

# **On the Significance of Eloise Jelinek's Pronominal Argument Hypothesis**

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## **0. Introduction**

In 1984, Eloise Jelinek proposed a theory of Navajo grammar designed to account for certain observations which indicated that the organization of clauses in the language was "nonconfigurational" in a very particular sense (Jelinek, 1984). Her framework has since become widely known, and the name Pronominal Argument (PA) is now attached to a wide range of polysynthetic "head-marking languages" (cf. Baker, 1996; Nichols, 1986). She has written a number of works developing the PA model in relation not only to Southern Athabaskan but to Salish as well (e.g., Jelinek and Demers, 1994). In this essay, I will review certain aspects of the PA hypothesis, with emphasis on its relevance (i) to the grammar of Navajo and (ii) to the grammar of noun incorporation.

In past work on the Navajo verb (e.g., Hale 2000b), I assumed that the surface organization of the elements appearing within it was due to a

series of movement rules — applications of Head Movement or Verb Raising. The verb began its upward journey from a position low in the syntactic structure of a sentence, moved from head to head within its extended projection, leaving certain residue (nonnuclear elements). In the first step of this scenario, the verb adjoins to the right edge of the first functional head above it (the Voice marker, traditionally called the Classifier in Athabaskan linguistics). In the second step, the classifier (now burdened with the verb) right-adjoins to Mode (an element similar in function to Infl or Tense in more familiar languages, representing the major aspectual, temporal, and mood oppositions in the language). Above Mode in the extended projection one or more Qual(ifiers) (elements with aspectual or "thematic" character) might be present, in which case, Mode (now burdened with Voice, itself complex now) right adjoins to the first qualifier, which then right adjoins to the next qualifier, if present, and so on, resulting in a complex word whose surface linear form has the verb on the right-hand edge preceded by "prefixes" corresponding to nuclear elements picked up in the course of cyclic successive head to head movement:

[((Qual)[(Qual)[Mode[Voice[Verb]]]]].

This constitutes the tightly organized portion of the Navajo verb word known traditionally as the "conjunct" sector. The residue left behind includes (a) particles and proclitics (phonologically dependent adverbial

and quantifier elements) constituting the so-called "disjunct" sector and (b) full phrases corresponding to the overt arguments of the verb and various adjuncts (phrasal adverbs, including postpositional phrases). The arguments of a verb were subject to movement as well, being forced to raise in order (a) to enter into appropriate agreement relations with features of the functional heads assembled in the conjunct sector and (b) to satisfy the EPP.

The part of this story having to do with assembling the conjunct sector is highly unsatisfactory, primarily because (a) there is no apparent motivation for Head Movement in the computational system, i.e., in syntax, and (b) right adjunction is unusual in Head Movement and, in this case, is used merely to "get the head in the right place." The whole business seems artificial, calling into question its status as a series of processes constrained by genuine principles of syntax.

The Pronominal Argument Hypothesis, initiated by Jelinek in 1984, is one among several theories of grammar within the general Principles and Parameter tradition (cf. Chomsky 1981 and subsequent allied literature by many linguists) which have, as an intrinsic feature, the idea that the internal make-up of a complex verb word is less a matter of syntactic movement than of processes of morphophonology operating upon an underlying syntactic base defined by the single operation now called Merge within the Minimalist Tradition (as represented, e.g., in

Chomsky 1959, 2001; and see Halle and Marantz 1993 for a theory of morphophonology).

In the discussion to follow, I will consider certain aspects of the Navajo verb word in the light of the Pronominal Argument (PA) Hypothesis. I will extend my coverage to include a brief consideration of the grammar of Noun Incorporation (as reported and analyzed in Baker 1988, 1996), entailing involvement with fully configurational languages as well as the polysynthetic, Discourse Configurational type represented by Navajo. The essential point here will be the idea that the primary adjacency relations holding within complex verb words are due to Merge alone, not to syntactic movement (cf. Bobaljik 1994). My account is only partially successful at this point, primarily because of my own limitations in matters of phonology and morphology, areas in which I cannot, however, fear to tread in this instance.

In a recent paper (Willie and Jelinek 2000), the status of Navajo as a Discourse Configurational language is examined and convincingly argued for. This aspect of the PA theory of Navajo is thoroughly discussed in that paper. Consequently, I will concentrate here on certain purely structural features of the core PA theory, which I will briefly outline in section 1 (some of which is purloined from Hale, Munro, and Platero 2000).

### 1. A sketch of the Pronominal Argument Hypothesis.

The theory assumes that, in a language belonging to the PA type, the person-number morphology internal to a verb word represents the direct arguments of the verb. These elements are not agreement morphology. Instead they *are* the arguments, pure and simple. In the Navajo verb word (or rather, somewhat more accurately, "verb sentence") cited in (1) below, the prefixes *ni-* and *sh-* are, respectively the object and subject of the clause:<sup>1</sup>

- (1) ni-sh-hozh.  
 2s-1s-tickle  
 'I tickle you.'

There are no "small pro" elements in this sentence, and if an independent pronoun appeared, as in (2), it would not be an argument but rather it would be a contrastive adjunct:

- (2) Ni ni-sh-hozh.  
 "I tickle YOU.'

The independent pronoun *ni* 'you' is, to be sure, *linked* to the verb-internal object *ni-*, but it is not an argument of the verb, any more than the first *you* is an argument of *tickle* in the English *as for* construction in (3):

(3) As for you, I'm tickling you.

In short, the Navajo independent pronoun *ni* 'you' in (2) is not related to the prefix *ni-* in the way an argument is related to agreement morphology. It is the prefix, not the independent pronoun, that represents — alone and fully — the object argument of the verb. The same can be said of a nominal expression, like 'awçç' 'baby' in (4):

(4) 'Awéé bi-'nii-sh-hóósh.

baby 3-INCH-1s-tickle

'I start to tickle the baby.'

This is an inchoative verb form, with the direct object of the verb appearing as *bi-* directly before the inchoative morphology -'nii- (glossed INCH)-. Here again, the true arguments are represented by the verb-internal person-number morphology — i.e., the third person object pronoun *bi-* and the first person singular subject pronoun *sh-*. The nominal 'awçç' 'baby' is an adjunct, not an argument of the verb. Its structural

relation to the sentence can be compared to that of the English left-dislocated nominal *the baby* in (5), where the true object argument is the resumptive pronoun *him*:

(5) The baby, I will start to tickle him/her.

The idea, then, is that Navajo is a language in which all of the arguments of a verb are pronouns and, further, the pronouns in question are morphologically dependent (i.e., they are affixes, inflection). The verb word is in reality a complete sentence — a "verb sentence" (VS), although the more conventional (albeit less accurate) expression "verb word" will be used throughout this discussion..

What does all this mean formally? How is the verb word composed? How is (1) composed, for example? Of course, the exact make-up of that verb sentence cannot be determined by looking at its superficial form alone, since certain morphophonological processes obscure the full inventory of elements present in it (see Faltz, 1998, for an excellent and lucid study of the internal structure of the Navajo verb). A slightly simplified linear representation of the components of (1) is given in (6), each glossed in accordance with traditional usage in Athabaskan linguistics:

(6) Obj Mode Subj Cl Stem

ni    Ø    sh            †    ghozh

Two key elements, invisible in (1), are shown here, i.e., the phonologically null imperfective mode prefix complex, and the so-called "classifier" -ṭ-. These two elements represent categories which are fundamental to, and present in, all fully inflected Navajo verbs.

We will assume that a PA language conforms to general principles of argument structure and, therefore, that the structural relations between nuclear elements and their arguments is to a certain extent predetermined. That is to say, a grammatical verb sentence which "converges" is equivalent to a set of binary compositions, each defined by an application of the operation Merge, satisfying all relevant grammatical requirements and achieving full interpretation — such a derivation is said to "converge" at both phonetic and semantic interfaces. A derivation which fails to satisfy the grammatical requirements, or fails to achieve full interpretation, is said to "crash" (cf. Chomsky, 1995:226, 171).

It is almost possible to characterize the internal structure of the Navajo verb sentence by forming binary groupings of the component elements, proceeding from right to left (cf. Hale, Jelinek, and Willie, to appear):

(7) [Obj [Mode [Subj [Cl [Stem]]]]]]

To the extent that this is true, Navajo surface form preserves the grammatical relations which hold among the constituent elements. But (7) is not completely faithful to basic grammatical relations.

Before proposing a modified structure for (1), I want to reconsider some of the terminology for naming the component elements of a Navajo verb of this type. Starting from the innermost constituent, the stem, I will assume that element is in fact the lexical verb (V). It is, in reality, a composite of at least two subparts, a root and a verbal host (embodying aspectual inflection). For present purposes, it is sufficient to view the stem simply as the lexical verb and to symbolize it as V. The next element, proceeding leftward, is the traditional "classifier". This is a voice marker, or transitivity marker, sometimes called a valence marker. More accurately, voice marking is the function of the classifier in its productive uses, i.e., when it is not merely a lexicalized, synchronically inert, component of a verb. I will use the symbol *v* to represent it, a symbol meant to suggest both "voice" and "verb".<sup>2</sup> Again, like V itself, the voice element is sometimes complex, its inner composition being a matter beyond the scope of the present discussion. For now, let it be simply *v* in structural diagrams. Skipping over the subject for the moment, the next nuclear category is mode, so-called in much Athabaskanist usage. I will not depart from this usage, and I will use the label M to represent this category in

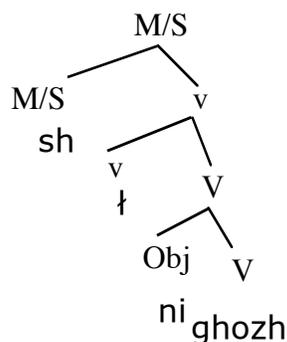
structural diagrams. It is the primary functional head above the verbal projection, corresponding to I(nfl) and T(ns) in much linguistic literature dealing with more familiar languages. It consists of two aspectual elements, Situation Aspect and Viewpoint Aspect (see Smith 1991, 1996, and Rice 2000 for details). There is a strong dependency relation between M and the verbal component of V. Jointly, these elements realize aspectual categories, primarily, and modality to a lesser extent. In (1), we have the so-called "zero-imperfective," represented formally by the fact that M is phonologically null ( $\emptyset$ ). In actuality, mode and the subject are assembled into a portmanteau (Mode/Subj, further abbreviated to M/S in future structural diagrams). The internal make up of the Mode/Subj portmanteau is to various degrees obscured by morphophonological processes (cf. Kari 1976; Faltz 1998; Speas 1984, 1990; and McDonough 1996, 2000).

Moving now to the arguments of the verb. The subject and object in (1) are "pronouns," in keeping with the tenets of PA theory. As Mary Willie has repeatedly pointed out in her work, first, second, and simple third person pronouns are definite in interpretation.<sup>3</sup> I will follow the tradition according to which pronouns belong to the determiner category (D), though in diagrams I will refer to them by means of their grammatical function labels subject (S in the portmanteau M/S) and object (Obj). Unlike the other elements found in (1), which are all nuclear, hence  $X^\circ$ , pronouns, being arguments, are (trivially) maximal projections. They

appear in argument positions — e.g., in Specifier or Complement positions in relation to lexical or functional heads.

A preliminary structural diagram for (1) is presented in (8):

(8)



Obviously, this does not correspond exactly to (7). I have taken the step of representing Mode and Subject together as the portmanteau M/S, and I have simplified the notation for the object to Obj (with the understanding that the object, a pronoun, is categorially a D(eterminer)). But the most important feature in (8) is the position of the object pronoun (*ni*). This element is not in its surface relative order position. Instead, it is in its "thematic" position — i.e., the position it occupies as the complement (immediate sister) of the verb.<sup>4</sup>

If (8) correctly depicts the d-structure position of the object, we must of course account for the fact that its surface position is to the left of the mode/subject portmanteau (M/S), as if it were in the Spec position

projected by that nuclear element. Technically, this deep-surface disparity could be "corrected" quite simply by raising the object to the Spec position, leaving a trace in its thematic position.

But what motivates this movement? The answer could be Case Theory. Jelinek has often claimed that Navajo is an ergative language. If so, then V does not assign case to its object. This circumstance forces the latter to raise out of the verb phrase and into Spec of Infl (i.e., Spec of M in Navajo), where it is governed by C (the complementizer), a "case-like" functional element (and hypothetical at this point). By achieving proximity to C, the object "satisfies the Case Filter" (see Bittner, 1994, and Bittner and Hale, 1996, for details of Case Binding Theory, whose mechanisms and principles are implicated in this idea). On this view, it is the Case Filter that forces the object to raise to [Spec,M], giving the surface ordering shown in (7).

But this is inconsistent with the fundamental spirit of the PA theory, in which there is no motivation (in PA languages) for syntactic movement of the type just suggested. If this is correct, and Navajo is indeed a PA language, then a nonmovement account of the order of elements in the Navajo verb word must exist and, more importantly, must fall out without fanfare, so to speak, from the PA theory.

In this article, an essentially nonmovement, primarily phonological, account of Navajo morpheme order will be explored (built in part upon the

phonological theories of Speas 1984, 1990; and McDonough, 1996, 2000). If that effort is successful, then it also has implications for the analysis of noun incorporation, as well as for the significance of Jelinek's Pronominal Argument framework. Navajo does not itself have noun incorporation, but its Northern Athabaskan cousins do have it, as do a number of other languages of the world, of course (cf. Mithun, 1984, 1986; Baker, 1988). I will suggest that another consequence of the PA theory is a nonmovement account of noun incorporation (cf. Rice, 2000) and, in addition, an explanation of the renowned distinction between so-called unaccusatives, transitives, and unergatives in the matter of incorporation from the subject position.

## 2. Preverbs, Quantifiers, and the Verb Stem.

The transitive verb word just exemplified represents a simple and quite common type. Most verbs, however, are somewhat more complex in their internal makeup, containing elements drawn from ten distinct "morpheme order slots" in the templatic display often attributed to the structure (e.g., in Young and Morgan 1987:37-38). It is unusual to have all of these positions filled at once, but it is in fact possible, as in the verb word (and verb sentence) of (9):

(9) Yisdánídashizhdoołtééł. ~Yisdáádashizhdoołtééł.

'They (3a = 4th person) will get me back to safety.'

The pieces that make up this verb word are set out in (10) below, in which the roman numerals stand for the ten positions recognized in the Navajo "template," and the glosses are chosen from the terminology which figures most prominently in Keren Rice's recent authoritative book on Athabaskan morpheme order (Rice 2000). The Navajo morphemes themselves are given in their "basic form," except that the Iterative/Reversionary prefix (It/Rev) is cited in its [ní]-allomorph (appearing typically before coronals), and the Mode/Subject complex is cited in its portmanteau form (the third person of the gamma situation aspect) in the allomorph appropriate to this particular context:<sup>5</sup>

(10)

I	II	III	IV	V	VI	VII/VIII	IX	X
Preverb	It/Rev	Plural	Object	Deictic	Qualifier	M/S	Voice	Stem
yisdá	ní (< ná)	da	sh	zh	d	w	ł	teęł

I will occasionally refer to the relative order positions in this template, and their content, as the discussion proceeds. The full range of known elements

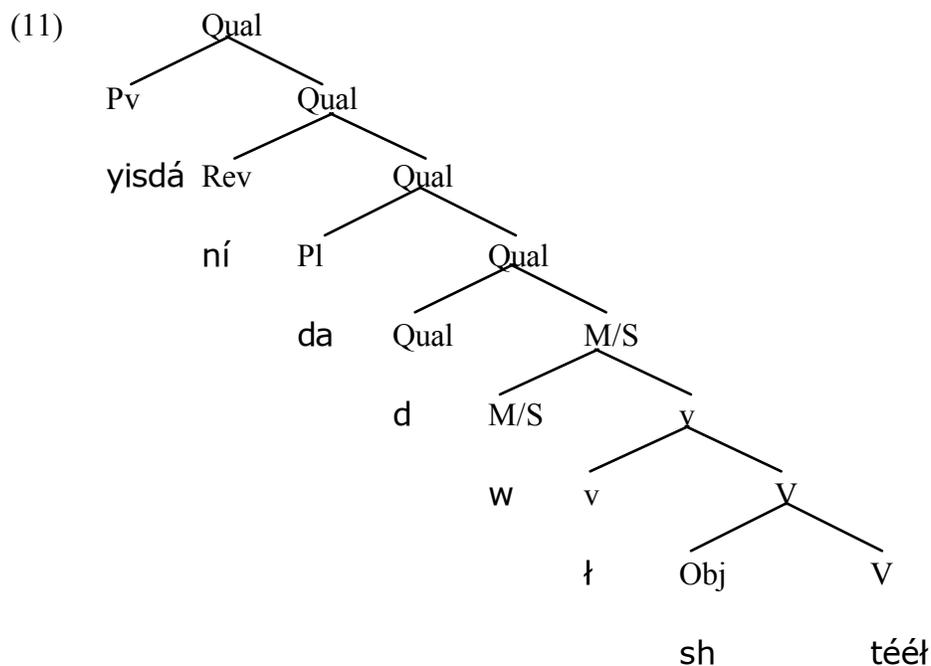
appearing in the Navajo verb is catalogued in Young and Morgan (1987). For the present, it is sufficient to note that (10) represents the surface order of the components of the verb word, corresponding to the extended projection of the verb.<sup>6</sup>

The arboreal representation in (8) is of a verb much simpler in internal structure than (9), of course. The label V corresponds to Stem. The small v corresponds to the traditional "classifier" of Athabaskan, a small inventory of "light verb" elements which, in their productive uses are involved in transitivity alternations, including the so-called causative-inchoative alternation, the productive causative construction (cf. Hale, 2000b), the various so-called passives of Navajo (cf. Neundorf 2000), and a number of other constructions related to transitivity.

I have noted one deep-surface disparity in the Navajo verb, namely the position the direct object (Obj). There is another such disparity that must be dealt with, involving the category Preverb, exemplified in (9, 10) by *yisdj* 'to safety'. Rice (2000) argues that the Athabaskan preverb forms a constituent with the verb stem (V) in the basic representation of verb words. In Hale (2001), I adopted this view for all preverbs, assigning the preverb a sort of "sister" adjunct relation to the verb in the lexical projection which the verb defines. However, Sharon Hargus and Siri Tuttle (p.c.) question the correctness of this for preverbs in general, relegating

this sister-like relation to Preverb-Verb combinations which are in some sense "truly lexical," unique combinations and idioms, for example.

Following my earlier assumption, I claim that preverbs are adjuncts, for reasons discussed in Hale (2001). However, in relation to their point of attachment, I believe now that productive preverbs are variable, in keeping with their generally adverbial nature. In (9), the most prominent interpretation of the preverb has both the subject (in M/S) and the object in its semantic scope, both the subject and the object correspond to individuals that "will come to be in safety." I take this to mean that the preverb is adjoined to one or another of the phrasal projections defined by the functional heads Qualifier and M/S, i.e., to a projection which properly includes the subject. Since there is no evidence for one of these over the other, I will assume that the high adjunction site is the projection defined by the highest functional head present in the particular verb word at issue. Since Qualifier selects M/S, and not the reverse, Qualifier (abbreviated Qual) is the highest functional head in (9, 10). If the qualifier were absent, then the highest head would be M/S. In any event, the structure of this verb can be diagrammed as follows (with Preverb abbreviated as Pv, Reversionary as Rev, and Plural as Pl):



The deictic, or 4th person subject, is left out of this diagram (see Hale, 2001, for a proposal concerning Navajo Deictic Subjects).

The adjuncts — i.e., the preverbs and the quantifier elements (the event quantifiers It/Rev and the argument quantifier (Pl) — correspond to the disjunct sector of the Navajo verb word. In (11), their high position corresponds straightforwardly to their leftward position in the template — the ordering among them, a side issue here, is determined by Rice's principles of semantic scope (Rice 2000; cf. Hale 2001). But the adjuncts are not uniformly high in the structure. I believe that Rice is correct in assigning them —sometimes at least — to the lower position (which I will take to be adjunction to the verbal projection vP, comprising the stem (V) and the classifier (v) lexically assigned to it). This possibility seems to be

available for productive preverbs like *yisdj*. Consider, for example, the following illustrative sentence from Young and Morgan (1987:772):

(12) Shideezhí bi'éeetsoh taah yíłhęęzhgo bá yisdástsóós  
ńt'ée' taah yígo'.

'I fell into the water trying to rescue my sister's coat when it fell in.'

The relevant verb in this sentence is repeated and segmented in (13):

(13) (a) yisdástsóós

'I rescue it.'

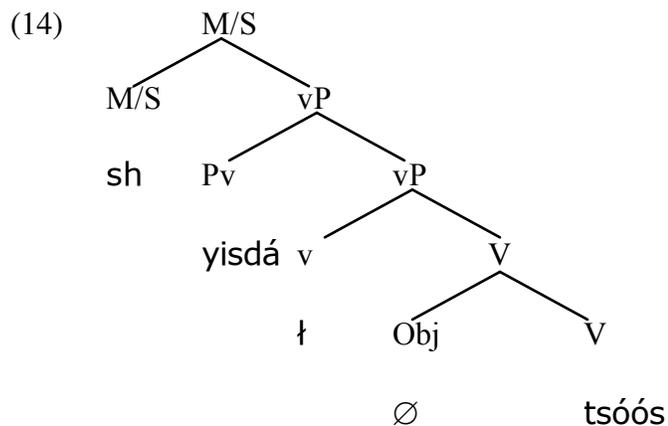
(b)

I	IV	VII-VIII	IX	X
Preverb	Obj	M/S	v (Voice)	V (Stem)
yisdá	Ø	sh	ł	tsóós

This is the "surface template," not the underlying form — the latter is what is at issue. The direct object (Obj) is represented by Ø in this verb form, in accordance with the general rule that a third person (direct) object is phonologically nonovert if the subject is a "local" (first or second) person. Thus, it is merely by hypothesis that Obj is assigned to position

IV in the template (and likewise, that it is sister to the verb (V) in the underlying structure below). The sole exponent of M/S is the first person subject marker *sh*, assimilated to [s] by regular phonological rule.

It seems to me that the preverb in (13) does not have the subject in its scope. It is the coat alone that "comes to be in safety" in the hypothetical world of (12). Thus, the d-structure representation of (13) is most likely that depicted in (14):



If this is correct, then we have another deep-surface disparity and, we must reconcile the order implicated in (14) with the actual surface linear order shown in the template (13b).

The recognition of this deep-surface disparity is forced upon us when we consider cases in which the preverb-verb combination is more "idiomatic," or more clearly of the type commonly characterized as "lexical." Consider, for example the case of the verb theme *ha#chééh* 'start to cry, break into tears,' with preverb *ha* 'up and out' and verb (zero

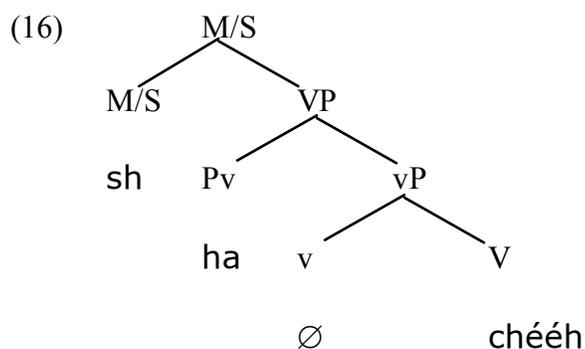
classifier plus stem) *chééh* 'cry', as in (15), with abbreviated template in which #, following tradition, is used to mark the boundary between the disjunct and conjunct sectors:

(15) *haashchééh*

ha#sh-Ø-chééh

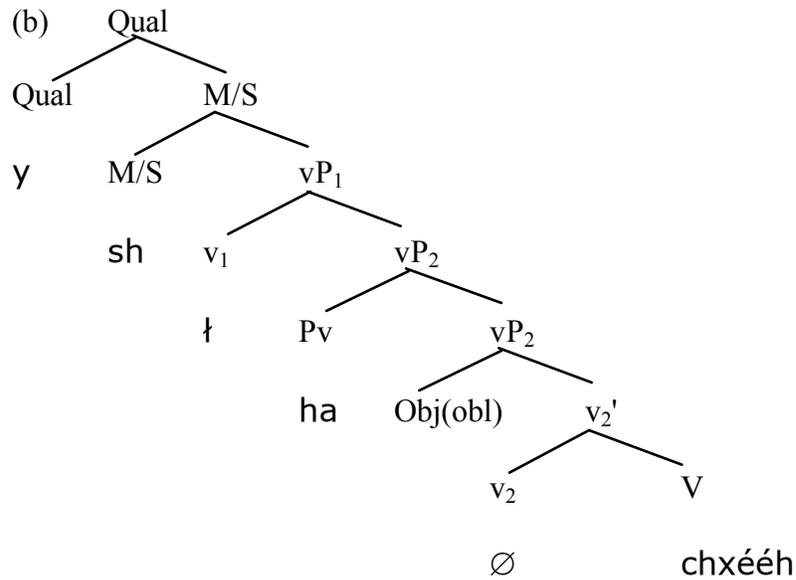
'I start to cry.'

In this case, the preverb and the verb are intimately connected, in a manner familiar from particle-verb combinations in Dutch and German, languages which, like Navajo, permit these elements to be separated in the surface forms of sentences (i.e., in the verb-second forms of Dutch and German). This special relation between the preverb and the verb in (15) suggests an underlying representation in which the preverb is in the lower adjunction position, in conformity with the "lexical" association of the preverb and the verb. If correct, the basic syntactic configuration for (15) would entail a deep-surface disparity:



It is conceivable, of course, that the issue is not really settled by such cases as this. The question is whether the preverb does or does not have the subject within its scope. The verb of (15) is an unergative verb built on the nominal root *cha* 'cry' (cf. Hale 2000; Hale and Platero 1996), and the configuration assigned in (16) implies that the semantic component supplied by the preverb applies to *cha*, and not to the event as a whole — the crying breaks out or bursts forth, so to speak. But this is, to be sure, thin ice to skate on. However, that the preverb can have narrow scope in relation to the surface subject is inescapable and we must accept the reality of Rice's proposal for some cases at least. Consider for example, the causative of *ha#chééh*, as in the idiomatic expression of (17), from Young and Morgan 1987:373:<sup>7</sup>

- (17) (a) *habiishchxééh*  
*ha#b-y-sh-t-∅-chxééh*  
 'I honk it (make it cry, of car horn).'



The productive causative represented here involves the embedding of the basic third person form *haachééh* 'he/she/it starts to cry' (the structure dominated by  $v_2$  in (17b)) as the complement in the structure defined by the transitivity light verb  $\neg$  ( $v_1$  in (17b)). The original subject of the embedded verb (located in M/S in the original intransitive configuration (16)) appears now as the surface object, overtly, in an *oblique* case from (hence the gloss Obj(obl)). This derived oblique object is traditionally held to be in a postpositional construction (with non-overt postposition), accounting for its overt realization as third person *b*, rather than zero, as a direct object would be. The hypothetical postpositional constituent is assigned alternatively to positions Ia and IV by Young and Morgan (1987:G42, et passim). In addition, the full causative of Navajo always has associated with it a qualifier (Qual) — in this case, the qualifier is what I take to be the canonical causative qualifier *y* (giving rise here to the long

vowel [ii], through regular phonological processes; cf. Hale 2000 for a discussion of the causative construction within the Case Binding framework of Bittner 1994).

Once these details of morphophonology are set aside, it is clear that the preverb (*ha* 'up and out,' in this instance) must be lower than the surface subject (*sh*) within the derived causative configuration. In the idiomatic use, for example, it is the car, or the car's horn, which produces the "crying out" here, not the entity corresponding to the subject of the causative construction as a whole. Such causative configurations clearly show that we must contend with the deep-surface disparity implied by Rice's proposal. In particular, we must account for the consistent forward (leftmost) positioning of preverbs in the surface representations of verbs, sometimes at variance with the underlying position which, in some cases at least, must be lower (more "internal") in the structure than the leftward linear positioning consistently seen in surface forms. The same argument is applicable to certain other causatives, e.g., those of (18) — in (18a), note the underlying "double classifier," as expected in the full causative, which entails embedding the complete (unergative) verbal projection ( $vP_2$ , headed by  $v_2$  *l*, the inner classifier) as the complement of the causative light verb  $\rightarrow$  ( $v_1$ , the outer classifier):

(18) (a) **habiishyeed** (Young and Morgan 1987:373)

ha#b-y-sh-ł-l-gheed

'I run him/her/it up out.'

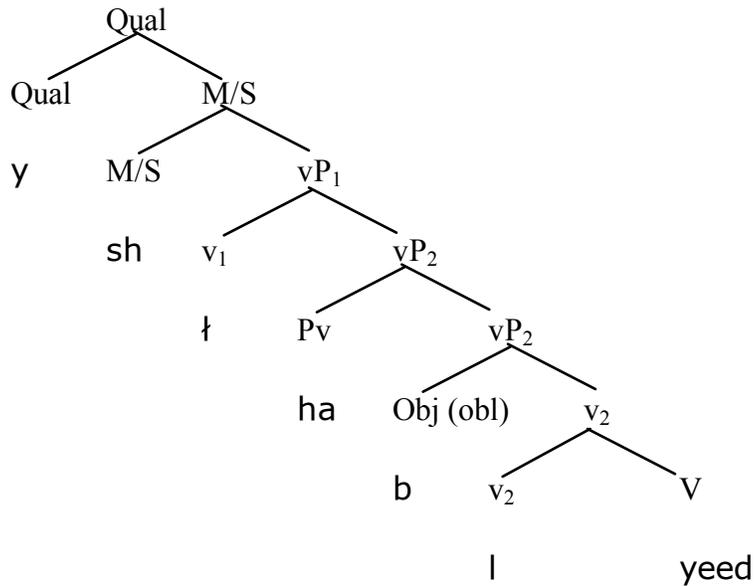
(idiomatically) 'I start it (car).'

(b) **ch'íbidinishdlóoh** (Young and Morgan 1987:281)

ch'í#b-d-nish-ł-l-dlóoh

'I make him burst out laughing.'

(c) (configurational structure of (18a))



The reality of the double classifier is "visible" in (18a, c); the inner classifier "protects" the stem initial fricative (y = fronted gamma) from devoicing, otherwise expected after  $\rightarrow$ , the outer classifier, ultimately

adjacent to the inner classifier; see below and, e.g., Hale 1974, and Kari 1976).

Even in the productive causative, however, we must recognize the possibility of the alternative higher positioning of the preverb. Consider (19), where, it seems to me, the subject of the causative is within the scope of the preverb *na* 'round and about':

(19) *nabiishlá*

*na#b-y-sh-t-Ø-á*

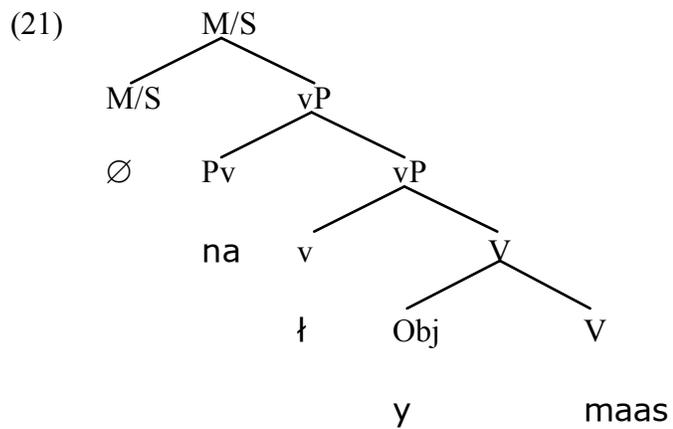
'I walk him/her (baby) about.'

All instances of this causative that I have actually heard, as well as miming by native speakers illustrating its meaning, clearly have both the agent (grammatical subject) and the "causee" (derived Obj) within the scope of the preverb. The agent manipulates the causee at every step and thus "moves round and about."

It should be said that it is not necessary to resort to the full causative to argue for the lower adjunction site. In many semantically perspicuous cases, the transitive alternant of a labile verb (a verb participating in the so-called causative-inchoative transitivity alternation), clearly has the subject outside the scope of the preverb. Consider the following pair, for example:

- (20) (a) Jooł naamaas.  
 jooł na#Ø-Ø-maas  
 'The ball rolls around.'
- (b) Mósí jooł neiłmaas.  
 mósí jooł na#y-Ø-ł-maas  
 'The cat rolls the ball around.'

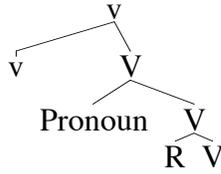
In (20b) it is not the transitive subject (the cat) that "rolls around" but rather the direct object (the ball). On the assumption that the meaning reflects the structure, the verb of (20b) must correspond to the following underlying configuration, in which two instances of deep-surface disparity occur:



This is a third person zero-imperfective verb form, hence the M/S constituent is phonologically null (or, at most, the neutral vowel /i/; see Hargus and Tuttle 1997). The object is the overt obviative third person pronoun (3o), as required when both subject and object are third person and the object is not the topic. These pronouns are linked to the overt noun phrases (*mósi* 'cat' and *jooʔ* 'ball') adjoined to the full verb word (or verbal clause) in accordance with the principles developed in Willie and Jelinek (2000).

Before moving on to further discussion of the disparities just noted, I will briefly discuss certain details of the syntactic structures projected by lexical verbs (V). The innermost projection in (21) — that of V, the lexical category — is abbreviated there in a way which obscures an important distinction among verbs, that between unergative and unaccusative verbs. The verb of (21) is labile, which is to say it enters freely into the standard transitivity alternation. The object (Obj) in (21) originates as the specifier of the lexical projection (hence below the classifier *v*), as depicted in (22) below, corresponding to the intransitive use of the verb, with  $\emptyset$  classifier (i.e., the zero form of the voice light-verb *v*):

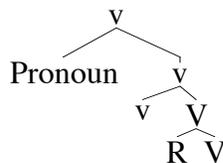
(22)



The root component R of this verb has the lexical property that it forces V to project a specifier.<sup>8</sup> In this intransitive form, the pronominal argument will function as the subject in sentential syntax. In the transitive use, the classifier is *ɬ*, as expected, and the pronominal argument will surface as the sentential syntactic object (Obj). The subject of the transitive is a pronominal argument in the specifier of *v* (not shown in (22)). It is an *external* argument in relation to the lexical projection itself.

In the case of an unergative verb like *cha* 'cry', by contrast, the root component is nominal in character and does not force the V to project a specifier.<sup>9</sup> Consequently, the pronominal argument will be external to the lexical projection, appearing rather as the specifier of the classifier (*v*), as shown in (23):

(23)



The contrast between (22) and (23) represents the traditional unaccusative/unergative opposition as it is defined in the theory of argument structure adopted here (cf. Hale and Platero 1996).

In what follows, I will continue to abbreviate the subconfiguration [ $vR$  V] as simply V in the structural diagrams for labile verbs and non-alternating verbs alike.<sup>10</sup> The contrast between the two types resides in the position of the pronominal argument (Pronoun) in relation to the voice light verb, i.e., the traditional "classifier" (v). In labile verbs, whose structure is shown in (22) above, v locally c-commands (and governs) the pronominal argument, given that the latter is the specifier of the *complement* of v. In non-alternating (i.e., unergative) verbs, the pronominal argument is the specifier of v itself, hence external to the projection of the lexical verb V, as in (23).

### 3. Resolving the deep-surface disparities.

In the spirit (though not the letter) of Baker (1996), I assume that in a Pronominal Argument language, the case requirements of direct arguments are satisfied in situ. It is part and parcel of the tightly organized syntactic word-like conjunct sector of the Navajo verb that the arguments are licensed in their thematic positions. Hence, there is no motivation for syntactic movement which would reposition pronominal arguments in

such a way as to account for their surface positions.<sup>11</sup> And there is no motivation at all for movement of adjuncts (the elements of the disjunct sector) — these must be alternatively base generated in the high or low position in any event.

How then is the surface ordering to be achieved in the cases of disparity? I believe that the answer lies in the realm of phonology, in particular, in the processes that "spell out" of the elements of the conjunct sector. Unfortunately, I am not a phonologist, and I have to make a leap of faith in the hopes that my suggestions will in fact be feasible in a fully worked-out phonology of Navajo.

I 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 which must be filled out to define the phonetic realization of a Navajo verb. It is precisely this process of "filling out the skeleton" (especially what I will call the "receptor," corresponding to the 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, or so I would like to claim (cf. Hale, 2001, for an earlier version of this proposal).

The idea is this. The verb stem brings with it a bipartite phonological skeleton whose right-hand half is filled out (in the normal

case fully, but partially in a few exceptional cases of a missing onset) by the stem itself, as indicated in (24) by underlining:

(24) CVCCVC

The CV portion of each of the two syllables must be filled, or "satisfied." This is obligatory, with minor and essentially irrelevant exceptions. The coda is filled, or not filled, depending on the nature of the elements actually present in the particular verb word. In accordance with the Speas-McDonough bipartite theory of the Navajo verb, the right-hand portion of the skeleton is satisfied by the verb stem (V). By contrast, 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 elements (nuclear or nonnuclear) which happen to be present in the extended projection of particular verb at issue.

The relevant nuclear elements in the conjunct sector are (a) the qualifier (Qual, one or more of which may, or may not, be present in a given verb), (b) the mode/subj portmanteau (M/S, obligatory but sometimes null phonologically; but see Hargus and Tuttle, 1997), and (c) the voice element(s) traditionally called the classifier (v, obligatory, assuming the zero classifier is taken to be an actual element). The organizing principle among these elements, and the verb stem as well, is

selection: Qual selects M/S, and M/S selects the verb (taken to be v+V here). These elements are therefore in a head-complement structural relation which, in Navajo at least, is head-initial.

The nonnuclear elements of the Navajo verb are (a) the arguments of the verb (most relevant for this discussion, its object, if there is one), and (b) the adjuncts. The direct object (Obj) is an argument of the verb (V) and therefore appears internal to the lexical projection of V (see below for further detail). In Navajo, the verb takes its direct arguments (specifier, complement) on the left, in keeping with the general head-final character of lexical projections (see footnote 4 above), an arrangement which extends to postpositional and nominal (possessive) projections as well.

The adjuncts comprise the disjunct sector of the Navajo verb word. The organizing principle among them is (a) adjunction itself, and (b) precedence constrained by leftward semantic scope (cf., Rice 2000). In structural diagrams, adjunction is symbolized by the repetition of the symbol corresponding to the maximal projection of the phrase to which the adjunct is attached — e.g., written redundantly as vP in (21), for expository convenience alone. Crucially, the node immediately dominating an adjunct is a *segment* of the node dominating the maximal projection, it is not the maximal projection itself. In this, adjuncts differ crucially from specifiers and complements. Thus, in (21), the adjunct (the preverb *na*) is not dominated by the maximal projection vP; instead, it is dominated by a

*segment* of that projection. By contrast, the object (*y*) is dominated by the maximal projection of the verb (V, or VP, a purely notational distinction).

Let us consider now the derivation of the verb of (20b). The relevant morphophonological components are set out in (25):

(25)	∅	‡	CVC	maas
	na	y		

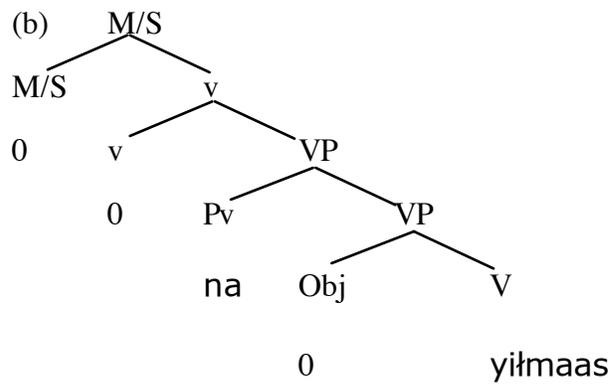
The left-to-right ordering corresponds directly to the arrangement of elements given in (21), but the parts are arranged on two distinct planes, whose purpose here is purely expository, to distinguish heads from non-heads, i.e., nuclear from nonnuclear. The preverb, being an adjunct, and the object, being a complement, are graphically set apart as non-heads. In assuming that the object inflection *y* is a true direct argument in this Navajo construction, and thus appears as a constituent within the verbal projection, I am following Jelinek's Pronominal Argument Theory.

Satisfaction of the verbal skeleton involves filling in those parts of it which are not already spelled out. With rare exceptions, the right-hand part of the skeleton is satisfied by the stem alone. The left-hand part, or receptor, is filled in variously, depending upon what is phonologically available in the verb at issue. The process is this. First, the phonetic features of the functional heads (if any are overtly present) are transferred









The phonological derivation must terminate in a "verb word," however, since it provides the environment for the word-internal phonological processes which give the actual pronunciation:

(30) [neilmaas] '3rd (subject) rolls 3rd (object) about'

I must, to some extent, remain silent about the process, or processes, which reduce a morphosyntactic object like (29b), specifically those parts of it which are visible in phonology (thus excluding 0s), to a prosodic "word." I will simply assume that such processes exist, above and beyond the processes informally posited here for satisfying the bipartite skeleton itself.

I will give a few other examples of verbal derivations within the framework being explored here, beginning with the derivation of (31a), whose underlying structure is diagrammed in (31b):





Subsequent rules of phonology effect (a) assimilation of the neutral vowel to the rounding of the adjacent third person situation aspect portmanteau prefix *w*, and (b) deletion of the intervocalic glide, giving *doo-tʃʃ* '3 subject will handle animate object'.

The nuclear array is now exhausted. At this point, the nonnuclear elements are prefixed (or procliticized) to the verb as it now stands, working leftward (upwards in the structure), applying appropriate principles of allomorphy and rules of phonology, as required, resulting in the final form (31a).

Again, while I am making an actual (though still informal) proposal about the bipartite skeleton, and therefore about a major portion of the conjunct sector, I remain essentially silent on how (33) above is converted into a prosodic word, masking my ignorance in this matter by means of the expressions "prefix" and "procliticize" which, I assume, correspond to processes involved in word formation.<sup>12</sup> In any case, the morphologically overt elements in the verb word are in the correct linear arrangement in (33).

I will conclude these illustrations with the causative verb of (18), repeated here as (34), with the underlying structure in the planar display in (35) and structural diagram in (36) (repeated from (18c)).<sup>13</sup>



transitive light verb  $\dagger$ ). This arrangement is symbolized in (36) as the maximal projection of  $v_2$  embedded under  $v_1$ . The basic or underlying position of the subject of a  $v$ -projection is Specifier in that projection. Since the causative embeds only the projection of  $v$ , not its extended projection, the subject of  $v$  will not enter into the usual portmanteau relation with Mode (see above where the embedded subject appears autonomously in [Spec, $v_2$ ]). For reasons having to do with aspects of sentential syntax, this subject (i.e., the causee) will appear in an oblique objective form, as it does in (36), where it appears as *b*, the third person Obj(obl) form, in the final spellout of the sentence (see below for further remarks on Case).

Proceeding now with the derivation, the nuclear elements are inserted into the skeleton in an appropriate manner. The vocalic nucleus, as usual, is supplied by the neutral vowel /i/. In this verb, the first three overt heads (*l*,  $\dagger$ , and *sh*) all compete for the coda position. Together with the initial C of the stem, this would result in a consonantal sequence exceeding the maximum allowed in Navajo (two consonants, a coda followed by an onset). This is the simple sequence [sh+y], in accordance with principles of phonology discussed in the references cited in connection with (18) above, as well as in Speas (1984, 1990), McDonough (1996), and other writings on Navajo phonology.

At this point, there is just the causative qualifier *y* in the nuclear plane; hypothetically this assumes the onset position, giving now the intermediate sequence *\*yishyeed*, which will not survive as such, because the causative qualifier is always preceded by overt material triggering rules of phonology which modify the output. In this case, prefixation of Obj(obl) gives hypothetical *\*biyishyeed* which, by intervocalic glide deletion, surfaces as actual *biishyeed*. To this is prefixed the preverb *ha* 'up out' giving the surface verb form *habiishyeed*. Notice that the surface position of adjuncts does not vary according to whether they are attached high (above the subject) or low (below the subject). In either case, adjuncts precede the overt nuclear elements in the verbal projection, since these are spelled out in the verbal skeleton in accordance with the proposal being entertained here.

A brief aside on Case. Why does the causee argument (embedded subject) appear in the oblique form? Clearly, it cannot surface in the nominative, the case normally assigned to subjects, because the extended projection of  $v_2$  is absent. It is, so to speak, trapped within the *v*-projection and cannot fuse with Mode, as it ordinarily would. That explains the impossibility of the nominative. But why must it be oblique, rather than the normal objective case assigned to direct objects? In the Case Binding theory of Bittner (1994), the causee must necessarily be in a marked structural case, such as the oblique, if it appears in a verbal

projection which contains another nominal argument, a so-called "competitor." In the theory of argument structure developed by Hale and Keyser (1993; and see also Hale and Platero 1996 for relevant discussion of Navajo), unergative verbs are assumed always to contain an inherent object. In the case of verbs like those appearing in (17), (18b), and (19), for example, we must hypothesize that the competitor is a nominal element functioning as the root component of the verb stem — cf. *cha* 'crying, weeping', *dlo* 'laughter', *gijił* 'locomotion', assuming that these items do indeed have nominal bases. Generally, however, this proposal is not merely hypothetical, since most unergatives have an explicit object argument (the indefinite and unspecified object', glossed 3i in Young and Morgan 1987:67 et passim), as in (37), for example:

(37) (a) 'ałhosh (Young and Morgan 1987:126)

'-Ø-ł-ghosh

Obj(3i)-M/S-v-V

'He/she/it sleeps/is asleep.'

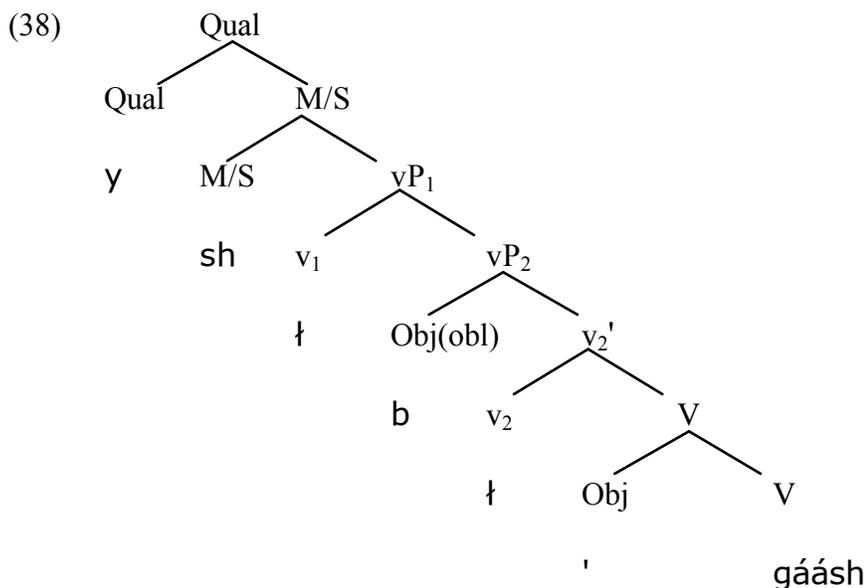
(b) bi'iishháásh (Young and Morgan 1987:215)

b-'-y-sh-Ø-ł-ł-gháásh

Obj(obl)-Obj(3i)-M/S-v-v-V

'I put him/her/it to sleep.'

The underlying configuration of the causative is diagrammed in (38):



The direct object ('-, 3i) functions as a competitor within the Case Binding Theory of structural case, accounting for the oblique case assigned to the causee (see Bittner 1994, and Bittner and Hale 1996, for detailed discussion). The derivation resulting in the fully spelled out surface form proceeds as in the structurally parallel (36).

#### 4. Noun incorporation.

Navajo permits incorporation of bare nominals into postpositions. The process is quite restricted, but it is nonetheless quite transparent morphologically and it conforms to the canonical type, according to which

a nominal complement "incorporates" into a postposition of which it is the complement. Consider the following pair of sentences:

(39) (a) łéécháá'í tó y-iih yilwod.

dog water 3o-into run:PERF

'The dog ran into the water.'

(b) łéécháá'í taah yilwod.

dog water-into run:PERF

'The dog ran into water.'

In the first of these, the endpoint reached by the car is expressed by means of a normal postpositional phrase in which the object is a pronoun (the obviative, 3o, as expected in a clause in which two third person arguments appear). In accordance with the Pronominal Argument Hypothesis, the pronoun is the true object of the postposition, the overt noun phrase *t'* 'water' being an adjunct (to the PP as a whole, or to the clause as a whole, depending on principles of discourse configurationality of the type developed in Willie and Jelinek 2000).

By contrast, in (39b), the object of the postposition is a nominal, in complementary distribution with the pronoun. This is a possibility for a limited range of Navajo postpositions and nominals — a nominal, like a

pronoun, may appear in object position. Nothing in principle prevents this; it is not in contradiction to the Pronominal Argument Hypothesis. Rather, it is a matter of parameters — some languages permit nominals to appear as the complement of a lexical head, and some of the languages permitting this are ones which are predominantly Pronominal Argument Languages. The phenomenon belongs to the category of Noun Incorporation, as studied in depth by Mark Baker in his 1988 book on incorporation generally.

The question I would like to address here is this. Is noun incorporation in fact a special syntactic process, known by the name Head Movement, as opposed to a matter belonging to the morphophonology responsible for converting a concatenation of terminal nodes into a prosodic word? The example just given sheds no light on this, because the apparent incorporation there is nothing other than the product of Merge. The "incorporated" object is simply the complement of the postposition, appearing where expected as a result of Merge. I would like to explore the possibility that this may be true of Noun Incorporation generally; in effect, the possibility that there is no syntactic process of Noun Incorporation.

In Navajo, as noted, apparent Noun Incorporation is limited to the relation between a noun and a postposition. Verbs do not participate in the phenomenon, primarily because of Willie's Generalization, according to

which nominal expressions linked to the arguments of a verb are fundamentally definite in Navajo (unless specifically marked as indefinite or nonspecific). This circumstance conflicts with the generally indefinite interpretation assigned to an incorporated nominal (cf. Hale, Jelinek, and Willie, to appear).

Northern Athabaskan languages do have apparent Noun Incorporation within the verbal projection. However, it is quite obvious that this is merely apparent and that it is not due to a special syntactic process. It is rather simply the result of Merge, since the position of the incorporated nominal is the same as that of the direct object in the underlying representation of verbal projections. If this is so, then it is expected that the surface position of the incorporate will reveal the same deep-surface disparity that the object does. Consider the following example from Slave (Rice 2000:110; original glossing and hyphenation modified in accordance with the practices used in this paper):

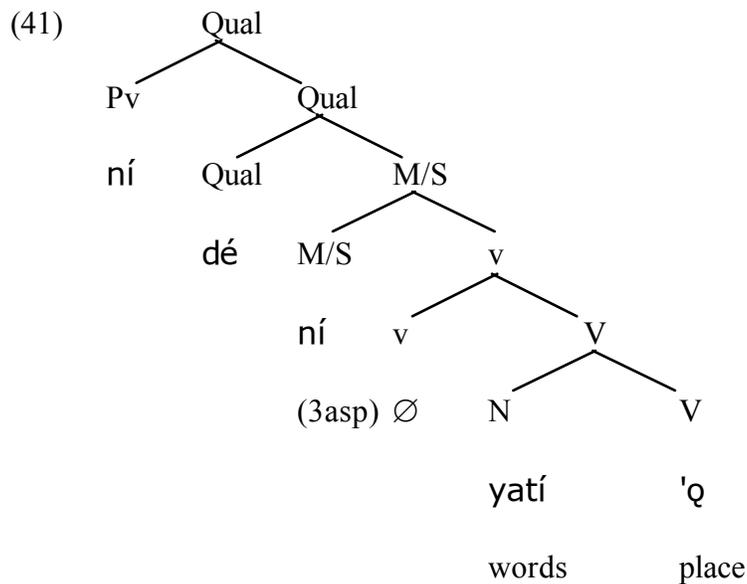
(40) ní-yati-dé-nj-Ø-'q

Pv-word-Qual-M/S-v-V

'She blamed.'

(lit. 'She placed words.')

The incorporate *yati* 'word(s)', like the direct object pronouns in various Navajo examples cited above, is separated from the verb stem by M/S and Qual, as expected if the incorporate is simply the object of the verb and, accordingly, combined with it at Merge. Thus, by hypothesis, the configuration underlying (40) is approximately as follows, with the incorporate the complement of (hence sister to) V:



Assuming, as I do, that the Slave surface form is derived in a manner closely similar to that proposed for Navajo, the overt nuclear elements (Qual and M/S) are spelled out in an extended bipartite skeleton associated with the verb, and the incorporate will appear linearly to the left of Qual, in apparent contradiction to its actual position in the structure. The deep-surface disparity here is precisely that seen in relation to the surface

position of pronominal objects in Navajo. And, as expected, Slave shows the same disparity with pronominal objects, in (42), with a pronominal instead of nominal direct object (original glossing modified):

(42) rá-se-re-yj-h-t'u

Pv-1s-Qual-M/S-v-V

'(S)he punched me.'

Here, the object pronoun *se* '1st singular object' appears in the same relative order position as does the incorporate *yati* 'word(s)' in (40). The Athabaskan languages are especially revealing in this regard, because of the peculiarity that the nuclear functional heads are spelled out in a syllabic skeleton associated with the verb and thus appear to intervene between the object and the verb. This is an appearance, nothing more, and there is no evidence whatsoever that the object has moved, in syntax, to its surface leftward position. Nor, apparently, is there evidence that the position of the incorporate is anything different from that of the object — i.e., the position defined by Merge in the definition of the basic syntactic structure.

The idea that Athabaskan incorporates are in their basic (Merge) positions, and not "incorporated" by means of a syntactic operation (e.g., Head Movement), is implicit in Rice (2000:68-73 et passim), and the idea

is explicated in some detail in Tuttle (1996:113-117) for Salcha Athabaskan.<sup>14</sup> For the Northern Athabaskan languages, Rice has proposed that full DP arguments are moved out of VP, out from their "thematic" positions defined by Merge (Rice 1993). By contrast, bare N arguments (so-called incorporates) are in situ, in their base positions within VP. In the Southern Athabaskan languages of the Pronominal Argument type, full DP arguments construed with the verb are adjuncts to the clause, linked to pronouns in the thematic positions defined at Merge. By hypothesis, the pronouns internal to the verb word are the only true arguments of the verb. Navajo does permit bare nominal arguments of postpositions to appear in their base positions (i.e., as so-called incorporates), as in (39b) and other examples of its kind.

My remarks on incorporation are to be taken as tentative and to apply to nominal direct arguments only, leaving aside for purposes of this discussion other elements which have been described as able to undergo incorporation or Head Movement (e.g., P, V, adverbials). It is because of a peculiarity of the Athabaskan languages that it becomes clear that the position of an object incorporate is possibly none other than the base position of objects in general — i.e., the two share the property that they are separated from the verb in the surface representation. In much of the literature on incorporation, the languages involved belong to a much more common type, in which incorporates are adjacent to the verb stem, while



Hopi). In the (b)-variants, on the other hand, the lexical head of the nominal argument, a bare nominal (incorporate) appears adjacent to the verb within the verb word (adjacent except for the Mohawk incremental element *-a-*, irrelevant to the point at issue here). Any inflectional morphemes appear to the left or to the right of the N+V sequence (e.g., Mohawk factual/aorist *wa'*- and the first person singular subject *ke-* are prefixes to N+V, while the punctual element *-'* is a suffix).

Mohawk and Hopi represent the more usual situation, because in these languages, and most languages which allow so-called Noun Incorporation, the verb and incorporated object are adjacent to one another. This contrasts strongly with the Athabaskan cases above, where functional heads are spelled out on the verb in such a way as to intervene, superficially, between the object and the verb — presenting a deep-surface disparity amounting to a surface violation of the Mirror Principle (Baker 1985). The question is whether N-V adjacency of the Mohawk and Hopi type is brought about by syntactic movement or by Merge alone. The possibility that I would like to put forth is that it is by Merge alone — setting aside, as something apart from this question, those mechanisms (whatever they may be) that are involved in converting a syntactic structure into a prosodic word.

As we have seen in Navajo examples cited, the surface object of a verb may correspond to the true sister of V or to an argument

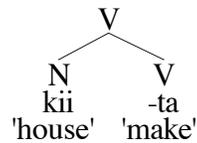
corresponding to an internal specifier. In Hopi verbs of manufacture, for example, a nominal object incorporate appears as the complement of the suffixal verb *-ta*, as in (45a), diagrammed in (45b):

(45) (a) As nu'-nen yanwat kii-ta-ni. (HDP:139)

PRT 1s-if this:way house-TA-FUT

'If it were me, I would build the house this way.'

(b)



By hypothesis, the nominal component is the direct object of the verb, being its complement. Because the nominal is bare, it remains internal to the verbal projection. If the object were a full nominal expression, i.e., a DP, it could not appear as a bare N in this manner, for reasons having to do with case — a determiner associated with an argument is necessarily assigned case, as illustrated in (44) above, where either the entire DP is case-marked, (44a), or the determiner itself is case-marked (*hìita* 'what:ACC' in (44b)) while the head N appears as an incorporate. I leave open for present purposes the issue of whether case-marking is in situ, as in Bittner's Case Binding Theory (Bittner 1994, and Bittner and Hale

1996) or requires Object Shift, i.e., raising of DP, or a part thereof, as in theories of case checking; cf. Chomsky 2001).

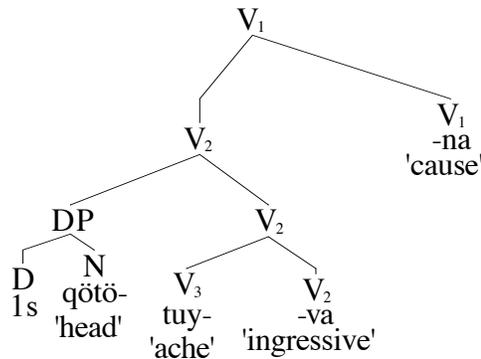
In the following example, the surface object is a specifier, projected by V (the ingressive, or inceptive, *-va*) in response to the needs of the predicative root *tuy-* (< *tuutuya* 'hurt, ache'):

(46) (a) Pas Polii-t nu-y qötö-tuy-va-na-ya. (HDP:702)

very Butterfly.Dancer-PL 1s-ACC head-ache-INGR-NA-PL

'The Butterfly Dancers (really) gave me a headache.'

(b)



The surface object here is a part-whole expression in which the component corresponding to the whole (i.e., possessor) is marked accusative (*nu-y* '1s-ACC), by virtue of its position in relation to the suffixal transitivizing (causative) verb *-na*. An alternative would be to mark the entire nominal expression for accusative case — in that variant, the first person singular

possessor would appear as the 1s possessive prefix *'i-*, giving the fully inflected form *'i-qötö-y* (1s-head-ACC) 'my head.' In the actual form taken from HDP:702, however, the lexical nucleus, *qötö* 'head' appears as a bare nominal incorporate.

Again, I leave open the issue of whether raising is involved in either of these alternatives (raising of the possessor alone, in (46) or raising of the entire nominal expression in the hypothetical alternative). This depends upon whether case assignment is *in situ* or requires raising. In any event, I see no reason to suppose that a syntactic rule of incorporation is responsible for (46). The incorporate is situated in the position to which it would be assigned by Merge — of DP and  $V_2$ , the composite verb *tuy-va* (ache-ingressive/inceptive). Any special morphological processes involved here have to do with PF —i.e., spellout. — not with the computational component responsible for the purely syntactic derivation.

Now consider the Mohawk verb of (47):

(47) (a) Wa'-ka-wír-v'-ne'. (Baker 1996:293)

FACT-NsS-baby-fall-PUNC

'The baby fell.'

(b) T-a'-ka-wís-v'-ne'. (Baker 1996:213)

CIS-FACT-glass-fall-PUNC

'The glass fell.'

By hypothesis, the subject of an unaccusative originates in the specifier position of the verbal projection. In an incorporating polysynthetic language like Mohawk, it is possible for a nominal subject to appear internal to the verb word, as it does in the examples of (47). Applied to the Pronominal Argument Hypothesis, the logic is that a direct argument, whether pronominal (the usual case) or a bare nominal, is licenced in situ, hence no raising (for case reasons or to satisfy the EPP) is required, or even possible.

In a fully configurational language, like Hopi and most of its Northern Uto-Aztecan relatives, the subject of an unaccusative must situate itself in a manner which will permit it, or some portion of it, to be case marked (whether this of for reasons of case alone or to satisfy the EPP, or both). Thus an exact replica of the Mohawk situation represented by (47) is impossible in a fully configurational language. Consider in this light, the following Hopi examples:

- (48) (a) ... kuktönsi-ʼat tuy-va. (HDP:702)  
 ... heel-3s ache-ingressive  
 '... his heel started hurting.'

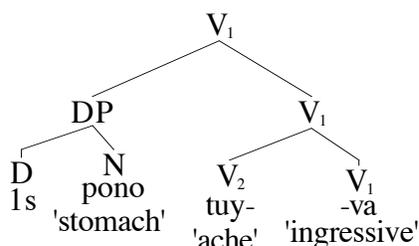
(b) nu' a'ni pono-tuy-va. (HDP:702)

I very stomach-ache-ingressive

'I got a painful stomach ache.'

In (48a) the subject (the third singular possessive form of the noun *kuktönsi* 'heel') is in the nominative case, as expected. No part of the subject nominal is "incorporated." In (48b), by contrast, the possessor (*nu'* 'I') appears in the nominative, while the lexical head (*pono* 'stomach') appears as an incorporate. An alternative in which the lexical head appeared incorporated, without a case marked associate, is impossible in Hopi, so far as I know. If the case marked associate is satisfying the EPP, and if the EPP requires raising, then *nu'* 'I' is raised in (48b). I do not come down on one side or the other in this regard, letting the facts stand without further comment. The essential point I wish to make, however, is that, again, I see no reason to assume that the appearance of incorporation here is due to a syntactic rule of Noun Incorporation. The adjacency of *pono* 'stomach' and *tuy-va* (ache-ingressive) is, I contend, due to Merge alone — Merge of the DP in specifier position of  $V_1$ , as shown in (49):

(49)



I would like now to return very briefly to Navajo and to remark on how the construction termed "inchoative" (Young and Morgan 1987:187-188) fits into the picture. Consider sentence (4), repeated here as (50):

(50) 'Awéé' bi-'nii-sh-hóósh.

baby Obj(obl)-INCH-M/S(sh)-v(¬)-V(gh<sup>oo</sup>sh)

baby 3-INCH-1s-tickle

'I start to tickle the baby.'

The mark of the inchoative is the complex prefix *'nii-* consisting of the 3i indefinite object prefix *'-* followed by the qualifiers *n-* and *-ii-*. Since the object position is filled, the object of the basic verb (cf. *yishhoz* 'I tickle him/her') must be assigned oblique case (this being traditionally regarded as a null postposition, as mentioned earlier). The overt *bi-* in (50), in the presence of a local person subject (first singular, in this case), is explained in this way (a third person direct argument would otherwise be itself null in the presence of a local subject). In the case of an unergative verb, the

inherent indefinite object would appear as such, overtly, since the 3i object is ' - in both direct and oblique object forms — as in *'íniishhâáh* 'I start to snore,' in which both 3i object forms appear.

Of special interest here is the behavior of unaccusatives. Since there is no inherent object, the sole argument being the inner specifier (ordinarily the subject, as in (51a) below), the question is what happens to this sole argument. Does it appear as a subject or as an oblique object? The answer to this question is evident in (51b):

(51) (a) *yishdlóóh* (Young and Morgan 1987:781)

M/S(sh)-v(d)-V(dlóóh)

'I get very cold.'

(b) *shi'niidlóóh* (cf. Young and Morgan 1987:217)

Obj(obl)-Obj(')-M/S(?)-v(d)-V(dlóóh)

'I start to get very cold.'

The single argument of the unaccusative shows up as an oblique object, preceding the 3i object brought in by the inchoative morphology.

The question now is, what does the question mark in M/S stand for? Is that the trace of movement, is this "eccentric agreement" (as suggested in Hale, Munro, and Platero 2000), or is it an expletive subject?

By hypothesis, it cannot be a trace, since the trace would c-command its antecedent (subject being higher than the object in underlying structure). And it cannot be eccentric agreement, because there is no "agreement," in any usual sense, in a pronominal argument language. But, if we are correct that the future and progressive forms reveal an overt exponent of third person in M/S (i.e., the rounding feature, giving rounded intermediate [w] from the gamma glide of those forms, accounting ultimately for the long rounded vowel [oo] in them), then there must be a third person element, presumably expletive, accounting for the rounded long vowel [óo] (tone irrelevant) in the future forms of such inchoatives — cf. *shidí'nóodlóót* 'I will start to get very cold.'

## 5. Concluding remarks.

It has taken me sixteen years, almost, to fully appreciate the import of the insights Eloise Jelinek brought out in her 1984 paper in *Natural Language and Linguistic Theory*. For me personally, the significance of her Pronominal Argument Hypothesis has been an entirely new way of looking at complex verb words of the sort found in polysynthetic languages of the Navajo type. As late as Hale 2000, I steadfastly clung to the idea that such words were the result of Head Movement. However, once I took seriously the idea that the pronominal elements in the Navajo

verb word *were in fact the arguments of the verb*, with all the implications of this idea, it became clear to me that another view of the Navajo verb word was necessary. This in turn cast doubt upon certain uses of Head Movement in fully configurational languages as well, particularly Noun Incorporation, permitting a view of the matter according to which certain adjacencies are due to Merge alone. This forces a distinction between syntactic movement and spellout, whose mechanisms — only partially understood at this point, by me at least — are responsible for the "transformation" of a syntactic structure into a "prosodic word."<sup>15</sup>

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<sup>1</sup>The morphological analysis of the verb is simplified here in that it omits reference to the imperfective aspect and the phonologically deleted "classifier" (i.e., voice marker) ordinarily appearing as  $\neg$  in this verb. Similar simplifications will be made in other examples, except where details are especially germane.

<sup>2</sup>It is possible that the traditional Athabaskan "classifier" is an overt reflex of the so-called "small v" introduced, for example, in the work of Chomsky (1995) and Kratzer (1996). In Hale and Platero (1996) the  $\neg$ -classifier was taken to be a phonologically defective "light verb" V, undistinguished notationally from the lexical category verb (V). This may be a mistake, as the element in question is in all probability to be classed with the functional categories rather than with the full lexical category V. This will become evident for Navajo, at least, as we proceed.

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<sup>3</sup>There also exist pronominals that receive an indefinite interpretation. The so-called fourth person (Young and Morgan's 3a, or alternative third person) is a specifically human pronominal which is often, but not always, indefinite; and the specifically indefinite third person (3i) is regularly indefinite.

<sup>4</sup>I am assuming that the structure projected by the lexical category V is right-headed, while the structures projected by the higher nuclear elements (v, M, etc) is left-headed. The significance of this assumption will become clear presently.

<sup>5</sup>The relative order positions I-III belong to the so-called "disjunct" (essentially pro-clitic) sector of the verb, while the phonologically more tightly organized prefix positions IV-IX are said to belong to the "conjunct sector." It will be clear presently that this division is a significant one in the organization of the Athabaskan verb, as has been recognized at least since the work of Fang-kuei Li (1933:459-60), who used the term "primary prefixes" for the conjunct sector and "secondary prefixes" for the disjunct sector, noting that the former were subject to much greater "weakening" and "coalescence" than the latter. With a few exceptions, a (monomorphemic) conjunct prefix consists of a coronal consonant ([d, j, s, z, sh, zh, n, ɳ, l]), an oral glide ([y, w (rounded velar), gh = γ (unrounded velar)], or laryngeal ([ʔ, 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

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cases, where they are realized as onsets, conjunct prefixes are supported by the Navajo default vowel [i], regarded as either epenthetic or basic, depending on the particular analysis — we 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 subject), and the optative appears to be realized as the rounded vowel, written [o] (long or short, high or low tone, depending on various factors (cf. Kari, 1976)). 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 (see Hargus and Tuttle 1997 for discussion and references). The quality of this default vowel in Navajo is [i] when unassimilated. The disjunct sector, by contrast, 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, but rather (i) as the so-called d-Effect, or (ii) as an onset to one of the rare V-initial verb stems.

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<sup>6</sup> I will refer to the verbal extended projection embodied in (10) as the "verb word," though Sharon Hargus and Siri Tuttle (p.c.) correctly point out that a more appropriate term might be "verbal phonological phrase" or "verbal sentence" (Tuttle's "greater verb," 1996) because many elements in position I (Preverb) are in fact separate words phonologically. The term "verb word" must, therefore, be understood in this light. The term "verb" itself will sometimes refer to the entire "verb word," sometimes to the stem alone (V in tree diagrams), and sometimes to the projection including the voice element together with its verbal complement (v+V, v+VP).

<sup>7</sup>The idiom shows "velarization of the onset" of the verb stem (giving -*chxçh*, beside unmarked -*chçh*). In this instance, velarization reflects the fact that the stem is being used in an extended sense, rather than in the "ordinary" meaning. This is one of several uses of velarization of the onset in Navajo.

<sup>8</sup>The root element in (21) is listed as *m<sub>i</sub>jz* in Young, Morgan, and Midgette 1992:396, and it is glossed there as "move by rolling" (of a globular or cylindrical entity). In general, it is assumed in the framework adopted here (cf. Hale and Keyser 1998; Platero and Hale 1996; Hale 2000) that the root component of labile (alternating) verbs has the lexical property that it forces the verbal head (V) to project a specifier, this being the fundamental characteristic of root elements which are inherently attributive and must, by virtue of that characteristic, appear in a lexical

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syntactic projection in which it can be attributed (or "predicated") of a local argument — this latter is supplied by the specifier of V, as in the configuration embodied in (22).

<sup>9</sup>In Young, Morgan, and Midgette 1992:70, *cha* is entered as a "verb root used nominally." I assume rather that it is fundamentally nominal, an entity expression, which by virtue of this very characteristic does not force the verbal component of V to project a specifier (cf. Hale and Platero 1996). Its subject is external to the V-projection, appearing instead as the specifier of the voice light verb *v*. On this view of the matter, the verbal character of *cha* is secondary, deriving from the verbal component of V when it appears in the constructon [<sub>v</sub>R V], as in (23).

<sup>10</sup>The verbal component (V) of the {<sub>v</sub>R V} composite is often phonologically null. It is deleted after "strong roots (those ending in an oral C). It is retained after "weak roots (those ending in a vowel or in a laryngeal C, the latter deleting instead). Thus, for example, the V component of the stem in (20) is itself is phonologically null, although the shape of the root reflects temporal, aspectual and mood (TAM) features associated with V, the continuous imperfective, in this case, with long low toned vowel nucleus and devoiced final fricative. In the future and progressive, V is said to be uniformly a suffix of the form -ɾ. This normally deletes after strong roots, but it has the affect of devoicing an underlying root-final voiced fricative. After weak roots it is retained as -ɾ.

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In this regard, d-final roots are "weak", thus the future and progressive stem of (18) is *wo*- (with deletion of /d/, cf. imperfective *gheed* [yeed] and perfective *ghod*). The laryngeal-final root in *leeh* 'become' combines with the future and progressive verbal suffix - to give *lee*-, as expected. This Navajo V is more perspicuous than others — typically, the presence of a particular V is evident not by virtue of the presence of an actual segment but by its effect (or lack thereof) on the final consonant, vowel quality/quantity and tonal prosody of R, these effects being associated with and dependent upon the TAM features of V. See Stanley 1969 and Hardy 1979 for detailed studies of the Navajo verb stem; see Young and Morgan 1987:167-199 for detailed discussion of the aspectual categories and associated interdependencies within the Navajo verb; and for Athabaskan generally, see Rice 2000:283-303 for ample discussion of suffixes, which she regards as derivational, rather than inflectional, in close agreement with our claim that they are the lexical V-heads of the verbal stem (R+V), with R the complement of V.

<sup>11</sup>I am sidelining here the question of whether movement might actually be involved in the syntactic derivation of the intransitive alternants of labile verbs (i.e., in the derivation of so-called "inchoative" or "unaccusative" verbs in sentential syntax). The question is this: must the pronominal argument (Pronoun) in the intransitive (22) raise to the specifier position projected by the locally c-commanding v? I do not know the answer to this

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question, though raising is generally assumed for so-called "configurational" languages. In any event, the pronominal subject of the intransitive must be close enough to Mode to enter into the portmanteau relation with it (giving the composite M/S); if the pronominal subject were raised to [Spec,v], the required portmanteau formation would be a perfectly local operation, since Mode would then locally c-command and govern the pronoun. All of this depends upon how the details of the relevant morphophonological processes work out in this framework, an article of faith on my part at this point, unfortunately. Portmanteau formation seems to be obligatory (under the relevant condition, i.e., that Mode locally c-command and govern the pronoun), the evidence being that overt morphological elements corresponding to the subject are "carried into" the bipartite skeleton in conjunction with the nuclear element Mode — i.e., it is M/S (Mode/Subj), not just Mode alone, which is spelled out in the skeleton. On the other hand, the structure of the causative shows that the external argument (subject, surface causee object) in the embedded clause is a specifier, and not inherently a part of M/S.

<sup>12</sup>A possible solution to the problem of "wording up" is hinted at in Hale (2001). The idea is to regard the bipartite skeleton as a minimum that must be satisfied. But it is a minimum which can be augmented with additional CV(C) syllables added to the left, to be filled in by left over material (nuclear or nonnuclear, working right-to left. Minor adjustments would

have to be made to satisfy special phonological principles of Navajo, above and beyond simple epenthesis of the neutral vowel /i/. The appearance of a coronal consonant often triggers special treatment of certain immediately preceding prefixes (e.g., the optional but preferred contraction noted in (31a), and the fricative alternant *zh-* of the deictic subject prefix *j-*, functioning as the coda in (9-10)). The main problem would be to determine when to stop building onto the skeleton, in order to permit some preverbs, for example, to appear as separate words (e.g., the preverb *ka* 'sick' in *ka naashj* 'I am sick' (lit. 'I walk about sick'). In this construction, and in many comparable cases, the preverb can be separated from the rest of the verb by the polar interrogative enclitic *-jsh*, as in *ka-jsh naninj* 'are you sick?' (Paul Platero p.c.)). This solution is appealing as well inasmuch as it permits statement the proper allomorphy of elements, such as the special rounded alternant *w* in the third person of gamma-Perfective and Progressive M/S; the rounded alternant appears in the very specific context CiGi, G the velar glide of the gamma-Perfective/Progressive (rounded to [w] in the third person) and /i/ the neutral vowel, rounded to [o] by assimilation to the rounded glide, which drops intervocally (cf. Hale 2001)).

<sup>13</sup>Jonathan Bobaljik (p.c.) notes correctly that the preverb and oblique object appear in the wrong order here. Since the preverb modifies the event, the oblique object (i.e., "causee," or underlying subject) should not

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be in its scope. This is correct. However, according to Young and Morgan (1987:187), the surface order observed in this form, and others like it, is secondary. Ordinarily, an oblique object appears in the leftmost preverb position (their Position Ia), *except* when a preverb of the class to which *ha-*, *na-*, etc. belong (their Position Ib) also appears, in which case "the environment thus produced causes the pronoun prefix to shift to Position IV" (the standard direct object position). In effect, whenever an oblique object competes for leftmost position with a preverb, it is the preverb that actually appears leftmost. In the absence of competition, the oblique appears in the leftmost (highest) prefixal position — thus preceding the Iterative, for example — as in *binj'iishdl<sup>aah</sup>* 'I repeatedly feed him liquid, cause him to drink' (Young and Morgan 1987D:215). This principle accounts for the observed surface ordering of the relevant elements in this case, but the principle itself is in need of scrutiny and further research, to say the very least. Bobaljik suggests that the notion "plane" might be exploited here, further subdividing the nonnuclear plane to distinguish adjuncts from arguments. The latter might "spell out" before the former, just as nuclear elements spell out before nonnuclear elements. Heretofore, however, I have regarded the planes as expositional devices only. If this is correct, then direct appeal to the distinction between nuclear, argumental, and adjunct elements would be the appropriate factor. The fact remains, nonetheless, that oblique objects do indeed assume the highest prefixal

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position when not in competition with a preverb. This itself is not a matter entirely devoid of mystery, however understandable it might be in this particular case.

<sup>14</sup>It should be pointed out that incorporates can, in some Athabaskan languages, precede or intervene between the quantifier elements (i.e., the adjunct elements iterative, distributive plural), casting some doubt upon the claim that they are in the same position as pronominal objects (see, e.g., Rice 2000:80-81). This requires more study, but it indicates, perhaps, that these particular adjunct elements, as opposed to preverbs (which always precede incorporates), can, in the relevant languages, be adjoined at VP as well as the higher positions (maximal projection of v or Qual) proposed for Navajo. The problem of the predicted strict identity of the position of bare N incorporates and pronominal objects remains, however. But since quantifiers (qua adjuncts attached to VP) and nominal incorporates (qua complements) are not distinctively distant from V (see Hale 2001), it is possible that the two categories might vary in their mutual scopal relations, linearizing accordingly (cf. Rice *ibid.* et passim). Pronouns, by nature, might not vary in this manner.

<sup>15</sup>I cannot leave this topic without one further remark. In earlier work (e.g., Hale 2000a) I suggested that each "phonologically dependent" overt item (prefix or suffix; prebound, postbound) carried with it a phonological skeleton which is "completed" by insertion of the phonological matrix of

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its complement. Thus, for example, the verbal suffix *-en*, in English *redde**n*, has the form "[ ]en," in which the brackets stand for the "empty" portion of the skeleton. Insertion of the phonological matrix [red] into this skeleton accounted for the word [redde*n*]. In the present context, this insertion process corresponds to the processes termed "spellout" in this paper (and elsewhere in relevant general linguistic literature).