

NAVAJO REFLECTIONS OF A GENERAL THEORY  
OF LEXICAL ARGUMENT STRUCTURE

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The argument structures of the verbs of natural languages share a surprising property—they are extremely limited in their variety and complexity, and they conform to a highly restricted typology. Few verbs have more than three arguments, and the range of generally recognized thematic (or semantic) roles associated with verbal arguments is rather small, numbering half a dozen or so. This impoverishment is in striking contrast with the syntactic structures of sentences, whose complexity is essentially without limit. It is a proper purpose of linguistic research to explain this fact, assuming that it is indeed a true fact of natural languages. A number of theories of lexical argument structure seek to account for this in terms, not of general principles and laws, but rather of the fundamental irreducible properties of the basic elements of the lexicon—the *root* elements, i.e., the lexical *nuclei*, or *heads* of constructions. A theory of this sort might be termed “essentialist”, and it succeeds or fails to the extent that it demonstrates that the relevant facts follow from essential features of the basic elements. In one such hypothesis, that assumed here, the basic root elements are defined in relation to just *two* elementary properties. The properties are the undeniable and completely standard linguistic relations *complement* and *predicate*. Thus: (i) a root may belong to the class of elements which necessarily takes a complement but does not form a (lexical) predicate; or (ii) a root may belong to the class which takes a complement and, with it, forms a predicate; (iii) a root may be a predicate but fail to take a complement; and finally, (iv) a root may belong to the class of elements which is not a predicate and does not take a complement. This gives an abstract classification of the lexico-syntactic categories in a general theory of argument structure. Using *x* to symbolize a lexical head, *y* a complement, and *z* a subject (required to complete a predication), the lexical structures projected by the elementary root categories are as in (1) below:

- (1) Lexical Argument Structure Configurations  
[head (*x*), head-complement relation (*x*-*y*), and subject-predicate relation (*z*-*x*):



Concretely, of course, these categories are realized variously in the morphosyntactic systems (parts of speech) of actual languages. In English, the prototypical (but not invariant) realizations are as follows: the (1a) is realized by the category V(verb); the second class (1b) is typically P(preposition); class (1c) is typically A(adjective); and class (1d) is N(oun):

- (2) Primary English morphosyntactic realizations of essential structures:

- (a) V                      (b) P                      (c) A                      (d) N

Navajo agrees in the case of the first and last but differs in the case of the other two. Class (1b) is either P (postposition, spatial enclitic) or N (relational noun, with or without a spatial enclitic), and class (1c) is typically a verb, V.

(3) Primary Navajo morphosyntactic realizations of essential structures:

- (a) V                      (b) P, N                      (c) V                      (d) N

It is at the abstract level that the theory of argument structure must ultimately be understood, but it is at the levels of morphology and syntax that the *evidence* for a theory of argument structure must be sought, willy-nilly, since actual linguistic constructions are available to us most directly in language-specific morphophonological realizations. The rich structure of the Navajo verb word presents some challenges for a theory based on the essential elements and the fundamental properties just outlined. The extent to which it also presents empirical support for such a theory remains to be seen, though initial indications are positive. Thus, for example, the “transitivity alternation” exemplified by verbs like  $-(\neg)be'ezh$  ‘boil’, and its absence in verbs like  $-cha$  ‘cry’, are the Navajo reflections of phenomena which are now well known in the linguistic literature, and they appear to be entirely consistent with the essentialist theory of lexical argument structure, as we will attempt to show (see Rice, 1991, for a detailed discussion of these verb types in Northern Athabaskan languages; and see Kibrik, 1993, for many relevant observations on Athabaskan transitivity in general). On the other hand, Navajo presents a serious challenge to the view that the verbal lexicon is limited to argument structures which can be defined in terms of just the structural classes (1a-d). In part, it is a matter of determining what is “in the lexicon” and what is “in the (sentential) syntax”. Once this determination is made, it is an empirical question whether the essentialist theory misses fundamental features of Navajo, or any other actual language.

Our purpose here is merely to begin the process of confronting an essentialist theory of lexical argument structure with aspects of Navajo verbal grammar, limiting our discussion now to the simple transitivity alternation just mentioned. Consider the following sentence pairs:

- (4) (a) Tóshjeeh        si-ts'il.  
       barrel            SPF:3-shatter:PERF  
       ‘The barrel shattered, broke to pieces.’  
       (Cf. Y&M 80.804: Tóshjeeh tó bii' hadeezbingo tsinaab<sup>2</sup>a<sup>2</sup>as  
       bikáá' d<sup>2</sup>é<sup>2</sup>é' hadah 'í-mááz nít'ée' sits'il.)
- (b) Òeets'aa'        sé- $\neg$ -ts'il.  
       dish        3:SPF:1s- $\neg$ -shatter:PERF  
       ‘I shattered the dish.’  
       (Cf. Y&M 80.798: Shimá sání  $\neg$ eets'aa' bits'<sup>2</sup>á<sup>2</sup>á' sé-ts'ilgo 'ayóo  
       bá hóoch<sup>2</sup>i<sup>2</sup>id.)

- (5) (a) Tin yí-yʔʔí.  
ice YPF:3-melt:PERF (< -ghʔʔí)  
'The ice melted.'  
(Cf. Y&M 80.794: Tin honibʔaʔahgi niníʔáʔá nít'ée' yíyʔʔí lá.)
- (b) Yas yí-ṽ-hʔʔí. (< -ghʔʔí)  
snow 3:YPF:1s-ṽ-melt:PERF  
'I melted the snow.'  
(Cf. Y&M 80.782: T-ṽ'óo'di didí-jée'go yas yishhʔʔihgo baa naashá,  
tó hazʔʔí'go bee ta'deesgis biniiyé.)
- (6) (a) Kʔo' n-eez-tsiz.  
fire n-SPF:3-extinguish:PERF  
'The fire went out.'  
(Cf. Y&M 80.664: Kʔo' k'adʔe nitséesgo chizh -a' dináádeesh'nil.)
- (b) Kʔo' n-é-ṽ-tsiz.  
fire 3:n-SPF:1s-ṽ-extinguish:PERF  
'I put the fire out.'  
(Cf. Y&M 80.657: Na'nishkaadgo didí-jée' dóo gohwééh  
shé-béézh. 'A-ṽtso 'íyʔáʔa'go kʔo' né-ṽtsiz ... .)
- (7) (a) T-ṽ'óo-k'í-ní-dláád.  
rope kí-NPF:3-break:PERF  
'The rope broke.'  
(Cf. Y&M 80.502: Dóola séloh nít'ée' shit-ṽ'óól k'ínídláád.)
- (b) T-ṽ'óo-k'í-i-ní-ṽ-dláád.  
rope k'í-3-NPF:3-ṽ-break:PERF  
'He broke the rope.'  
(Cf. Y&M 80.510: Sitsilí ... bikét-ṽ'óól k'ííní-dláád.)

These pairs represent what we will refer to as the *simple* transitivity alternation of Navajo. Its principal morphological reflection is the presence of the classifier -ṽ- in the transitive member of the pair, the intransitive member being associated with the so-called zero classifier -Ø-, omitted from the glosses above. We take this morphological reflection as being nothing more than that, a simple marking of the transitivity alternation. In particular, there is no "meaning" attached to the -ṽ- classifier, for example. We contrast this with what can be called complex transitivization, such as the causative, which implicates morphological material—prefixal—additional which is in addition to the -ṽ- classifier. Examples of the causative are exemplified by the following pairs:

- (8) (a) 'Awéé' naa-ghá.  
baby na-IMPF:3-walk:sg:CI  
'The baby is walking around.'

- (b) 'Awéé' na-b-ii-sh-ṅ-á.  
 baby na-3-y-IMPF:1s-ṅ-walk:sg:CI  
 'I am walking the baby around (i.e., making it walk).'  
 (Cf. Y&M 80.525: 'At'ééd 'awéé' néidii-tʔʔigo nahgóó nayii-á.)
- (9) (a) 'Awéé' d-ee-za'.  
 baby d-SPF:3-belch:PERF  
 'The baby burped.'
- (b) 'Awéé' bi-di-y-é-sa'. (< ... -ṅ-za')  
 baby 3-d-y-SPF:1s-ṅ-belch:PERF  
 'I burped the baby.'  
 (Cf. Y&M 80.184: 'Awéé' binághahdʔéʔé' náníshkadgo bidiyésa'.)
- (10) (a) 'Awéé' yi-dloh.  
 baby PROG:3-d:laugh:PROG  
 'The baby is laughing.'
- (b) 'Awéé' bi-y-eesh-dloh.  
 baby 3-y-PROG:1s-ṅ-d:laugh:PROG  
 'I am making the baby laugh.'  
 (Cf. Y&M 80.259: 'Awéé' biyeeshdlohgo shá 'abi'doolkid.)

These causative formations share two features which distinguishes them from the simple transitives of (4-7), in addition to the ṅ-classifier shared by both simple and complex transitives. The two distinguishing features of the causative are the appearance of a position VI prefix -y- and a set of object markers representing the "causee" (logical subject of the basic verb); these latter precede (not necessarily immediately) the "causative" prefix and they differ from ordinary position IV object markers in that the third person is overt (*bi-*) in the presence of a first or second person subject, as if attached to an incorporated postposition. These morphological details are utterly lacking in the simple transitives of (4-7).

Returning to the simple transitivity alternation, it is a fact that the set of Navajo verbs participating in it is rather large. The following list is a sample, in addition to the verbs illustrated in the sentences of (4-7):

- (11) '-(ṅ-)'eeṅ 'float away' [177-83]; *ii-(ṅ-)gááh* 'whiten' [195]; *(ṅ-)gan* 'dry up' [199]; '-(ṅ-)geeh' 'fall away' [as person, animal; 214,6]; *ii-(ṅ-)kúish* 'become spotted, put spots on' [329]; *ii-(ṅ-)k'is* 'crack' [351]; *(ṅ-)lʔaʔah* 'increase' [in number or quantity; 369]; '-(ṅ-)lʔi' 'flow away' [376,7]; *di-(ṅ-)lid* 'be burning' [371]; '-(ṅ-)máás' 'roll away' [397,8]; *ii-(ṅ-)táás* 'bend over, double' [493]; *(ṅ-)t'ees* 'cook, roast, etc.' [536]; '-(ṅ-)t'ééh' 'extend away' [line, fence; 546,7]; *ii-(ṅ-)t-úish* 'darken, turn brown, [571]; *(ṅ-)t-ʔis* 'harden' [as mud, dough; 580]; *ii-(ṅ-)tsóóh* 'yellow' [614]; *di-(ṅ-)ts'ʔoʔod* 'stretch' [643,4]; *di-(ṅ-)zháásh* 'begin to wear away, down' [767];

( $\neg$ -)zh<sup>2</sup>o<sup>2</sup>oh ‘become gentle, make gentle’ [796] (extracted from Young, Morgan, and Midgette 1992; page numbers cited in brackets, see that source for details).

However, many verbs do *not* enter participate in this alternation. Setting aside verbs which are basically transitive, intransitive verbs lacking a simple transitive counterpart are probably as numerous as those that do. The intransitive verbs upon which the causatives of (8-10) are based represent this latter type. Some additional examples are cited in (12):

(12) *na-bé* ‘swim, bathe’ [69]; *-cha* ‘cry’ [70]; *di-lish* ‘spurt urine’ [as of dog; 375]; *na-né* ‘play’ [423] *ho-taa\(\neg\) ‘sing’ [490]; *di-zheeh* ‘spit’ [771]; *’-zhít\(\neg\) ‘gasp, inhale sharply’ [773]; *di-yih* ‘pant, puff’ [702]; *’-yóó\(\neg\) ‘inhale’ [723].***

The verbs of (12) are selected from among non-alternating intransitives having the zero-classifier. Many intransitive verbs which carry overt classifiers,  $\neg$ - $\neg$  as well as  $\neg$ - $\neg$  and  $\neg$ - $\neg$ . It is not known whether this, in and of itself, inhibits those verbs from participating in the transitivity alternation. The use of a non-zero classifier is not, in principle, a barrier to transitivity, since the causative, for example, can be built upon a verb theme, even a basically transitive one, which contain an inherent classifier—e.g.: *OBJ*-’-y- $\neg$ -*dl<sup>2</sup>á* ‘make OBJ drink something’ [154] (the underlying verb here takes the d-classifier, evident in the perfective, for example: *yishdl<sup>2</sup>á<sup>2</sup>á*, *yoodl<sup>2</sup>á<sup>2</sup>á*, etc., not *\*yídl<sup>2</sup>á<sup>2</sup>á*, *\*yiyídl<sup>2</sup>á<sup>2</sup>á*); *ha-OBJ*-y- $\neg$ -*yeed* ‘run OBJ up out’ [657], based on the l-classifier theme *ha-l-yeed* [653]; and *OBJ*-’-y- $\neg$ -*haazh* ‘make OBJ sleep’ [Y&M 87:215], based on the  $\neg$ -classifier theme *’-ii- $\neg$ -*haazh* ‘go to sleep’.*

The principal point here is that there are verbs which participate in the simple transitivity alternation and there are verbs which do not. The verb of (9) above belongs to the class whose members cannot alternate, the class represented by the verbs in (12). Thus, while it is possible to form a causative of that verb, as seen in (9b), the *simple* transitive is not possible:

(13) *\*’Awéé’ d-é-sa’*. (< ...  $\neg$ -za’)  
 baby d-SPF:1s- $\neg$ -belch  
 ‘I burped the baby.’

There is no *a priori* reason why the verb form appearing here should not be possible, since the stem *-za’* is perfectly possible with the  $\neg$ -classifier, as the causative attests. It is nevertheless a fact that this verb cannot form a simple transitive, of the type represented in (4-7). The same can be said of the verbs of (12) and the general class of verbs they represent. Why do they resist simple transitivity? Why is there this asymmetry among the verbs of Navajo?

This asymmetry is not accidental. Even in the absence of a theory, the systematic nature of this asymmetry is evident immediately when the Navajo facts are compared with the corresponding phenomenon on other languages. Consider, for example, the following samples from English, an Indo-European language, and Miskitu, a Misumalpan languages of eastern Nicaragua and Honduras (with Navajo counterparts also supplied):

(14) Verbs which alternate:

<u>English</u>	<u>Miskitu</u>		<u>Navajo</u>	
	<i>intrans</i>	<i>trans</i>	<i>intrans</i>	<i>trans</i>
boil	pya-w-,	pya-k-	-béézh,	-ᵐ-béézh
break	kri-w-,	kri-k-	ii-dlaad,	ii-ᵐ-dlaad
shatter	bai-w-,	bai-k-	-ii-ts'iᵐ,	-ii-ᵐ-ts'iᵐ
dry (up)	lâ-w-,	lâ-k-	-gan,	-ᵐ-gan
fill	bangh-w-,	bangh-k-	ha-di-bin,	ha-di-ᵐ-bin
float	â-w-,	â-k-	di-'eeᵐ,	di-ᵐ-'eeᵐ
melt	slil-w-,	slil-k-	-gh²ʔih,	-ᵐ-gh²ʔih

(15) Verbs which do not alternate:

<u>English</u>	<u>Miskitu</u>	<u>Navajo</u>
cry	in-	-cha
cough	kuhb-	di-l-kos
laugh	kik-	ghi-dloh
play	pul-	na-né
shout	win-	di-l-ghosh
sing	aiwan-	ho-taaᵐ
sleep	yap-	'-ᵐ-ghosh
snore	krat-w-	'-ᵐ-gh²á²á'

In an important sense, the alternating and non-alternating classes in these three languages contain the *same verbs*. Morphological details differ, of course, quite apart from the obvious fact that the verbs “sound” different in the three languages. English lacks any special morphology associated with transitivity, while both Miskitu and Navajo overtly distinguish the transitive members of alternating pairs—by means of the ᵐ-classifier in Navajo and by means of the k-increment in Miskitu. In addition, Miskitu marks the intransitive alternants with the w-increment, while Navajo uses the “zero” classifier for the intransitive alternants. These details aside, the verb classes distinguished by these three languages are *identical*, for all intents and purposes. It is virtually impossible for this to be an accident. Something fundamental underlies this coincidence in lexical behavior. This is the question then. What is behind the asymmetry of the transitivity alternation. What factor is it that *permits* the alternation in the case of the verbs of (4-7), (11), and (14), and what factor *blocks* it in the case of the verbs of (8-10), (12), and (15)?

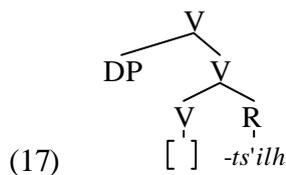
We believe that the answer lies in the basic argument structure configurations of (1). The difference between the two classes of verbs depends on the basic configurations they realize—alternating verbs realize one structure, non-alternating verbs realize another.

We know that alternating verbs share the feature that the subject of the intransitive alternant appears as the object of the transitive. Thus, in (16), the subject of the (a)-sentence, *-eets'aa* ‘‘dish’’, functions as object in the (b)-sentence:

- (16) (a) Òeets'aa' si-ts'il.  
 dish SPF:3-shatter:PERF  
 'The dish shattered, broke to pieces.'
- (b) Òeets'aa' sé-¬-ts'il.  
 dish 3:SPF:1s-¬-shatter:PERF  
 'I shattered the dish.'

This argument, sometimes called the “theme”—in the terminology of semantic, or thematic, relations—is constant in the alternation; it is present in both alternants. This suggests that it is *internal* to the lexical structure. And this, if true, leads us to assume that this verb, and other alternating verbs like it, must realize one of the lexical structures which contains a predicate, and therefore a *subject*, internal to the lexical structure itself—so these verbs must realize either (1b) or (1c).

This might be the crucial difference. The non-alternating verbs have only an *external* subject, one appearing in sentential syntax but not in the lexical argument structure itself. These verbs, sometimes called “unergatives” cannot participate in the transitivity alternation, because, lacking an internal argument (i.e., an internal subject), they provide no source for an object argument in the hypothetical transitive alternant. We will pursue this idea, considering the alternating verbs first. We do not know at this point whether a given alternating verb is a realization of class (1b) or (1c); by hypothesis, we know that it must be one or the other, because these are the only structures which are predicates and project a lexical structure which contains a subject (necessarily, since the predication must be completed). For purposes of the present discussion, we will represent the basic structure of an alternating verb as if it were a realization of (1c), with the root of the verb, symbolized R below, appearing in the *x*-position, as shown in (17) below, the basic structure tentatively assumed for the verb of (4), -ts'i¬ ‘shatter’:

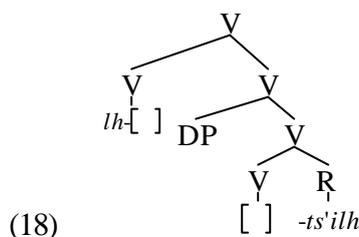


The root R of (17) is a member of the class of basic elements whose essential property is that they are predicates—specifically, *simple* predicates—and do not take complements. We assume members of this class of elements get their subjects by joining with another basic element. This is the function of V in (17)—it “hosts” both the root R itself and, in addition, the subject which is required by R by virtue of its essential properties. The subject is symbolized DP in (17), since it will appear in sentential syntax as a full argument. In the surface form of this verb, the phonologically overt root R is incorporated into the empty matrix of V, so that V and R form a single terminal node in the overt morphophonological representation of the verb. This sort of “incorporation” is extremely widespread in the languages of the world, being responsible for derivations which do not involve overt morphology. It represents the same general process

as that which gives rise to English verbs like *dance*, *shelve*, *saddle*, etc., derived by incorporating the corresponding nouns into the empty phonological matrix of a governing verb, a process which will figure presently in our discussion of the transitivity asymmetry at issue here.

The structure in (17) corresponds to the intransitive use of the verb, i.e., the use exemplified in (4a). In that use, the lexically defined “internal” subject, DP, functions as sentential subject as well—we assume it raises in sentential syntax, out of the verbal projection to a position (presumably, the specifier of I(nfl)) in which it is appropriately licensed (assigned structural case and construed with subject agreement).

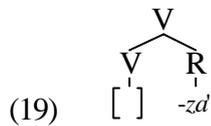
The transitive alternant of this verb, exemplified in (4b), results through a combination of (17) and the simple head-complement structure (1a). The former appears as the complement of the latter. Since the result is a verb, we must assume that the upper head is itself verbal, i.e., the typical verbal realization of (1a). While the upper head, like the lower one, contains a phonologically empty matrix, it is supplied with the  $\neg$ -classifier, as is generally the case for derived transitives in Navajo:



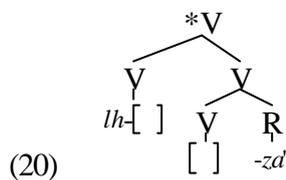
The derivation of the final surface verb proceeds as before—the empty verbal matrices receive their phonological realization through incorporation, of governed head into governing head, and hence successive cyclically, yielding ultimately the transitive verb theme  $\neg$ - $\neg$ - $\neg$ - $\neg$ - $\neg$ . This appears in the uppermost head position, where it governs the internal subject, DP. This argument will, of course, function now as the sentential syntactic *object*, not the subject. The subject of the transitive, of course, is an *external* argument, not present in the lexical structure, in conformity with the fundamental nature of class (1a) elements. The diagram in (18) does not represent the linear ordering of elements observed in the actual Navajo sentential syntactic form, of course, Navajo being a head-final language; (18) merely reflects the hierarchical organization of the elements involved. And, in general, the structures given in (17) and (18) represent the grammatical relations inherent in the intransitive and transitive alternants of all simple alternating verbs.

If the ability of a verb to participate in the simple transitivity alternation is due to the essential structural property of having an internal subject, the inability of a non-alternating (or unergative) verb to participate in this alternation is plausibly due to its inherent property as well, i.e., that of not having an internal subject. And this property would follow straightforwardly, of course, if it were based on a non-predicate. The (a)-class structure, we claim, is a non-predicate, and could, therefore, give rise to an unergative, non-alternating, verb. But this will be so only if its complement is also *not* a predicate, since, as we have just seen in the case of (17) and (18), an (a)-class structure can in effect “acquire” the essential character of a predicate if its

complement is itself a predicate. Thus, we must assume that the root elements *-za'* 'belch' in the verb of (9a), and those in (12), as well, are non-predicates. If this is true, then they will neither force nor permit the appearance of a subject internal to the lexical structures they define:



Here again, we assume that the final form of the verb will have the phonological matrix of the R, the complement, incorporated into the empty matrix of the governing V. This cannot be transitivized in the simple manner of an alternating verb, i.e., by freely inserting it as the complement in an (a)-class structure, because there is no internal subject which could give rise to the necessary sentential syntactic object:



The structure is illegitimate. From the point of view of sentential syntax, one might say it is ill-formed by virtue of the fact that it is “transitive” and has no object, and from the point of view of essentialist structural considerations, it is ill-formed because it is not properly economical, being nondistinct in relation to the natural unergative structure (19). Be this as it may, it all follows from the essential properties of the elements involved—neither V nor R is predicative.

The nature of R in (19) is clear; it is a (d)-class element—it is non-predicative and it takes no complement. The prototypical morphosyntactic realization of (d)-class elements is nominal, of course. It is therefore not surprising, perhaps, that non-alternating verbs in many languages are based on roots belonging morphosyntactically to the category N. To some extent, this is true of Navajo, at least it is true that some non-alternating verbs in Navajo have stems which are “cognate” with morphosyntactic nouns (bracketed pages from Young, Morgan, and Midgette 1992):

(21)	<u>V</u>		<u>N</u>	
	ghi-dloh	'laugh'	dlo	[156]
	'-wosh	'sleep'	-wosh (< -ghosh)	[660]
	di-yih	'breathe'	-yih (< -ghih)	[702]
	'-yol	'inhale'	-yol	[723, 728]
	di-za'	'belch'	-za'	[731]
	di-zheeh	'spit'	-zhéé'	[770]

This is obviously a feature of English, leading some, correctly in our view, to derive a large number of English unergative verbs from (a)-class structures in which a phonologically empty verb takes a noun as its complement. This idea is supported not only by the syntactic behavior

of these verbs but also cross-linguistically by the fact that in many languages unergatives are verb-noun compounds (i.e., overtly reflect incorporation) or ‘light verb constructions’ (overtly reflecting the basic configuration without incorporation). In the Tanoan languages, for example, verbs corresponding to the English unergatives *work*, *speak*, *whistle*, *laugh*, *cry*, *sing*, and others, are overtly noun-based, taking the form of N-V compounds: *sae-’a* (work-do), *se-’a* (speech-do), *tun-’a* (whistle-do), *hiinl-’a* (laugh-do), *shil-’a* (cry-do), *zaae-’a* (song-do). And Basque uses the hypothetical (a)-class light verb structure [<sub>v</sub>N V] overtly in the sentential syntax projected by lexical items corresponding to verbs of the non-alternating type:

- |      |     |          |      |      |         |
|------|-----|----------|------|------|---------|
| (33) | (a) | negar    | egin |      | ‘cry’   |
|      | (b) | eztul    |      | egin | ‘cough’ |
|      | (c) | barre    | egin |      | ‘laugh’ |
|      | (d) | jolas    |      | egin | ‘play’  |
|      | (e) | oihu     |      | egin | ‘shout’ |
|      | (f) | lo       |      | egin | ‘sleep’ |
|      | (g) | zurrunga |      | egin | ‘snore’ |

In this discussion, we have examined just one aspect of the Navajo verb in relation to the essentialist conception of the theory of argument structure. Our purpose at this point is merely to begin the study. In future work, we hope to examine the full range of problems which are suggested by this perspective. The simple transitivity alternations of the type examined here implicate the (c)-type structure, alone to realize the intransitive variant, or embedded in the (a)-type to realize the transitive. Non-alternating (unergative) verbs use the (a)-type structure with a (d)-type complement. It remains to determine the manner in which the (b)-type structure is used in Navajo. Clearly, postpositions realize this type, but to determine the manner in which it is exploited in verbs will require a thorough investigation of P-incorporation in Navajo, a varied and complex process in Navajo verbal morphology.

Future work will also have to deal with the questions of the proper construal of the classificatory features in verbs whose stems supplete for the class of a nominal argument. For example, how is it that the subject in (34) ‘controls’ the stem selection in the following sentence:

- |      |                                 |            |                     |
|------|---------------------------------|------------|---------------------|
| (34) | T-’óó-ᵐ                         | taa-h      | yí-déél.            |
|      | rope                            | water-INTO | YPF:3-fall:PERF[SF] |
|      | ‘The rope fell into the water.’ |            |                     |

We assume that the verbal theme here involves not only the verb of falling but also the preceding postpositional expression *taah* ‘into water’, moderately integrated into the verb word. The postposition, *-h* ‘motion into’ projects the (b)-type structure, with *t-’óó-ᵐ* ‘rope’ in its specifier. Clearly it is this argument that controls the selection in the verb. However, there is no direct relationship between the verb and the specifier projected by the postposition. Only the postposition itself bears a relation to the verb. This matter will be left for future study, but it suggests that a relation of the ECM type (i.e., that holding between a verb and the specifier of its complement, as in English ‘we consider John to be intelligent’) is an appropriate one for stem selection. Either that or the structure we are assuming is incorrect.

These are just a few of the considerations that will be important in future work on Navajo argument structure. As a final observation, we note that an adequate theory of this aspect of the Navajo verb will necessarily account for the interesting behavior of unaccusative inchoatives like *shi'niits<sup>2</sup>á* 'I am beginning to die', *shi'niizh<sup>2</sup>o<sup>2</sup>od* 'I am beginning to be gentle', and *shi'niigan* 'I am beginning to grow skinny'. Here the sole argument of the verb is realized morphologically as an object, not a subject (cf. Young and Morgan, 1987:187)—the Navajo inchoative thus reveals the "internal" position of the single argument of unaccusative verbs. Limits on the use of the inchoative, however, are themselves a matter which will require further study. The subject of a transitive inchoative exhibits the standard subject behavior in relation to agreement, as in *bi'niishghal* 'I am beginning to eat it (meat)'; the same is true in the unergative inchoative *i'niishchééh* 'am beginning to cry', with the indefinite object element ' - functioning grammatically as the internal argument, satisfying a general requirement of the Navajo inchoative. The subject of a non-inchoative unaccusative is represented, of course, by standard subject agreement, as in *yish<sup>2</sup>o<sup>2</sup>oh* 'I am becoming gentle'.

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