

How to use Young and Morgan's *The Navajo Language**

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1 The Young and Morgan grammars

Young and Morgan's opus on the Navajo language (Young and Morgan 1943, 1946, 1951, 1976, 1980, 1987, Young and Morgan, and Midgette 1992, Young 2000) is the standard reference grammar on Navajo. Navajo belongs to the Southern or Apachean branch of the Athabaskan language family. These grammars and dictionaries make Navajo one of the best documented languages in the world, and by far the best documented among the indigenous languages of the western hemisphere. The opus is a complex and masterful work, akin in scope to the compilation of the OED, if the OED also contained a grammar. The grammars and dictionaries represent an extraordinary intellectual achievement, not only for their being a substantial grammar and a dependable dictionary, full of explicit examples of word use, but because Navajo is polysynthetic and morphologically productive. Because of the extensive sets of verbal morphemes that make up a verb, Navajo and the Athabaskan languages in general are often characterized by a position class or 'slot-and-filler' template. This template serves the purpose of maintaining order among the verbal morphemes by means of a prosthesis of numbered positions. The positions are in effect place holders, and the template is useful for keeping track of these morphemes. The verbal morphemes in Athabaskan are by far prefixal.

The prefixal morphology presents a number of immediate technical problems to a dictionary or grammar. First, the most intuitive way (for English speakers) to look up or list a verb form is by its stem, because that is the 'content' part of the word. In Athabaskan, the stem is never at the right edge of a word; it is usually found at the left edge, as the final syllable. Second, if the dictionary is to list words, then it must list inflected forms, since a Navajo stem may not occur without inflection. This inflection occurs at the right edge of the word. Third, the morphology is productive: All verbs are propositions, and therefore the dictionary of verb forms is a list of propositions. Fourth, the Athabaskan verb stems are called 'classificatory verbs' because of the rich semantic markings the verbs carry. The relationship between a given classification (solid roundish object) and the object it refers to ('Hershey bar', g255) is not always transparent. For instance, *-TEEH* is a stem that means 'to move or handle an animate

* This is a draft of a chapter from a working manuscript on the phonetic structure of Navajo. I've included it in this volume because many people have asked for it. It is dedicated to Ken Hale who first taught me how to appreciate and use Young and Morgan.

object'. It appears in the verb forms *nishteeh* 'I brought it' and *nishteeh* 'I lie down' (imperfective / 1st person singular subject). The two forms differ in the Base Paradigms or Modes, and in the verb bases they use, despite their surface similarity, and this results in their meaning differences. This example is discussed below in the section 3.4.

The Navajo Language, 1980, 1987, *An Analytic Lexicon of Navajo* (with Sally Midgette) 1992, and *The Navajo Verb System: An Overview* (Young 2000), constitute the main part of the Young and Morgan opus. The 1987 *The Navajo Language* is basically a revision of the 1980 work, with some small technical changes, most obviously in the position class template. (The 1987 template chart has fewer slots than the 1980 one. They both have the same structure and organization, and they can safely be used interchangeably.)

In this paper, I'll lay out the structure of these volumes. I'll discuss the 1980 and 1987 grammars and dictionaries separately from the 1992 Analytic Lexicon (YMM). I will use the 1987 (YM) grammar as the primary grammar; unless noted otherwise, all references are to the 1987 volume. The 1980 and 1987 grammars are both called *The Navajo Language*. They are each divided into two distinct books within the volume, a grammar of Navajo and a dictionary. The grammar and the dictionary are numbered separately in *The Navajo Language*. I will refer to page numbers by the prefix 'g' for the grammar section and 'd' for dictionary section. The grammar runs 437 pages. The dictionary follows the grammar and comprises the bulk of the volume, numbered pages d1-1069. The dictionary is both Navajo-English, English-Navajo, though the former takes up most of the book. We'll begin with a discussion of the grammar

This guide bears the same relationship to the grammar and dictionary as a map does to a landscape; as a resource, but you'll still need a compass, and sense of where you are in it.

2 The Grammar

In the introduction to *The Navajo Language*, Young and Morgan call the first section of the book a 'grammatical sketch' that provides a 'wide range of detail' on the language. It is safe to consider this an understatement. For any morpheme discussed in the grammar, several examples from both words and sentences are provided of its use. The level of detail in this grammatical sketch makes this a significant source of information on all aspects of the language and its morphological structure. The grammar comprises the first third of the book, pages numbered g1-437. The book as a whole, and this grammar section in particular, is very dense; the sections often occur without headers. Because of its fine print and its density, when reading the grammar, it is helpful to have at hand a copy of the index on pages vi-xi, for page reference, to stay oriented in the text. If the volume were expanded to full size text and the examples listed in blocks, and laid out with headers, rather than as it is with the examples in the included text, it would take up several volumes.

The grammar section is divided into two parts, the main grammar and the appendixes. I'll discuss these sections separately below. The main grammar has two main subsections, on verbal

morphology and on aspect. The verbal morphology covers pages g37-g139, and aspect, from pages g140-g205. The grammar begins with a bibliography, phonemic inventory (4 pages) and a preliminary section on nouns in Navajo. These are all short sections. The appendixes provide paradigm charts, tables, and stem indexes.

2.1 The verb

To begin, we'll briefly lay out the main parts of the verb. The following is a schematic diagram of the Navajo verb. It is comprised of three domains, called the 'disjunct', the 'conjunct' and the stem.

(1) A schema of the morphological domains in the Athabaskan verb:

$$\left[\begin{array}{ccc} \text{'disjunct'} & \# & \text{'conjunct'} / \text{verb stem} \\ 1 & & 2 \quad 3 \end{array} \right]_{\text{WdVerb}}$$

The position classes are divided up into these three domains, numbered left to right. For the purpose of this paper, we will use the template of Young and Morgan 1987: g37-8. The positions are numbered by Roman numerals as in Young and Morgan:

Disjunct domain	conjunct domain	verb stem
0 Ib Ia Ic Id II III	IV V VIa VIb VIc VII VIII IX	X

Table 1: The template of Young and Morgan 1987: g37-38 divided into domains, with the positions in roman numerals. The basic obligatory morphemes are bold.

For orientation, the verb is at least two syllables long. These two syllables contain the obligatory parts of the verb. These are the verb stem (X), and the morphemes from the position classes IX (the misnamed 'classifiers'), VIII (subject), and VII (Mode). These are the four rightmost morphemes in the word, bolded above in Table 1. This part of the verb is highly polysynthetic. Young and Morgan 1987 handle this polysynthesis (as they do throughout the grammar) by merging the morphemes of VII and VIII (Mode and subject) into paradigms, which they call the Base Paradigms (g:200-01). Forms from the Base Paradigms constitute the penultimate syllable. The verb stems constitute the final syllable. In the following example, *yish-* is the 1st person singular form of the \emptyset imperfective, from the Base Paradigms, the stem is -dlá:

- (2) *yishdlá* "I drink it" (g206)
 (y)ish d- dlá
 \emptyset imper/1st cl -stem
 VII/VIII IX - X

The ‘classifier’ prefix, (position IX) has an unusual prosody and surfaces as an onset very rarely. It usually surfaces as a coda for the penultimate syllable, or it deletes. The ‘classifier’ is the locus of the Athabaskan ‘d-effect,’ and the phonology of the classifier prefix is an area of interest to many linguists. (In the example above, it is deleted. This is an instance of the ‘d-effect’.)

Because all forms are built on these two syllables, the Base Paradigms, in conjunction with the classifier-verb stem combo (called the ‘verb base’), are key to understanding the structure of the verb. Young and Morgan systematically use the forms of Base Paradigms as the foundation of the verbal unit throughout the grammar and the dictionary. We will discuss this below.

There is no agreement on the number and kind of ‘position classes’ or on the features that characterize a given position. There are differences, for instance, in the number and kind of positions in the template between the 1980 and 1987 Young and Morgan. Similarly, despite their strong similarities, there are also differences between the characterization of the Navajo template by Young and Morgan 1987 and Rice’s Slave grammar (1987), and between Rice 1987 and Rice 2000. It is safe to assume, however, that this is the general structure for all the Athabaskan languages. (For discussion of the status of position class as morphological class, and the template as a generative mechanism, see Kari 1990, Hargus 1986, McDonough 1990, 2000a, 2000b).

2.2 *Verb bases*

There are several traditional Athabaskan terms that require definition. One is the term ‘peg element’ or ‘pepet vowel’. These terms refer to the use of null or zero morphemes. In the template, there are null morphemes in all (and only) the obligatory positions –except the verb stem- (VI, VIII and IX). These null morphemes represent default specifications—respectively, the \emptyset -imperfective or \emptyset -perfective for the Mode position (VI), 3rd person for the subject position (VIII) and the default classifier (X)¹. (The verb stem is not a possible default type morpheme.) In the case that the verb is in the \emptyset -imperfective or \emptyset -perfective, 3rd person singular, with the null classifier, the verb will use a default specification: /i/ is the default vowel in Navajo, and Navajo (but not all Athabaskan, see Hargus and Tuttle, Rice 2000) has an onset condition. Thus a word that is in the \emptyset -imperfective 3rd singular in Navajo will have a *yi*-²:

- (3) yicha
 \emptyset - \emptyset - \emptyset - cha
 Mode- subject-classifier-stem

¹ In its most productive form, the \emptyset classifier is an intransitive marker, the default specification is intransitive.

² Consonantal epenthesis will provide a (*w*) \emptyset - if the vowel is round, and arguably a *gh* if it is low, though this is harder to see (McDonough 1996).

This *yi-* is the ‘peg element’, simply the default specification for the null morphemes. The *yi-* is listed in the Base Paradigms as a separate form for several Mode - subject combinations, the most common being the \emptyset -imperfective, 3rd singular:

- (4) *yicha*
 yi- \emptyset - *cha*
 \emptyset imp/3rd subject- classifier- stem

The glide *y* is epenthetic in the sense that it appears only when the vowel is in initial position in the word. Thus Young and Morgan 1987 often put it in parenthesis as (*y*)*i-*. An example follows of a *di-* ‘inception’ from position VIa with the \emptyset imperf/3rd singular. The combination surfaces as *di-*. The position classes associated with each morpheme are given:

- (5) *didzéh* “he takes a breathe” (Young and Morgan 1987 d:331)
 d(i)- *i-* *d-* *dzéh*
 inception \emptyset imp/1st cl- ‘breathe’
 VIa VII/VIII XI X

Since Young and Morgan 1987 use the Base Paradigms and not the template when they build verbs, we will adhere to this convention by using the paradigms in the glosses. This is discussed further below. Throughout the text, the symbols that are in parenthesis are either phonologically epenthetic, or they are conditioned morphophonemic variants; that is to say, the parenthesis represent either phonological or morphological conditioning.

Two other terms that come into play are the *verb base* and *verb theme*. The ‘verb base’ is the classifier + stem combination. The ‘verb base’ and a form from the Base Paradigms constitute a minimal verb, such as the one above (\emptyset -*cha* ‘cry’ is the verb base). In many cases the verb base or verb theme are the smallest compositional *meaning* units; we’ll see this below. The ‘verb theme’ is a unit that includes a verb base plus other morphemes that make up a particular meaning unit. ‘Verb theme’ addresses the question of the non-compositionality or idiomatic nature of many of the combinations of morphemes found in the verbs. An example is provided of a verb theme and its realization as a full form. In this form, the *sodi-* is a morpheme that relates to prayer (d689). The verb base is ‘think’, the verb meaning is ‘pray’.

- (6) *sodiszin* ‘to pray’
 sodi- (i)- l- *zin*
 ‘relates to prayer’ (imp/1st) cl- ‘think want’
 Ib/VIa VII/VII IX X

Basically, a verb theme is the verbal morphemes (the verb base plus other morphemes) minus the agreement markers. We discuss the use of these units, verb base and verb theme, and how they are listed, referenced and accessed in the sections below.

2.3 *Verbal morphology*

The section of the grammar on verbal morphology contains a chart of the position class template which lists the morphemes and homophones (p g:37-38), and a discussion of each of the morphemes listed in the template with examples of their use in words and sentences in a section called “The Verbal Prefixes” (p g39-139). The section is well laid out and fairly easy to follow, though the pages have no headers that indicate what prefix position is under discussion. The lack of headers can be confusing when a discussion of a prefix group extends for several pages, as they often do. The section begins with a three-page overview of the structure of the verb with a description of the terminology and some of the more general alternations that the consonants and vowels undergo in the paradigms. Morphemes are listed by position, such as position VIb, headed “Adverbial –thematic”. Position VIb is the position for the various ‘ni’- morphemes, the template lists seven *ni*- and three *ní*, ten total. This section also contains the first discussion of the Modes in the verb (g144-164), which make up the primary or Base Paradigms (g200-201), the paradigms which serve as the base unit of all the verb forms. With the verb stem, the Base Paradigms form the minimal morphemes of the verb.

Each subsection within a position heading begins with a description of that position and individual examples of morphemes, followed by hundreds of examples of these morphemes used in words and in phrases. Studying this section, a user will gain insight into the way the morphemes are used in the verbal complex.

2.4 *Aspectual grammar.*

This section is the densest section in the grammar. It runs from pages 164-189, and like the rest of the grammatical sketch is full of examples. The Aspect section is a general discussion of the ways that Navajo builds its aspectual meaning. The aspect morphemes are generally but not exclusively the morphemes of position VIa, VIb and VIc. The section also contains an informative section on time in Navajo, “The dimension of Time in the verb” (g202-5), and the Neuter constructions. I will not attempt to discuss this section in detail, but refer the reader to it..

3 The Appendixes

The 1987 grammar has eight appendixes (the 1980 version has 3). The appendixes appear at the end of the grammar section, between the grammar and dictionary, pages g205-436, and they run half the length of the grammar. The appendixes are:

1	Word order	205-205b
2	Appendix I: <i>The model paradigms</i>	206-250
3	Appendix II: <i>The Classificatory verbs</i>	251-263
4	Appendix III: <i>Comparative Athapaskan Root inventory</i>	264-301
5	Appendix IV: <i>Stem Index</i>	302-317
6	Appendix V: <i>Root/ Stem/ Theme Index</i>	318-356
7	Appendix VI: <i>Noun Inventory</i>	357-435
8	Appendix VII: <i>The Adjectivals</i>	436-437

The appendixes are at the heart of the grammar. They provide explicit information in the form of charts and indexes about the morphemes as they occur in Navajo words. For the greater part, they are concerned with the semantic properties and phonological shapes of verbal stems in their various aspects (appendixes I, II, III, IV and V). This information is an essential substructure to the dictionary as well as the grammar. In this section I'll provide a guide for using the appendixes, and I'll discuss a couple of the appendixes in detail.

3.1 *Appendix I*

Appendix I 'Model Paradigms' is useful, both for the explicit map of the verb structure it provides, and for the examples that they give. This appendix consists of a list of the verbal paradigms for each of the seven modes listed on pages 200-1 (the 'Base Paradigms') and any possible morpheme (conjunct and disjunct) combination that appears in that mode. Examples of each combination are listed in the bottom section of each page under 'Lexical Examples' and are associated to the paradigms by number. Because of the richness of this information, I'll spend some time discussing this appendix and its accompanying 'Base Paradigms'.

3.2 *The Base Paradigms*

The "Base Paradigms" on p200-1 are important in understanding the morpheme structure of an Navajo verb. They form the base of the inflectional or 'conjunct' domain. With the verb stem, a morpheme from these base paradigms comprise the obligatory parts in the verb: the verb stem and the marking for mode and subject. The two morphemes, a 'Base paradigm' morpheme and the verb stem, account for the characteristic bisyllabicity of the Athabaskan verb. Every verb is marked for mode and subject. (Hargus (1995) has called the morpheme to the left of the verb stem a 'Tense' marker, but these are not rightfully tense but rather mode markers -in addition to Mode, they carry person and number specification, 3rd singular by default.) The base paradigms are the forms of the prefix combinations from position VII and VIII in the verb, the Mode and the Subject morphemes. Although some of these forms are transparent or invariant combinations (such as the 1st Dual), there is enough variation among these forms to require their listing as conjugational paradigms. In the model of the verb used here, these forms are at the edge of the inflectional domain (the classifier prefix is in the verb domain). This position is the position of stems in Navajo and these morphemes have many of the phonological properties of stems. They have long vowels and codas, they have unpredictable vowel combinations (including tone) and morphophonemic variants. The Base Paradigms are listed in singular and dual. The

plural appears with the *da-* distributive, a disjunct morpheme. Young and Morgan also give the forms for the passives in the Base Paradigms. In the Base Paradigms, there are eleven basic modes: four imperfective modes (\emptyset , *ni*, *si*, and *yi*), four perfective modes (*yi*, *ni*, *si*, and \emptyset) and the progressive, future, and optative modes. All the perfective modes are divided into two paradigms; those associated with the null (\emptyset) and *t* classifiers and those associated with the *d*-classifier ([*d*, *l*] (the *l*-classifier is a combination of [*d+t*])). For discussion of the meaning and use of each mode, see the section on each mode in the grammar.

The 1st – 3rd singular and dual forms of the two s-perfective Modes are listed in Table 1. The forms marked “3o, 3a, 3i, 3s” are called ‘extended’ in Young and Morgan (1987:200). These are the 3rd singular forms that appear with 3rd singular object agreement markers [*j(i)-*, ‘(a)-, *h(o/a)-*]. These agreement markers carry semantic marking for the kind of object: general (o), animate (a), inanimate (i), and space/area (s). See the text for examples of these (Young and Morgan 1987:74ff) and discussion of their meaning.

	\emptyset - t	d - l
1	sé	sis
2	síní	síní
3	si	(yi)s
3o	(y)iz	--
3a	jiz	jis
3i	‘az	‘as
3s	haz	has
1dual	siid	siid
2dual	soo	soo(h)

Table 2: The s-perfective modes lists in Appendix I

In addition, Young and Morgan also give the distributive plural and the passives for each mode. Forms using the s-perfective appear below. The first two use the null (\emptyset -) and *t*- classifiers and the *sé* form of the s-perfective (sperf); the second two use the *d*-classifier and the *sis* form of the s-perfective (sperf/d) (the reflexive ‘*adi*’ requires the *d*-classifier). The alternations between *s* and *sh* in (8) are a result of regressive consonant harmony:

(7) sétt’is Young and Morgan 1987:d777
 [sé]_{sperf} [t - t’is]_{perf}
 [spéf/1stSu]_{sperf} [cl - ‘make hard or stiff’]_{perf}
 ‘I packed it, made it hard’

(8) shéchéí Young and Morgan 1987:d779
 [sé]_{sperf} [\emptyset - chíí]_{perf}
 [spéf/1stSu]_{sperf} [cl - ‘make red’]_{perf}
 ‘I reddened it, painted it red’

(9) ‘adił dah sistá Young and Morgan 1987:d694
 ‘adił dah [sis]_{sperf/d} [d - tǎ]_{perf}
 reflex ‘on’ [sperf/1stSu]_{sperf/d} [cl - ‘handle a slender stiff obj’]_{perf}
 ‘I pinned it on myself’

(10) bił siszee’ Young and Morgan 1987:d688
 bił [sis]_{sperf/d} [d - zee’]_{perf}
 ‘to it’ [sperf/1stSu]_{sperf/d} [cl - ‘move rapidly’]_{perf}
 ‘I went as fast as possible’

I consider these ‘Base Paradigm’ forms to be the base of the conjunct or inflectional domain, and refer to the forms of these paradigms as the ‘infl stems.’ Thus there are two stems in the word *sétt’is*, ‘I packed it’; the infl stem, the s-perfective 1st Su sé and the verb stem, the perfective form of the verb *t’is*, .

Appendix I, “The Model Paradigms of the Verb,” gives the morpheme combinations and morpheme shapes that may appear with these Base Paradigms. The Model Paradigms are in effect instructions on how to put the verb together.

In these Model Paradigms, each of the fifteen Modes are listed with all the possible disjunct and conjunct combinations. In Column 1 are listed the ‘Base Paradigm’ for the \emptyset imperfective, as it is given on page g200. The base paradigm for each Mode is listed in the first column at the beginning of each new Mode’s listings. For example, the \emptyset -imperfective / Usitative covers columns 1-96 (1987:206-13). The yi- \emptyset imperfective / Usitative starts on column 97 (1987:214) beginning with a list of its Base Paradigm. (Column 97 is the same paradigm that is listed on page 200.) The columns following 97 are lists of the phonological shapes that the various combinations of conjunct and disjunct morphemes take in this Mode.

In this Appendix, Young and Morgan 1987 go through all the verbal morphemes and all the morpheme combinations for each mode. To further aid the reader, at the bottom of the page are given several examples of each type of combination as a full word, and referenced by number to the column of the paradigm it appears in. I give an example of (partial) model paradigm column 13, below in table 2 (Young and Morgan 1987:g207).

The example column in Table 2 gives the shape of the combination of two disjunct prefixes, from positions Ib and Id (*Cé / í + ná*) as they appear for each person / number combination. This column is built on the Base paradigm for the \emptyset -imperfective (1987:g200). The ‘C’ in the paradigm chart stands for any consonant. The result of the combination of the two listed morphemes is *Céé-* . This form then will combine with the verb stem or the verb base (the term used to mean the classifier + verb stem combination) to produce a word.

(13)	bizééjchid					'he put his hands around his neck'
	bi- zéé	#	jí-	ø-	chid	
	'his' 'around mouth, throat'	#	øimperf/1 st sing. subject	cl.	'act with hands or arms'	

Note that in the 3rd singular animate form, the one with the *ji*, the *ná* morpheme does not surface, instead the vowel is long, *bi-zéé--*. This alternation is represented in the paradigms, noted in the text. (The *ji* and the *ish* morphemes are conjunct morphemes, and as such are not part of the same disjunct domain as the *bi-zéé*.) This alternation pattern is not recoverable from the morpheme concatenations in the template.

Morpheme concatenations like this one ($Cé / í + ná = Céé-$) elude clear phonological motivation and are the source of the Athabaskan language family's reputation for morphophonemic complexity. I use the term *polysynthesis* to refer to this type of non-phonological or opaque combination of morphemes.

In the dictionary part of the grammar, Young and Morgan lay out the many paradigms for polysynthetic morpheme combinations that are based on the "Base Paradigms" (1987:200) and the Model Paradigms (1987: 206-50). For the form above, *bizénáshchid*, the individual paradigms for that form, and forms that pattern like it, are listed on page d263. (This number appears at the margin beside the dictionary entry in parenthesis as reference.) These forms appear pretty much as they do in Table 2, with the exception that a particular morpheme, *bizé*, is used instead of the ($Cé / í + ná = Céé-$). We'll take up a discussion of the structure of the dictionary entries below.

3.3 The Classificatory Verbs

There are three appendixes that address the verbal morpheme, the 'stem' which usually is the last syllable in the word. The stem is the 'content' part of the verb. Navajo stems characteristically carry rich semantic specification; the specification often refers to physical properties of objects such as 'solid roundish', 'flat flexible', 'in an open vessel', 'mushy'. Thus, the physical properties of an object are the content base of a verbal form. This quality, referred to as 'classificatory', is common throughout Athabaskan and other Amerindian languages. It gives them a very distinct semantic profile, and makes translations often difficult. In describing an event for instance, different verbs can be used to describe the same event depending on the point of view you take or the object you are talking about. In Appendix II 'The Classificatory verbs' Young and Morgan lay out the classificatory verbs in charts, and provided a key to how these verb stems are used with objects.

For instance, to talk about a butterfly, Young and Morgan note that the verb stem used for this will change according to point of view. Butterfly is a row entry. They mark it as using the verb stems for 'single animate object', which is a column entry. There are three stems in this column, and choice among them depends on three categories of relationship to that object: handle, drop, or fall. Note that these are states of relationship to a single animate object (as in the difference in English between 'drop' and 'fall'). In addition, Young and Morgan note what plural

stems can also be used. Another example is the entry ‘cactus’. In talking about a cactus, the verb stems one uses will depend on the shape of the cactus, as either, flat-leafed (solid, roundish stem), long-stemmed (slender, stiff stem), or domed (solid, round stem), as well as one’s relationship to it in an event (handle, drop, fall). Appendix II is a 13 page chart of objects (“screwdriver”, “worm”, ‘scissors”) listed in rows, and the verb stems that are used to talk about them (listed in columns). Given that Navajo has only about 500 stems, this appendix provides an important map of objects and events in the world onto those stems. This section of the grammar also is an important place to begin to learn the aspectual system of Navajo, since the physical properties of an object often preclude or imply certain aspectual relationships that then affect the paradigms the verbs appear in.

Appendix III is a section on the historical reconstruction and comparison of verb stems. Other appendixes (Appendix VI and V) address the shape of the stems (Stem Index), and a dictionary of the verb bases and ‘stem sets’ (the Root / Stem / Theme Index).

The later Appendix is a basic tool in looking up verb forms, as it provides the shapes of verb forms in their various aspects. In this appendix, the verb stems are listed as roots. They are capitalized to indicate the abstraction they represent as roots, in their imperfective shape or reflex.

3.4 How the stem indexes work

For instance *-TEEH* is a stem that means ‘to move or handle an animate object’. It appears in the verb forms *nishteeh* ‘I brought it’ and *nishteeh* ‘I lie down’ (imperfective / 1st person singular subject). In the first form, the verb base is the transitive *t-teeh* which according to Young and Morgan (1978:d662) appear in the paradigms as ni-Modal (ni-imperfective and ni-perfectives). The second *nishteeh* however is the verb base *ø-teeh*, and the mode is *ø*-imperfective with the *ni* morphemes from the qualifier prefixes. This example is discussed below as its structure has consequences both in meaning and in its interaction with the other prefixes.

	base: <i>t-teeh</i>		base: <i>ø-teeh</i>	
Modes	imperf	iterative ná	ø imperf	iterative ná
1	nishteeh	náshsteeh	nishteeh	nánishteeh
2	nítteeh	nánítteeh	níteeh	náníteeh
3	yítteeh	nálteeh	níteeh	náníteeh
3o	yítteeh	néítteeh	yiniteeh	néiniteeh
3i			‘aniteeh	ná’níteeh
3s	hólteeh	náhálteeh		

Table 4: The paradigm entries for the imperfective and iterative of the forms *nishteeh*, with the stem ‘to move an animate object’ (Young and Morgan 1987:d662).

As noted above, the stem is the imperfective –teeh in both forms, the bases are *ł-teeh* and *ø-teeh*. These two bases do not participate in the same paradigms, even though they have the same stems. In the first paradigm, *ł-teeh* appears in the n-imperfective and n-perfective Modes, but not in the si- or yi- Modes. The form means ‘to bring it (an animate object)’. The second form *nishteeh* has the base *ø-teeh* and means ‘to lie down’ (the animate object is the subject and does the lying down). In this form the *ni-* morpheme is not part of the Mode. Thus there is a difference in a *ni*-Mode and a *ni* morpheme that comes from the Qualifier prefixes. The QU *ni-* does not prevent the verb from appearing in other Modes, such as the *si*-perfective. The iterative is a disjunct prefix that is added to the base paradigm of the *ł-teeh*:

Modes	Base: <i>ł-teeh</i>	iterative <i>ná</i>
	imperf	
1	nishteeh	náshteeh
gloss	nish - ł teeh nimp/1 st - cl stem	ná # (ni)sh - ł teeh iter. # nperf/1 st - cl stem
3	yílteeh	náníł teeh
gloss	(y)í - ł teeh nimp/3 rd - cl stem	ná # ní - ł teeh iter. # nperf/3 rd - cl stem
3o	yílteeh	néilteeh
gloss	y(i) – (y)í - ł teeh 3o - nimp/3 rd - cl stem	ná # (y)i – (yi)- ł teeh iter. # 3o- nperf/3 rd - cl stem
3s	hólteeh	náhálteeh
gloss	hó - (i) ł teeh 3s – nimp/3 rd - vl stem	ná # há - (i) ł teeh iter. # 3o- nperf/3 rd - cl stem

Table 5: The 1st, 3rd, 3o, and 3s forms of the base *ł-teeh*, with glosses given.

If we go to the paradigm charts in g:216, and look under the n-imperfective, column 127, the base paradigm for the ni-imperfective, we will find the forms in the first column above. Examples are given below of these paradigms using the *ł* classifier. The above forms also show the iterative disjunct prefix *ná-*. Though the paradigms on page g216-217 don’t supply paradigms for the iterative, they do for the reversionary *ná-*, and Young and Morgan cross reference these on page g38, in the template. The forms with a disjunct prefix from position Ib are listed in column 129, and are repeated above.

However, the forms of the base without the transitive *ł* are treated different. These are the forms for the meaning ‘to lie down’, where the animate object specification refers to the subject of the action. In these forms the *ni-* is not the Mode. The Mode is the *ø* imperfective. In the 3rd person object forms (3o, 3i, 3s, Young and Morgan extended paradigms), the *ni* shows

up between the object agreement marker and the subject marker in a way that it does not in the preceding paradigm.

	base: \emptyset -teeh	
	\emptyset imperf	iterative ná
2	níteeh	náníteeh
	ni – i – \emptyset teeh	ná # ni – i – \emptyset teeh
	‘term.’ - \emptyset imp/2 nd cl stem	‘iter’ # ‘term.’ \emptyset imp/2 nd cl stem
3o	yiniteeh	néiniteeh
	yi – ni – (i) \emptyset teeh	ná # (y)i – n(i) – i \emptyset teeh
	3o – term. - \emptyset imp/2 nd cl stem	‘iter’ # ‘term.’ - \emptyset imp/2 nd cl stem

Table 6. Forms and possible glosses for the 2nd and 3rd person forms paradigms

Again, the paradigms for these prefix combinations can be found in the paradigm charts. In this case, the paradigm charts for the \emptyset imperfective, column 35 for *ni*- VIb, the terminative. Column 8 gives the paradigm of the iterative forms for the \emptyset imperfective. The form above also includes the *ni*- terminative. Inclusion of the *ni*- terminative is somewhat systematic and is not included among the charts paradigms in the grammar. However, it is laid out on page d656, which the dictionary entry refers to.

At least two things can be gleaned from studying the charts and entries in this way. First, generalizations emerge about the possible systematic phonological alternations, as separate from the morphophonemic ones. (The systematic alternations are the phonologically motivated ones, few as they might appear to be.) Second are the aspectual differences. The aspectual differences between the two forms are expressed in their differing structures: the transitive versus intransitive forms or the differences between the *ni*- Mode and the terminative. For the differences between the *ni*- Mode and the terminative, or between the Mode and the aspectual Qualifier prefixes in general, the reader can turn to the sections in the grammar on the aspectual morphemes. In either case, it is an excellent way to begin to understand the aspectual system of Navajo, by reading the entries and studying the examples in the entries and cross referencing them to aspectual grammar or vice versa by going into the aspectual grammar and studying the examples first.

4 The Dictionary

The dictionary makes up the bulk of the book, running over one thousand pages in length. It is a dictionary of fully inflected forms. Many morpheme concatenations in Navajo words are lexicalized and idiosyncratic; i.e. less than fully compositional. It is of interest to note that although Young and Morgan (1980, 1987), Young and Morgan and Midgette (1992) and Young (2000) use a template to lay out the morphemes of the verb, they use this template in neither the

dictionary section nor the Appendixes. Instead, paradigms and paradigm charts are used extensively.

4.1 *Looking up forms*

In Navajo, a fully inflected form is a proposition. Therefore, the dictionary represents a compilation of possible propositions types, and the paradigms they participate in. The dictionary is organized according to an adapted English alphabetical order. The YMM volume is organized slightly differently; it is a stem/root dictionary. In it, and as opposed to the 1980 and 1987 volumes, the forms are listed by their morphological stems. The following discussion refers to the structure of Young and Morgan 1987 and 1980

Since Athabaskan is prefixal language, to look up a particular form you must know two things: what morphemes are used, and the (usually) \emptyset -imperfective 1st person singular form of the verb. It is here that the Athabaskan terms verb base and verb theme come into play.

4.2 *Explaining the paradigms in the dictionary*

Table 7 is a partial paradigm entry from Young and Morgan's dictionary section (1987:d330) for forms that begin with the *di-* morpheme. I have included the singular and dual forms. The full paradigm includes the plural forms, with the disjunct morpheme *da-* (distributive plural marker) and the two passive forms (Pass.A and Pass.B), and the Revisionary and the semeliterative forms. The paradigm in Table 7 is found in the 'd' section of the dictionary, since the words begin with the letter 'd'.

Across the top of the paradigm is the morpheme *di-*, with the superscripts 1, 4, 5, 6, 7, 8, 9, 10. These superscripts refer to the *di-* morphemes that are associated with these numbers. Thus, all of these *di* morphemes are homophones in the sense that they have identical shapes and they participate in identical paradigms. Entries of the individual *di-* morphemes, such as *di*⁻¹, or *di*^{-6,7} are sprinkled throughout the text, and you can find them by simply searching for them in the vicinity of the paradigm. For instance, the entry for *di*⁻¹ is found in the first column on page 1987:d331, *di*^{-6,7} in the first column of page d333. It is important to note at this point that the numbers of these *di-* morphemes do not necessarily correspond to the numbers that are given to the morphemes in the template on page 38 of the grammar. (Those numbers correspond to the pages following the template (1987:39) where the individual morphemes are discussed (see section 3.4).)

So we can see how this paradigm in Table 7 works, take any dictionary entry that is associated to it. Entries associated to a given paradigm are identified by a number in parenthesis along the center margin in the text. Thus an entry associated to Table 7, which is on page d330, has '(330)' near the center margin at the bottom of the entry:

(332)	(330)
-------	-------

The entry for the word *dissáás* ‘to dribble along in a line’ is listed on page 1987:d332. At the bottom of the entry, the figure (330) appears in parenthesis at the center margin. This number then refers to the paradigm on page 330 (the paradigm in Table 7).

di- 1, 4, 5, 6, 7, 8, 9, 10

person	∅ imperfective		5 Perfectives			future	optative
			Si- ∅ - †	Si- D - L	Yi- D - L		
1	dish-	ńdísh-	dé-	désh-	díí-	dideesh-	dósh-
2	dí-	ńdí-	dńí-	dńí-	dńí-	didí-	dóó-
3	di-	ńdí-	deez-(-s)	dees-	díí-	didoo-	dó-
3o	yidi-	ńéidi-	yideez		yidíí-	yididoo-	yidó-
3a	jidi-	ńízhdí-	jideez	jidees-	jidíí-	dizhdoo-	jidó-
3i	‘adi-	ń’dí-	‘adeez-	‘adees-		dí’doo-	‘adó-
3s	hodi-	ńáhodi-	hodeez-	hodees-		hodidoo-	hodó-
1	dii-	ńdii-	dee- (disii-)	dee- (disii-)	dii-	didii-	doo-
2	doh-	ńdóh-	disoo-	disooh-	doo-	didooh-	dohooh-

Table 7. Partial (singular and dual) paradigm entry for forms that begin with several of the *di*- morphemes from Young and Morgan’s dictionary section (1987:d330.).

A dictionary entry consists of a listing of the verb forms by Mode. For the entry *dissáás*, the entry starts with the forms of the five Modes, Imperfective (I), Repetitive (R), Perfective (P), Future (F), Optative (O). (For the meaning, use, and examples of these Modes, see Appendix II (1987:g144-199)):

(14) *dissáás*(I), *ńdíssas*(R), *déssas*(P), *didecssas*(F), *dósáás*(O) (†)

The final symbol in the line, (†), indicates the classifier used in this construction. (Recall the classifier plus stem is the ‘verb base’.) Note that the shape of the verb stems change according to the Modes they indicate. The set of the shapes of the verb stems that vary by their Mode marking are called ‘stem sets’ in Athabaskan parlance. The perfective form above, for instance, gives us the perfective form of the verb stem, which is *-sas*. (This verb stem is listed in its imperfective form as *-Záás* in the root/stem dictionary (1987:g352), using the voiced reflex of the fricative, by convention.) After this line, the entry then lists several examples of its use in a sentence. These entries are an extraordinary and invaluable source of information about the structure of the language and, importantly, its interaction with its morphological structure, since

these entries are explicit about the morphemes in the paradigms and about providing real world examples of their use, in often complex constructions.

At the end of the dictionary entry is the classifier – stem combination, the verb base, here (ł -záás = sáás), and its meaning ('to handle small particles'). The final part of the entry also contains the prefixes that are in the construction, here the prefix *di-*, entered in parenthesis as (*di-*). The *di-* is part of the meaning of the verb 'to dribble along in a line'. Note that this is what is referred to in Athabaskan parlance as the 'verb theme', the verb base (stem and classifier) and the prefixes that compose its meaning, minus the inflectional morphemes. In this particular entry, the *di-* is not associated with a number or a dictionary entry, or, thus, a particular meaning. However the '(330)' at the center margin tells us that we can use the paradigms on page d330 (found in table 7) to build the full set of forms.

For some of the *di-* morphemes, there are separate dictionary entries. In the upper left hand corner of the paradigm charts are the prefixes (or prefix combinations as the case may be) that are represented in the paradigm. If there are separate entries for these morphemes or morpheme combinations, they can be found scattered throughout the text around the paradigm. The entry for *di*⁻² is on p. d331, for instance. It is defined as "Pos. Via, thematic, relates to the arms or legs." Some entries will have (*di*⁻²) at the end of their entry, referring to this morpheme, i.e. this meaning. Some of the paradigms represent morpheme combinations. An example is found on the previous page in the dictionary, the paradigm for *dinii*⁻¹ (page d329). The dictionary entry for *dinii*⁻¹ is on the bottom of page 328, repeated below:

(15) *dinii*⁻¹: *di-ni-*, Pos. VIa-b, prolongative + *yi-*, Pos VIc, semelfactive.

This entry tells us that this *dinii*⁻¹ is combined of three morphemes, all Qualifiers (position VI), that those morphemes are the prolongative and the semelfactive. (Again, for examples of the meaning and use of those aspectual morphemes see Appendix II.) Some morpheme combinations that appear in the entries do not have separate dictionary entries, such as the *di*⁻³ (1987:d330) and the *dinii*⁻² (1987:d329), though they are listed in the paradigms. Generally, this means that this paradigm is associated to an entry or entries, and is not generalizable in either shape or meaning. What is important here is the fact that the prefixes and prefix combinations are all laid out in paradigms, with examples that allow us to build new forms, in an interrelated set of entries and paradigm charts that are further associated to sections in the grammar that provide more examples and detailed discussion.

To return to the entry for *dissáás*, we can thus construct the 3rd singular animate form, perfective Mode of *dissáás* (*jideesas*). We get this by taking the perfective form *désas* from the entry (above in (14)) and matching it to the paradigm chart (330) in Table 3. From the paradigm table, we learn that this is the s-perfective Mode. We also have been told that the Verb base includes the ł classifier. (Recall the s-perfective 1st singular form with this classifier is sé, in the Base Paradigms (g200).) Thus, by using these two things, the dictionary entry for the perfective form of the verb (*désas*) and the paradigm chart on page 330, we get the form *jideesas* with the meaning translated in as 'he dribbled it (something animate?) along in a line'. We also learn that

the prefix combination *di-* + the s-perfective Mode results in the loss of the *s-* in the paradigm. This is the work that the paradigms charts do; they explicitly lay out the non-transparent alternations.

The paradigms in the dictionary are closely connected to the paradigm charts in Appendix I (1987:g202ff) of the grammar section (Table 2). What is missing from the dictionary paradigm charts (as with the paradigms in the grammar section) is the specific classifier-verb stem, the Verb base. While it is not possible for a non-fluent speaker of Navajo to guess what verb bases may be combined with the paradigms, these paradigm charts - dictionary entry pairs provide an ingenious and powerful way of capturing the productivity of the language's morphology with the advantages that a standard dictionary provides. This is a dictionary of fully inflected forms with lots of examples of the uses of the words in context.

There are a number of other things we can learn from these paradigm charts in the dictionary section. First is morpheme ordering. In the chart in table 3, note that the *di-* does not always appear in initial position in the word. Sometimes, for example, it appears to the right of the 3o, 3i, and 3a markers, *yi-*, *ji-*, *'a-*, respectively. These are the agreement markers that sit at the left edge of the conjunct domain, in positions V and VI in the template. The *da-* morpheme, the distributive plural, is a disjunct morpheme from position III. The *ń-* morpheme of the Iterative column in the chart in Table 3, position II, appears to the left of the *di-* and passes on its H tone. The Optative tells us that the *di-* appears to the left of the subject markers, since the high toned *ó* is a subject marker. So, the *di-* is between the agreement markers and the subject markers, position VI in the template, the Qualifier morphemes. In fact, turning to the grammar page 1987:g38, we see that the position VIa has a number of *di-* morphemes. (Recall the *di-* numbering in the dictionary does not necessarily conform to the *di-* numbering in the template on page g38.)

To give another example: the 2nd sing. imperfective form is *dí-* in this chart. The prefix carries a H-tone. The H-tone is a reflex of the 2nd singular subject that appears when there is another morpheme in the conjunct domain; that is to say, the 2nd sing. subject morpheme is not against the disjunct/conjunct boundary. This means that the *di-* morpheme is to the left of this morpheme in the disjunct domain.

Some verb forms are irregular. The paradigms for these forms are listed in the entry itself. The form *dishgééd* is an example. At the end of the entry the stem and prefix group is listed, then its own paradigm. This information is the same that is found in the paradigm charts: the forms of the prefixes, the modes and person and number. When paradigms are found inside an entry, this means that the paradigms contain alternations that other similar ones do not, either in the shape of the forms in the paradigms, or in the Modes that they participate in, or in some other aspect of the forms.

5 Summary

There are several ways to look up a form. It is most helpful to know what the 1st singular \emptyset -imperfective form of a verb is. All dictionary entries are given, if possible, in the \emptyset -imperfective (I), 1st sing form of the verb. If a verb does not have a 1st sing form, then it is given in the 3rd sing. When it is not given in the Imperfective, it is marked. The most common example of non-Imperfectives are the Neuter verbs. An example is the entry *dinisht'id* (NI) 'to be shakey', which is a neuter imperfective. (For information on and examples of the neuter verbs see the grammar section 'Neuter Verbs (1987:g189-98.)')

If you do not know what form the 1st singular imperfective is, let's say in the case that a form is a verb theme with several prefixes and you are not sure what Mode the form is in, then there are a couple of ways to approach the dictionary. One is to go to the root/stem/theme dictionary (1987:g318-356) and look up the stem. The stem is easily identifiable; it is the last syllable in the word, barring enclitics. From this you can tell what Mode the stem is in. Since the stem mode must match the Mode of the subject markers, you can abstract back to the \emptyset imperfective.

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