Navajo Verb Stem Position and the Bipartite Structure of the Navajo Conjunct Sector

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The Navajo verb stem appears at the rightmost edge of the verb word. In numerous cases it forms a lexical constituent with a preverb, occurring at the leftmost edge of the surface verb word, much in the manner of Dutch and German verb-particle arrangements in verb-second finite clauses. In Navajo the initial and final positions are separated by eight morpheme order ''slots'' recognized in the Athabaskan literature (and described in detail for Navajo in Young and Morgan 1987). A phonological solution to this and a number of other deep-surface disparities is explored here, based on the insights of earlier works on the Navajo verb, including Speas 1984, 1990, McDonough 1996, 2000, and Rice 1989, 2000.

Keywords: verb morphology, morphosyntactic disparity, spell-out, Navajo, Athabaskan

1 Verb Stem Position

The Navajo verb stem forms a single lexical constituent with the prefixal, particle-like category called *preverb* in the Athabaskan linguistic literature (see Rice 2000). However, like particle-verb combinations in Dutch and German verb-second clauses, the parts of this constituent in the Navajo counterpart are separated in the surface forms of verbal projections in syntax. In the Navajo version of this arrangement, the preverb occupies the leftmost position in the verb word, and the verb stem occupies the rightmost position.

The Navajo verb in (1) can be used to illustrate the phenomenon. The verb is segmented into its various parts in (2), and the components are identified in slightly greater detail in (3).

(1) Siláo tł'óó'góó ch'íshidiníłdząh. (Young and Morgan 1987:283)
    'The policeman jerked me outdoors (to get me out of a fight).'

(2) ch'í   sh   d   n-´   ł   dząh
   Preverb   Object   Qualifier   Mode/Subj Voice   V (stem)

(3) ch'í   Preverb   'adverb, out horizontally'
    sh   Object   'first person singular object'
    d   Qualifier   'thematic prefix relating to arms and legs'
    n-´   Mode/Subj   'portmanteau of *n*-situation aspect, perfective aspect, and
                       third person subject'
    ł   Voice   'transitive'
    dǫzh   Stem   'verbal root, move in jerky manner; and momentaneous
                         perfective suffixal inflection'

    The preverb *ch'í* 'out horizontally' belongs to the disjunct (proclitic-like) sector of the Navajo verb, while the other elements belong to the conjunct sector, the system of nuclear elements (prevailingly consonantal in form) that make up the extended projection of the verb (see Grimshaw 1991 on the concept ''extended projection'').[1] All of these parts are assembled into a single phonological word (and so written in most cases).

    The problem addressed here consists in the circumstance that the preverb and the verb stem form a unit in the lexicon, a fact well argued in Rice 2000, in stark contradiction to the above-noted surface arrangement of the constituents of the verb word.

    Quite reasonably, in her excellent study of Athabaskan scope and morpheme order, Rice proposes a movement analysis to account for this disparity. The underlying organization she assumes for the Navajo (and general Athabaskan) verb word is shown in (4), in which Rice's principles of lexical integrity and leftward semantic scope are expressed structurally.

(4)

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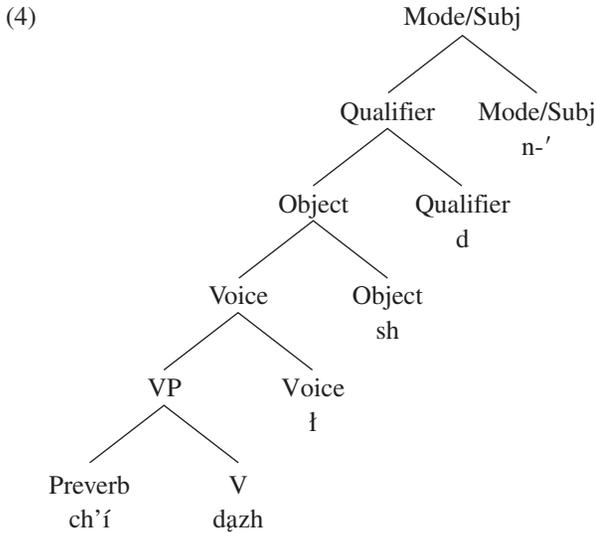
[1] With a few exceptions, a (monomorphemic) conjunct prefix consists of a coronal consonant ([d, j, s, z, sh, zh, n, ł, l]), an oral glide ([y, w (rounded velar), gh = γ (unrounded velar)]), or a laryngeal (['', h]). These function as onset or coda, depending in part on the nature of the segment and in part on context. In the majority of cases, where they are realized as onsets, conjunct prefixes are supported by the Navajo default vowel [i], regarded as either epenthetic or basic,

To derive the surface configuration, two raising operations take place. The verb (*-dazh*) raises and right-adjoins to its structural gover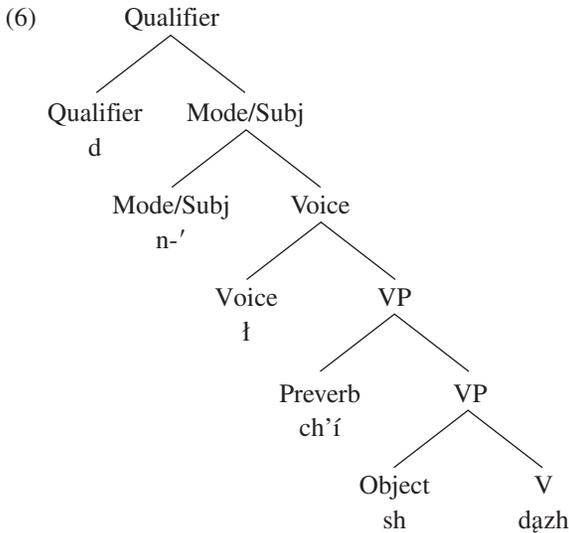nor, Voice. Rice argues, correctly I believe, that the Voice element is a light verb that selects the verbal category VP and, in its productive uses, defines the transitivity of the verbal construction (see Hale 2000). Subsequently the light verb Voice, now laden with its complement V, itself raises and right-adjoins to the highest nuclear element, the portmanteau Mode/Subj, as shown in (5).[2]

(5)

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                                Mode/Subj
                   ┌────────────────┴────────────────┐
               Qualifier                         Mode/Subj
          ┌────────┴────────┐              ┌──────────┴──────────┐
       Object          Qualifier      Mode/Subj              Voice
    ┌─────┴─────┐          d            n-′            ┌────────┴────────┐
  Voice       Object                               Voice               V
┌───┴───┐       sh                                    ł               dazh
VP     Voice
│     (trace)
┌──┴──┐
Preverb   V
 ch'í  (trace)
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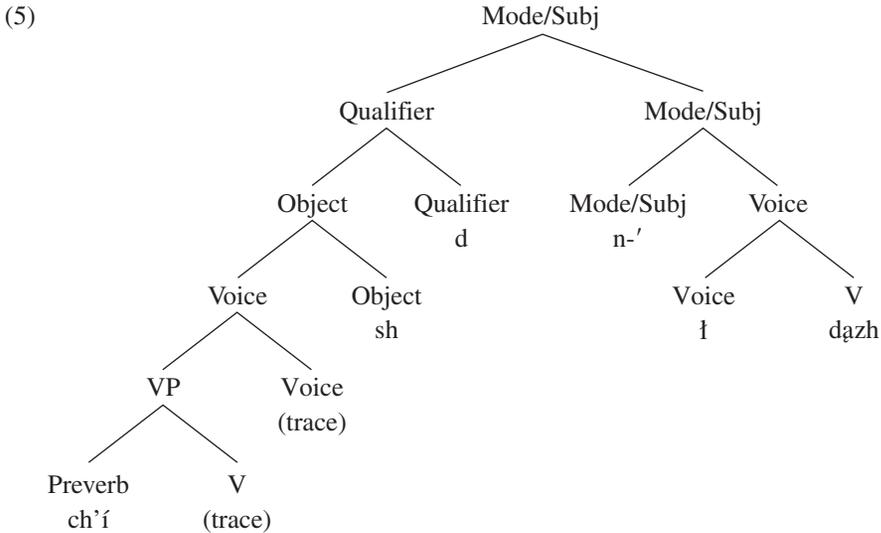
The alternative I will consider here makes a different claim concerning the Qualifier and Mode/Subj nuclear elements. The first of these *selects* the second; consequently, the c-command and scope relations between these elements are opposite to those assigned to them by Rice. In addition, the functional projections of Navajo are taken to be left-headed, rather than right-headed as in Rice's analysis. The configuration defined by these assumptions is shown in (6).

depending on the particular analysis—I assume the former for present purposes. Some conjunct prefixes are composite, assuming the shape CVC, in which V is generally the default [i]; a few have the surface form C-′ (consonant and ''floating high tone'' docked on an associated neutral vowel); a few appear to contain the long vowel [ii] as their vocalic nucleus (e.g., the semelfactive qualifier and the first person nonsingular subject); the optative appears to be realized as the rounded vowel, written [o] (long or short, high or low tone, depending on various factors; see Kari 1976); and the second person nonsingular subject is [oh] in its basic form. The neutral vowel is very often assimilated to the features of an adjacent segment, giving the superficial impression that the conjunct sector permits all of the vowel qualities in the Navajo inventory. It is quite generally assumed, however, that underlyingly the conjunct sector permits only the default neutral vowel, whose quality is [i] when unassimilated—unlike the disjunct sector, which allows all vowel qualities and all consonant types. Where ['] would be expected to occupy a coda position at the end of a derivation, it is normally absorbed into the adjacent (following) C, where it appears as ''glottalization.'' The notorious *d*-classifier never surfaces as a coda; instead, it surfaces (a) as the so-called *d*-effect, or (b) as an onset to one of the rare V-initial verb stems.

[2] For the purposes of the present discussion, I arbitrarily set aside here an alternative conception according to which Voice enters into the Merge relation with Mode/Subj.

(6)

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                        Qualifier
                       /         \
              Qualifier          Mode/Subj
                 d              /          \
                         Mode/Subj         Voice
                           n-'           /       \
                                    Voice          VP
                                      ł          /     \
                                           Preverb      VP
                                            ch'í       /    \
                                                  Object      V
                                                    sh        dạzh
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The object is introduced as a complement to V, and the preverb is introduced as an adjunct to that category. Crucially, these are not heads (i.e., nuclear elements) in the extended projection of the verb. The heads, from lowest to highest, are as follows: V, Voice, Mode/Subj, and Qualifier. Jointly, these define the conjunct sector of the Navajo verb word.

The question of interest now is how the surface order of morphemes is achieved. In particular, can the surface positions of the verb and its dependents be defined simply and, preferably, without resort to movement (in the usually understood sense of the term)?

I believe the answer to this question is positive, if we adopt the theories of McDonough (2000) and Speas (1984) according to which the verb is expressed phonologically in the form of a minimal disyllabic skeleton that must be filled out to define the phonetic realization of a Navajo verb.[3] I maintain that it is precisely this process of ''filling out the skeleton'' (especially the *receptor,* or left-hand, portion of the skeleton) that accounts for the surface arrangement of the verb, its dependents, and the nuclear elements in its extended projection. There is no head movement in the traditional sense. The processes involved are properly speaking phonological.

My proposal is this. The verb stem brings with it a structural phonological skeleton whose right-hand half is filled out (sometimes partially, sometimes fully) by the stem itself, as indicated in (7) by underlining.

(7) CVC<u>CVC</u>

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[3] Marginal exceptions to the minimal bipartite skeleton exist: for example, *ní* '(he/she) says' and *le*' 'optative, let it be/become' (respectively from hypothetical bipartite **diní* and **wóle*'). These consist of the stem portion of the skeleton alone. It is conceivable that they are to be regarded as particles or enclitics in the Navajo of today. The future auxiliary *doo* (a variant of the full verb form *dooleeł* 'future, it will become') consists of the receptor alone, historically at least.

McDonough's and Speas's bipartite theory holds that the verb stem itself is only one part of the minimal structure of the verb. There is a left-hand component as well, the receptor. The phonetic expression of the receptor is not fixed for all forms of a verb. Rather, it is variously filled in by the phonological features of the nuclear elements appearing in the extended projection of the verb.

Let us consider the derivation of the verb whose structure is shown in (6). The relevant phonological components are set out in (8).

(8) d   n-´ ł   CVCdązh
              ch'í   sh

The left-to-right ordering is as in (6), but the parts are arranged on two distinct planes, whose purpose here is primarily expository, to distinguish heads from nonheads. The preverb, being an adjunct, and the object, being a complement, are set apart as nonheads. In assuming that the object inflection *sh-* is the true object argument in Navajo and thus appears within the verbal projection as a complement, I follow Jelinek's Pronominal Argument Theory (Jelinek 1984, and subsequent writings).

The realization of the verbal skeleton is a matter that concerns heads alone. In effect, it ''builds'' the conjunct sector of the verb word. The process is this: the phonetic features of the functional heads are transferred successive-cyclically to the receptor within the verbal skeleton, satisfying the coda requirement first, if possible.

In the case at hand, the voice marker *ł* (like other fricatives) seeks to assume the position of the coda, in the CVC receptor of the skeleton. Hence:

(9) d   n-´ Ø   CVłdązh
              ch'í   sh

Next the features of the Mode/Subj component are spelled out on the next available position in the receptor. The Mode/Subj component is complex, consisting here of a nasal aspectual prefix (called alternately a conjugation marker or situation aspect) together with a floating high tone corresponding to perfective viewpoint aspect (and, of course, the third person singular person feature, not expressed phonologically here). The nasal cannot assume the coda position (in any prefixal structure) and must be an onset, and this must be supported by epenthesis. The high tone is realized on the epenthetic vowel.

(10) d   Ø   Ø   níłdązh
               ch'í   sh

The remaining functional head, the Qualifier prefix *d-,* cannot fit into the minimal phonological skeleton. But this is a minimal skeleton, permitting further augmentation. The prefix *d-* is spelled out at the left edge of what is now available of the conjunct sector of the verb. There it is supported by epenthesis.

(11) Ø   Ø   Ø   diníłdązh
               ch'í   sh

The conjunct sector of the verb is now fully spelled out.[4] Collapsing the expository planar representation, keeping the verb and its dependents in the original order, and applying epenthesis as needed, we obtain (12), the form that corresponds to the surface spelling of the conjunct sector of the verb together with its dependents, the preverb and the object.

(12) ch'íshidiníɫdązh

I have silently eliminated the zeros corresponding to the functional elements prior to their overt realization within the conjunct sector skeleton. I assume that these are in fact invisible to phonology, though they correspond to real entities for computation. In any event, the process involved in defining the conjunct sector is not head movement, implicating traces. It is a purely phonological process involving the spelling of morphological material into a skeletal receptor and satisfying a structural requirement of the Navajo verb.

2 Informal Remarks on Filling Out the Skeleton

For detailed treatments of the phonology of the bipartite verb, see Speas 1984, 1990, and McDonough 1996, 2000. What I myself will have to say with regard to the phonology of actual spell-out processes, adapted to the particular viewpoint being explored here, is impressionistic and tentative.

Like the receptor, the stem (right-hand portion) of the skeleton is not fixed for all forms of a given verb, being dependent not only on the basic segmental shape of the stem as listed in the lexicon but also on the various shapes assumed by stems inflected for aspect. Nor is it always the case that the favorite CVC pattern is realized by the stem alone. Many verb stem forms lack a coda; a few lack an onset; and a few lack both, consisting solely of the vocalic nucleus. Thus, the CVC pattern is to be understood as a maximum, realized to the extent it can be, and in the manner it can be, depending on the actual stem form involved. Thus, in the basic, underlying representations of each of the verbs shown in (13), the stem portion of the skeleton is less than fully determined: in (13a) the onset and vocalic nucleus of the stem skeleton are satisfied, but the coda is not; in (13b) the onset is missing; and in (13c) neither the onset nor the coda of the stem is satisfied.

(13) a. séɫhį̇́ (surface form)
sé ɫ CVChį́C (nuclear plane)
Mode/Subj Voice V
'I killed it.'

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[4] The object inflections (position IV in Young and Morgan's (1987) template) are normally regarded as belonging to the conjunct sector (but see Rice 1989:645–646). They are at the left edge of that domain, and the idea that they are in the disjunct sector is not entirely out of the question. In addition to position IV object inflections, there is another (phonologically identical but separate) set that appears clearly within the disjunct sector. Moreover, the object inflections in the inchoative (see Young and Morgan 1987 and Hale, Munro, and Platero 2000) appear sometimes as conjunct inflections, sometimes as disjunct inflections, depending on various factors.

   b. yishááh   (surface form)

      sh   Ø   CVCááh   (nuclear plane)

      Mode/Subj Voice   V

      'I go/walk.'

      (as in *taah yishááh* 'I get into the water')

   c. yiyą́   (surface form)

      Ø   CVCCą́C   (nuclear plane)

      Voice   V

         y   (complement plane)

        Object

      'He/She eats it.'

Nothing special needs to be said about (13a). The coda segment of the stem there is simply not realized; the receptor is filled automatically, with [ł] filling the coda and [sé] filing the vocalic nucleus and onset. The situation in (13b) is slightly more involved. The Voice element is nonovert and thus irrelevant for spell-out. The Mode/Subj component is realized overtly by [sh] (the first person singular subject marker); this would normally fill the coda segment of the receptor (the left-hand portion of the skeleton). Here, however, the onset requirement of the stem takes precedence and is satisfied by assigning [sh] of the Mode/Subj portmanteau to the onset slot in the stem. This leaves the first part of the skeleton unsatisfied altogether, an impossible circumstance that is regularly corrected by epenthesis—the default epenthetic vowel being [i], the nearest Navajo approximation to schwa. Word-initial vowels are also disallowed, a condition corrected in Navajo by glide prothesis ([y] before [i], [w] before [o]). Together, these processes yield the surface form [yishááh] of (13b).

    In (13c) no spell-out operation takes place on the nuclear (head) plane, since the only overt nuclear element is the stem itself. This occupies the V-slot (vocalic nucleus) in the stem portion of the skeleton. The stem has no onset C, but an onset is obligatory here and must be supplied by glide epenthesis. The V-slot of the receptor is filled by *i*-epenthesis. The obviative third person object (3o), overt [y], is in the correct left-hand position in relation to the bipartite skeleton, where it opportunistically fills the onset slot of the receptor. By epenthesis, a purely phonological [y] is inserted in the onset (initial C-slot) of the stem. These operations result in the surface form [yiyą́] of (13c).

    For the most part, once nuclear elements in the verbal extended projection are spelled out in the bipartite skeleton defining the core of the conjunct sector, the attachment of additional prefixes is straightforward. By epenthesis, consonantal prefixes assume the shape CV when attaching to a C-initial skeleton (as does the object [sh] in (12)), and vowel-final prefixes (like [ch'í] in (12)) attach to the left edge of the conjunct sector without modification. This is the ordinary situation; for more complicated situations, see Speas 1984, 1990, and McDonough 1996, 2000, as well as Kari 1976. I will illustrate here what transpires when a vowel-final disjunct prefix attaches to a receptor *not* supplied with an onset and vowel nucleus by virtue of elements appearing

in the nuclear plane. The verbs in (14) illustrate this situation.

(14) a. naashbé (surface form)
      sh   Ø   CVCbéC (nuclear plane)
      Mode/Subj   Voice   V
                             na   (adjunct plane)
                             Preverb
      'I bathe/swim.'

    b. yáshti' (surface form)
      sh   ł   CVCti' (nuclear plane)
      Mode/Subj   Voice   V
                             yá   (adjunct plane)
                             Preverb
      'I speak.'

In each of these verbs, the preverb and the stem, by hypothesis, constitute a single lexical unit; they are nonetheless placed on separate planes for expository purposes, representing the fact that adjuncts (and complements) are invisible to the processes that spell out the nuclear elements in the extended projection of V, instantiating the bipartite skeleton. The derivation of the nuclear plane in (14a) proceeds as in the earlier examples. The vocalic nucleus of the receptor is supplied by epenthesis, as before, and we must assume that it is underspecified when inserted, permitting it to assimilate to the vowel of the preverb [na] 'around, about'—hence the long vowel [aa]. This is what happens regularly when a *low*-toned vowel (belonging to a disjunct prefix) abuts the vocalic nucleus in the receptor portion. The derivation of (14b) is essentially the same, except that a *high*-toned prefixal vowel simply ''takes up'' the V-position in the receptor, leaving no evidence of prior epenthesis in that position, with implications (which I will not pursue here) for an account of rule ordering vis-à-vis what is tacitly assumed for the derivations of other verb forms, such as (13b–c).

3 Further Observations on Nonnuclear Prefixes and the Order of Elements

I have been exploring here the possibility that the relative order of nuclear and nonnuclear prefixes in the Navajo verb word follows automatically from the fact that the nuclear prefixes (heads in the extended projection of the verb) are spelled out in an abstract bipartite skeleton that, in effect, is an extension of the verb stem (V) itself. The verb stem—qua skeleton containing the spell-out of the nuclear functional categories belonging to the extended projection of the verbal nucleus—*follows* (appears to the right of) all nonnuclear elements, given that the stem (by assumption) is the lowest and linearly final constituent in the verbal projection, as depicted in (6), for instance, exemplifying the prototypical pre-spell-out Navajo verb word of moderate internal complexity. The derivation of the actual verb word that (6) underlies is given in some detail in

section 1, and the derivations of (14a–b) are, to all intents and purposes, identical to that of (6), insofar as the resulting surface linear ordering of elements is concerned.

The examples of nonnuclear categories cited so far include the preverb (an adjunct, by hypothesis) and the object (a complement). The following verbs illustrate two additional adjunct categories, the iterative [ná] ([ní] before apicals) and the (distributive) plural [da]. These are categories known not only from Navajo but also from most if not all other Athabaskan languages.[5] I will employ both arboreal and planar representations here.

(15) a. daacha   (surface form)
      Ø   Ø   CVCchaC   (nuclear plane)
      Mode/Subj Voice   V

                          da   (adjunct plane)
                          Plural

      They cry.

b.   Mode/Subj
           /   \
       Ø   Voice
    Mode/Subj   /   \
             Ø   VP
          Voice   /   \
                 da   VP
                Plural |
                       V
                   CVCchaC
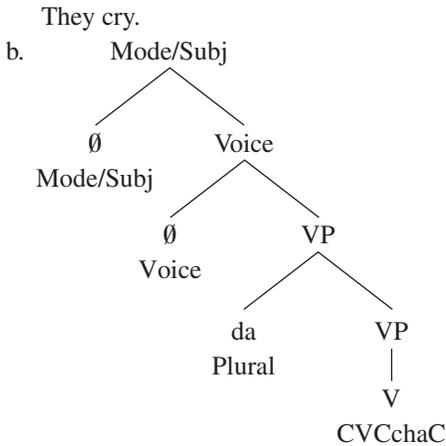
This verb is in the zero imperfective with third person subject; hence, the Mode/Subj nucleus is nonovert altogether. Voice in this verb is the so-called zero classifier, also nonovert. These elements have no effect on the stem skeleton. The vowel nucleus of the receptor is supplied by epenthesis. The default vowel thus inserted assimilates to the vowel of the adjunct prefix [da], which procliticizes to the stem skeleton in the normal fashion, giving [daacha], with long [aa].

A more complex example is given in (16).

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(16) a. yisd n dashidoo ł ł   (surface form)

     d   w   ł   CVCt ł   (nuclear plane)

   Qualifier Mode/Subj Voice   V

                                yisd   n   da   sh   (nonnuclear plane)

                                Pv   It   Pl Obj

   They will get me back to safety.

b.   Qualifier

    Qualifier   Mode/Subj
      d

        Mode/Subj   Voice
          w

           Voice   VP
            ł

             Preverb   VP
             yisd
            to safety

               Iterative   VP
                n

                  Plural   VP
                  da

                     Object   V
                     sh   CVCt ł
                               handle
                                inanimate
                                object
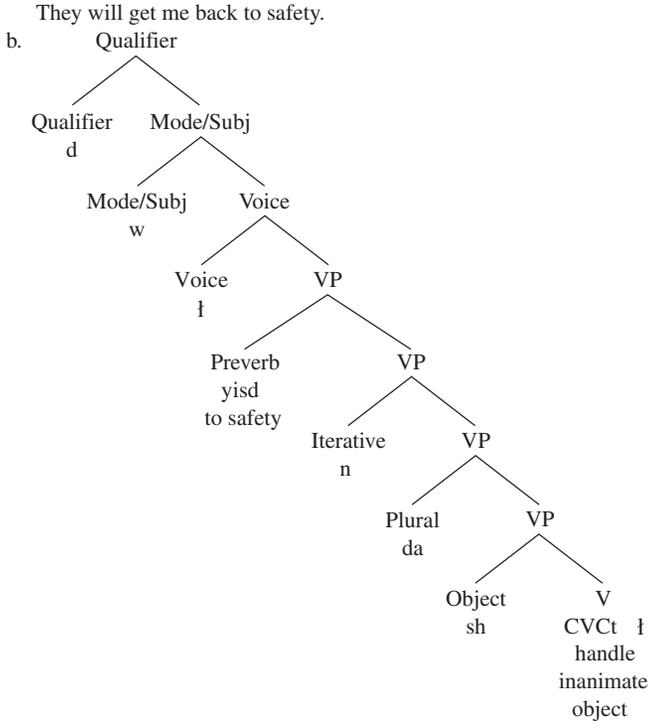
This structure requires some discussion. I will begin with the derivation of the surface form, formulated in the style used in section 1 (e.g., (8)–(11)). The expository planar representation of (16) is repeated here.

(17) d   w   ł   CVCtééł   (nuclear)

            yisdá   ní   da   sh   (nonnuclear)

The light verb [ł] (i.e., Voice), assumes the coda C-slot in the receptor—like fricatives in general, it seeks first to occupy a coda position if it can. The third person perfective and progressive Mode/Subj prefix ([w] in this context), being a glide, must occupy the onset C-slot in the receptor, where it is supported by epenthesis. The inceptive qualifier [d]—left over, so to speak, once the receptor is fully satisfied—is prefixed to the receptor and supported there by epenthesis. The default neutral epenthetic vowel [i], both before and after [w], assumes the rounding feature of the latter, giving [o]. The glide itself drops, leaving the homorganic vowel sequence that is normally resolved into the long vowel written [oo]—hence (18), in which the complete overt conjunct sector is correctly positioned linearly to the right of the nonnuclear elements.

(18)   doołtééł   (surface form, nuclear plane)
   yisdá   ní   da   sh   (nonnuclear plane)

The nonnuclear elements are successively procliticized to the left of the conjunct sector in the order given (with epenthesis applying where needed, i.e., to support the object prefix [sh] in this case). The result of these processes is the surface form (19), corresponding to the verb word fully spelled out.

(19) yisdánídashidoołtééł

The second point of discussion requires some terminological and conceptual clarification of certain aspects of the analysis being promoted here. The tree diagram in (16b), on the face of it, belies the very point being made in this discussion, namely, the constituency hypothesis that places the preverb [yisdá] and the verb stem V (and its melodic skeleton, [CVCtééł]) together as a *unit* in the lexicon. The preverb has the appearance of being separated from the verb. This is a fiction, however, perpetuated by the two-dimensional depiction of the structure, which, perforce, confuses and obscures the true relationships in the verb word. The true relationships involve three separate ''dimensions'':

(20) a. the argument structure;
     b. the adjunction structure;
     c. the nuclear structure.

Relations such as structural proximity, sisterhood, domination, and command must be defined separately for each of these dimensions. The relevant argument structure dimension is the relation between the verb and its object; they are structural sisters. The nuclear structure dimension amounts to the relation between the heads in the extended projection of the verb; each head is ''adjacent'' to the head that selects it, if there is one. The adjunct dimension in the diagram in (16), on the other hand, consists of a set of elements (Preverb, Iterative, Plural) whose relationships are completely misrepresented in the tree diagram as that is normally understood. In reality, the substructure containing the adjuncts—that is, the tree segment extracted and shown in (21)—is a *flat* structure, properly speaking and despite appearances.

(21)

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                      VP
                     /  \
               Preverb   VP
                yisdá   /  \
             'to safety'    \
                      Iterative  VP
                         ní     /  \
                             Plural  VP
                               da
```

While the adjuncts, as a group and individually, asymmetrically c-command the verb, there are no asymmetric c-command relations among the adjuncts themselves. Structurally, they are equidistant from each other and from the verb. Hence, the verb and the preverb are ''sisters'' in the sense that is relevant here. Furthermore, the preverb is no farther from the verb than the object is. One cannot speak of relative distance from the verb here because adjuncts and arguments belong to distinct dimensions.

The only ''structural'' relation that holds among the adjuncts is precedence. It is therefore necessary to ask, as Rice does in her detailed study of the Athabaskan verb (Rice 2000), *why* the order is as it is. Within the system to which the elements in (21) belong, at least, Rice establishes that semantic scope is to the left, so that the iterative [ná ∼ ní] and the plural (her distributive plural) [da] have the preverb within their scope. These elements also take the verb within their scope, by virtue of the c-command relation (see below). This is surely correct; and scope in general, as Rice expertly shows, is systematically related to the linear order arrangement of the elements that make up the Athabaskan verb word. I will depart slightly from her theory in proposing that, among adjuncts, it is *scope alone* that determines the order. And within the adjunction structure dimension, scope is right to left, as Rice demonstrates convincingly and in great detail; that is, an element with wide scope is to the right of elements appearing within its scope. On the other hand, selection (by a functional head of its complement) is left to right, in accordance with the parametric head-initial character of the extended projection of the verb. And scope follows suit within the systems to which selection and c-command are relevant: it is likewise left to right, so that the selector has scope over its sister and all that appears within it.

Interestingly, where scopal relations do not matter, it is possible to find variable ordering across languages within the Athabaskan family. This is the situation that obtains in the ordering of Iterative and Plural: they appear in the order just given in Navajo, but they appear in the reverse order in certain other Athabaskan languages. Rice argues that scope does not ''fix'' the order in this case because the two elements belong to distinct systems of grammar: Iterative is relevant to event structure, while (Distributive) Plural is relevant to argument structure. In other words, these two categories do not ''interact'' in relation to semantic scope. Variability here, like stability elsewhere in the system, strongly supports Rice's general thesis.

4 The Deictic Subject Prefixes

Position V in the prefix ordering given by Young and Morgan (1987) is occupied by the members of a set of elements traditionally termed *deictic subjects* in the literature. In the relative linear ordering of prefixes, position V is to the right of Object and to the left of Qualifier (with some phonologically motivated exceptions).

(22) a. shijiłhozh
     sh   j   Ø   ł   ghozh
     Object 3a Mode/Subj Voice V
     'He/She/They/One is tickling me.'

b. shi'doo'niid

sh	'	d	w	d	niid
Object	3i	Qualifier	Mode/Subj	Voice	V

'I was told (lit. someone told me).'

c. hodildóóh

hw	d	Ø	l	dóóh
3s	Qualifier	Mode/Subj	Voice	V

'It (e.g., cloud) starts to drift.'

The three prefixes occupying position V are glossed, respectively, 3a, 3i, and 3s by Young and Morgan. The first of these is also (and more often) termed the *fourth person* and is the topic of much discussion in the literature (e.g., Willie 1991). For our purposes, it is simply a human subject marker construed with the third person in Mode/Subj. The prefix glossed 3i is an indefinite subject marker, also construed with the third person. It functions autonomously as a subject but also in the so-called agentive passive (not a true passive (see Neudorf 2000), but rather a fully transitive impersonal subject construction).[6] The 3i prefix ['], in conjunction with the qualifier [d], is the grammatical subject in the agentive passive illustrated in (22b). The 3s prefix, again a subject marker, corresponds to the ''spatial'' or ''areal'' subject in a wide range of Navajo locutions describing the movement, position, or quality of an entity viewed as an area, space, or time segment (see, e.g., the entry for *hodildóóh* in Young and Morgan 1987:450 and other relevant entries alphabetized with that verb).

These elements are problematic precisely because they are *subject* prefixes. But they appear in the wrong position for subjects; that is, they are *internal* to the verbal projection and *lower* than Object. This is impossible within the theory being adopted here—based ultimately on the work of others, including Speas 1984, 1990, McDonough 2000, and Rice 2000.

The problem is resolved in the following way. As Rice argues persuasively, the position V elements are not invested with a person feature. They are third person only in the sense that a full DP or NP is third person, like *ashkii* 'boy' in (23).

(23) Ashkii shiłhozh.

ashkii	sh	Ø	ł	ghozh
boy	Object	Mode/Subj	Voice	V

'The boy is tickling me.'

That is to say, the position V prefixes, despite their morphophonologically dependent surface status, are to be identified with adjunct nominal expressions linked to true arguments (subject, object, as the case may be) internal to the verb word, in conformity with the Pronominal Argument and Discourse Configurational Theory of Navajo grammar (e.g., Jelinek 1984, Willie and Jelinek

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[6] Like the simple passive, the agentive passive requires the *d*-classifier in Young and Morgan's position IX (Voice). See Neundorf 2000 and Hale 2000 for some discussion of the identification and role of the *d*-classifier in the two Navajo ''passive'' constructions.

2000) that I am assuming here. The actual third person subject argument is to be found in the Mode/Subj portmanteau (a composite of Young and Morgan's positions VII and VIII).

This proposal would lose its force and credibility completely if third person within this composite were consistently zero, the prevailing exponent of third person subject. But this is not the case. There is one environment in which third person is phonologically distinguished from the local (first and second) persons. The relevant environment is in the presence of the gamma [gh] situation type aspect marker in combination with the perfective and progressive viewpoint aspects when, in addition, this [gh] prefix, a velar glide, is *flanked by low-toned neutral epenthetic vowels* (i.e., appears in the environment *VghV,* V the neutral vowel). In this situation the glide is realized as a certain ''coloring'' of the flanking neutral vowels. While the glide never surfaces as such in this environment, being realized only as its effect on the vowels flanking it, it is reasonable to assume that, abstractly, the gamma perfective marker has three allomorphs: rounded [w], plain [gh = γ], and high fronted [y]. The rounded allomorph appears *only* in the third person, as in the future (24a) and progressive (24b).

(24) a. shidoołhosh

    sh   d   w   ł   ghosh

    Object   Qualifier   3rd:Perf   Voice   V

    'He/She will tickle me.'

    b. shoołtééł

    sh   w   ł   tééł

    Object   3rd:Perf   Voice   V

    'He/She is carrying me along.'

The Navajo progressive is rendered by means of the gamma perfective situation aspect prefix, together with zero-viewpoint aspect and the progressive stem. The future is rendered by this same complex of elements preceded by the inceptive qualifier [d]. The environment of the allomorph [w] is highly specific (as is that for the first person singular). And the total picture makes it clear that [y], not [w], is the default allomorph. I take this to mean that the category ''third person'' actually has an overt exponent here and therefore that the actual position of the third person, like that of local person subjects, is within the Mode/Subj portmanteau.

If this is correct, then the so-called deictic subject prefixes of position V belong grammatically to the same category of elements as full DP (or NP) arguments, like *ashkii* 'boy' in (23). They are, in some fundamental sense, ''adjuncts'' to the clause, that is, to the construct containing the extended projection of V and its preverbal modifiers (Preverb, Iterative, Plural), where these are present. To account for the *actual* surface position of the deictic subjects, I will assume that something like the analysis in Hale 2000 is correct—this is a modification of Speas 1990, in which inflectional morphology, originating in positions external to the verb, is ''infixed'' to the verb. I restrict this ''infixation'' process (tentatively) to the deictic prefixes alone, however. In short, the deictic subjects are adjuncts in the abstract representations of clauses, but they are spelled out as prefixes to the conjunct sector of the verb (or, perhaps more narrowly, as prefixes to the Qualifier element, as suggested in Hale 2000), rather than to the verbal clause as a whole.

They differ from ''full DPs/NPs'' in this respect; the latter are spelled out as adjuncts to the verbal clause as a whole, and they assume there a linear ordering determined by discourse factors (in the manner described in Willie and Jelinek 2000). On this account, the so-called deictic subjects are in no sense exceptions to general and established principles of Navajo grammar.

5 Concluding Remarks

The Navajo verb presents a ''mixed system,'' in a sense, given that the principles that determine the linear ordering of elements appear to work from left to right in one part of the verb word, and from right to left in another.

Within the conjunct sector the ordering of elements follows (a) from the selectional relations holding among the nuclear elements, and (b) from the head-initial parameter defining the structural relation between functional heads and their complements. The ordering of the object within the conjunct sector follows from the fact (assuming it to be a fact) that a lexical head takes its complement to the left (giving the head-final order in the innermost VP projection).[7] In this respect, incidentally, the light verb Voice conforms to the behavior expected of a functional (i.e., inflectional) element, taking its complement (VP) to the right, not to the left in the manner of a ''full'' verb (V).

Within the adjunct domain, by contrast, the order of elements appears to conform purely to the direction determined by semantic scope, which, as Rice demonstrates clearly, works from right to left in those situations where semantic scope is in fact relevant (i.e., where it shows interaction effects of the type detailed by Rice) and autonomous (i.e., where it is independent of selection).

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[7] An aspect of morpheme ordering that is completely masked in my analysis is the internal structure of the Mode/Subj nuclear element, which, I have asserted, is a composite consisting of from two to three distinct morphemes (situation type aspect, viewpoint aspect, and subject person). I have claimed that these elements form a portmanteau, suggesting that there is no determinable ordering of the component morphemes. This is somewhat misleading, because it is possible to argue, at least, that person *follows* situation aspect within the Mode/Subj substructure (as is done traditionally, on the basis of perspicuous cases). My analysis does not predict this ordering and must simply stipulate it. By contrast, Hargus and Tuttle (1997) propose a system of ranked alignment constraints that determine the ordering of morphemes here and elsewhere in the Navajo verb.

Another property of this system of alleged portmanteaus is their allomorphy. In the perfective viewpoint aspect, the Mode/Subj paradigms display two sets of allomorphs depending upon the identity of the Voice element (i.e., the traditional Classifier of Athabaskan language scholarship). One set of allomorphs occurs with the *t-* and zero classifiers; the other occurs with the *d-* and *l-* classifiers (the latter being in fact a composite of *d-* and *t-*). This raises the question of when Vocabulary Insertion applies. In the model I am assuming, the vocabulary items belonging to the perfective Mode/Subj paradigms are inserted in their base position (i.e., into the terminal nodes of the diagram in (16)) and the appropriate allomorphy is determined at that point, implying that Mode/Subj is properly situated in relation to Voice so as to permit the correct allomorphy to be effected. This could be very wrong, however, and it might be necessary to apply a rule of Lowering, prior to Vocabulary Insertion, in order to account for this allomorphy. If so, my claim that this is, so to speak, a ''nonmovement'' theory of the internal structure of the Navajo verb is considerably weakened (see Embick and Noyer 2001 for much relevant discussion). My command of the principles of Distributive Morphology (as represented, e.g., in Halle and Marantz 1993), which I am assuming here, is not sufficient at present to permit me to do anything more than point out the potential problem. Rice (2000:169, 178) questions whether this is allomorphy in the usual sense. Rather, the perfective viewpoint aspect marker is simply missing in the context of the *d-* and *l-*classifiers, causing Mode/Subj to be realized as if it were imperfective. The problem for my analysis remains, however, because this impoverishment of the perfective takes place in an environment that must be properly identified.

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