termed the 'global' typological perspective of relational preverbs, i.e. the perspective according to which particular constructions and languages are arrayed among the grammatical systems of the world. Our expectation is that, to a large extent, the observed typology will be predicted in its entirety by general principles of grammar. If it is true, for example, that the incorporated variant of the relational preverb is in fact the effect of the head-movement variant of the general transformation Move-Alpha (as argued by Baker 1985, 1987), then the constraints—the upper limits, so to speak—on the relational preverb construction will follow automatically from the theory of government. This will be the best of all possible results, since it will mean that nothing in particular has to be stipulated in the theory of grammar in order to account for the observed typology of the relational preverb construction.

In the present section, we turn to a somewhat different perspective—one which we will call the subsystem view. We will employ the terminology and conceptual framework of the late C. F. Voegelin (cf. Hale 1976), according to which the variants of the relational preverb construction are related to one another within the grammatical subsystems which they represent.

6.2. A SUBSYSTEM TYPOLOGY OF RELATIONAL PREVERBS AND ITS SIGNIFICANCE IN DIACHRONIC PERSPECTIVE. We have identified three basic types of relational preverbs: proclitic, incorporated, and lexicalized. And we have demonstrated that, although a particular language may exhibit a preference for one type, the common situation is that in which the relational preverbs of a language fall under two or all three types. The two languages that we have presented so far gave good examples of the procliticized and the incorporated types. Nadëb, the third language to be discussed, is interesting as an intermediate type between the cliticizing (Rama) and incorporating (Winnebago) types. Further, Nadëb postpositions and relational preverbs show a wide array of patterns of behavior within the synchronic grammar.

We would like to claim that those languages which exhibit in their synchronic grammars a combination of the various types of relational preverbs provide good data for the study of the possible origin and paths of evolution of relational preverbs. The different types of relational preverbs, we claim, represent different stages in their development, from postpositions to cliticized to syntactically and lexically incorporated relational preverbs.

The Rama data could be said to argue for an evolution from postposition to cliticized stranded postposition, to incorporation of the most frequently cliticized relational preverbs. The Winnebago data were more typical of the situation found in many Amerindian languages in which the postpositional origin of relational preverbs is not retrievable from the synchronic grammar of the language and in which new postpositions have emerged. We will present now the case of Nadëb, because the co-occurrence in its synchronic grammar of postpositions and different types of relational preverbs provides an even stronger case than the Rama data for developing a diachronic perspective of the evolution of relational preverbs; this case also sheds some light on the evolution from a cliticized stage to an incorporated one.

6.3. THE CASE OF NADËB. In this section we rely entirely on the excellent discussion of Nadëb relational preverbs by Ellen Weir, who argues that the behavior of preverbs, and the interrelations among them, reflect stages in 'a process of syntactic change which appears still to be continuing in the language' (Weir 1986:295).

Nadëb is an OSV language with two types of relational preverbs, procliticized and incorporated. The three relevant constructions—postpositions and the two types of relational preverbs—conform to the following patterns:

- (32) a. postposition: O S V [NP PSP]
 b. proclitic relational preverb: NP S clPV-V
 c. incorporated relational preverb: NP S PV-V

Arguments for the procliticization stage include a switch in word order and a more obvious separation of the postposition and its object NP than in Rama, due to the OSV word order of Nadëb. In addition, the preverb form is de-stressed. The major arguments for the difference between procliticized and incorporated relational preverbs (clPV and PV, respectively) are morphophonemic and morphosyntactic. The incorporated relational preverb takes the shape *Ca-* and may combine with the aspect marker to give the shape *Ci-*. Examples of the three constructions mentioned above are given in 33:

- (33) Nadëb types (from Weir 1986):
- a. PSP: *Kalapée a-sooh bxaah yó.*
 child F-sit tree on
 'The child is sitting on the tree.'
- b. clPV: *Bxaah kalapée yó sooh.*
 tree child on sit
 'The child is sitting on the tree.'
- c. PV: *Bxaah kalapée ya-sooh.*
 tree child on-sit
 'The child is sitting on the tree.'

Weir demonstrates, in addition, the varying behavior of all of the postpositions, with some found as either procliticized or incorporated relational preverbs, as in 33, and some found only cliticized but never incorporated, as in 34:

- (34) a. PSP: *Kalapée ka-mi-hxaak bxaah yó.*
 child PREFIX-PREFIX-stop.to.rest tree on
 'The child stops to rest on the tree.'
 b. clPV: *Bxaah kalapée yó ka-mi-hxaak.*
 tree child ON PREFIX-PREFIX-stop.to.rest
 'The child stops to rest on the tree.'
 c. PV: **Bxaah kalapée ka-mi-yi-hxaak.*

And some turn out only to be incorporated and not procliticized, as in 35 and 36:

- (35) a. PSP: *Eé a-hing hxóóh gó.*
 father F-go.dnriver canoe inside
 'My father goes downriver in a canoe.'
 b. clPV: **Hxóóh éé gó hing.*
 c. PV: *Hxóóh éé ga-hiing.*
 canoe father inside-go.dnriver
 'My father goes downriver in a canoe.'
 (36) a. PSP: *Eé i-sóóm sxóów me.*
 father ASP-shoot blowgun with
 'My father shoots with a blowgun.'
 b. PV: *Sxóów éé mi-sóóm.*
 blowgun father with-shoot
 'My father tries out the blowgun.'

Finally, some postpositions may only be incorporated in complex constructions such as relative clauses and clefted constructions, as shown in 37:

- (37) PSP: *Eé a-gú tób bú.*
 father F-be.in.hammock house in
 'My father is in the house.'
 PV: **Tób éé ba-gú.*
 clPV: *Tób bú éé ba-gú.*
 house in father in-be.in.hammock
 'It's in the house that my father is.'

6.4. EVOLUTIONARY SCENARIO. Weir proposes that the two types of preverbal element in Nadëb correspond to stages in a historical evolution from postposition to prefix. The process begins with procliticization, in which the postposition moves into a dependent preverbal position, losing its stress but not otherwise changing its morphological character. The preverb then becomes modified to conform to the general morphophonological pattern for prefixes. At this stage it is a true relational preverb, of the type represented by the Winnebago preverbs discussed above: the liberated NP bears the object relation to the derived verb. At first, according to Weir, this preverbal use is limited to certain verbs only, gradually spreading to others while the earlier procliti-

cized variant begins to disappear, eventually disappearing altogether. And, as expected, some cases of the preverbal variant undergo semantic shift, leading ultimately, in some instances, to lexicalization of the construction.

In an earlier section, we showed that the procliticization stage in Rama appeared to be simply a surface reanalysis of a preverbal postposition into a verbal prefixation. On the basis of Nadëb, it appears that this first stage of cliticization may be more complex than is apparent in Rama, since it involves the NP clearly breaking off from the postposition and acting as a direct object of the verb. It acts as a direct object at least in that it occupies the object position in the clause, i.e. preceding the subject in the OSV order of Nadëb.¹³ The Nadëb data also illustrate the gradual development of relational preverbs, starting with combinations of certain postpositions and certain verbs and spreading from there.

More work is needed to establish the semantic and discourse circumstances under which procliticization and incorporation arise, to enlarge the pool of languages with relational preverbs, and to collect more information on possible evolutionary scenarios. And more remains to be said about the predilection of verb-final languages for developing relational preverb constructions.

CONCLUSION

7. Relational preverbs are of interest both for the study of grammar and for the study of linguistic change. And, correspondingly, there are at least two ways in which these elements are of interest in linguistic typology.

Firstly, relational preverbs belong to a remarkably well-defined and constrained system which, in and of itself, reveals clear limits to possible diversity. This presents us with an important opportunity—namely, that of seeking a linguistic explanation for observed limits on diversity. We assume, at least initially, that the observed limits can in fact be explained in strictly linguistic terms, and more specifically in terms of principles of grammar. We have only been able here to advance a tentative suggestion to the effect that the theory of government might be the system of grammar most directly relevant to an adequate explanation of the observed typology of relational preverb constructions, and our own suggestions may prove to be incorrect. Nevertheless, we remain deeply convinced that a significant portion of the typology of relational preverbs will in fact require explanation in strictly grammatical terms. If this is so, then the study of relational preverb constructions contributes substan-

¹³ In the text, we have used the term 'proclitic' for both the Rama and the Nadëb elements. Strictly speaking the unstressed, but otherwise unmodified, preverbal postposition of Nadëb cannot be a proclitic of the type found in Rama. This follows because the Nadëb preverbs exhibit the properties of fully incorporated postpositions, in that the liberated NP bears the grammatical function of object to the complex verb. It is not impossible, however, that Nadëb preverbs in general continue a stage in the history of the language at which the 'postpositional preverbs' were in fact simply proclitic, much in the manner of the Rama ones. We are choosing to emphasize the contrast between the two relational preverbs of Nadëb in terms of different degrees of incorporation into the verb word by referring to the simply unstressed preverb as 'cliticized', even if this process of cliticization is not exactly the same in the synchronic grammar of Nadëb as the one described for Rama. In her article Weir refers to both as incorporated.

tially to the general program of developing an adequate theory of the human capacity for language, since a part of this program is the explanation of observed typological diversity.

Secondly, the study of relational preverbs contributes to a better understanding of historical (morpho-)syntax, particularly in the area of the evolution of bound grammatical morphology from free lexical morphology (cf. Genetti 1986, Givón 1971, 1979, Heine & Claudi 1986, Heine & Reh 1984, Langdon 1977, Rude 1987, and Saxena 1987). Nadëb offers a particularly perspicuous example, of course, but virtually any language which possesses a relational preverb system gives evidence of two or more stages in a plausible historical progression. The initial stage moves from an independent lexical category (post-position) to a dependent functional category (relational preverb). A further stage can lead to the category of dependent element whose only linguistic autonomy consists in the fact that it is morphologically segmentable (under lexicalization). A certain caveat should be made at this point, however: while this progression is plausible for many known systems, it is not obvious that all relational preverb systems arise in this way. There is something significant about the preverb position, something which cannot be explained entirely by the fact that that position is an obvious target for procliticization. It is not known for certain, for example, whether the Winnebago preverbs have postpositional ancestors or not. The same can be said for other languages which possess relational preverbs. Thus, Warlpiri of central Australia has benefactive, ablative, and comitative preverbs, although the language does not now have postpositions in the sense of the present discussion, and has never had them so far as we know. Warlpiri preverbs are generally nominal in origin, and it is not at all clear that their historical development was in any way parallel to that which seems quite obvious in Rama and Nadëb.

But such complications simply heighten the interest in relational preverbs. The topic is eminently tractable, we feel, and we have every expectation not only that it will be amenable to thorough understanding in the scientific study of language, but also that it will contribute significantly to our effort to construct an adequate theory of human linguistic knowledge.

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