1972

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Recommended Citation

Smeall, Christopher (1972) "The Lakota verb," *Work Papers of the Summer Institute of Linguistics, University of North Dakota Session*: Vol. 16, Article 8.

DOI: 10.31356/silwp.vol16.08

Available at: <https://commons.und.edu/sil-work-papers/vol16/iss1/8>

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THE LAKOTA VERB

Christopher Smeall

I. Introduction

II. The Affixes

III. The Rules

IV. The Prefix na

Here I offer a set of ordered rules which attempt to define the set of possible predicates in Lakota, while characterizing the linguistic competence of the native speaker. I also list some of the affixes, go through some derivations, and conclude with some remarks on one of the instrumental prefixes.

I. Before listing the affixes, it will be necessary to present some evidence for several phonological interpretations I have made. I will not specify a complete set of distinctive features for the systematic phonemes of Lakota, but only discuss some possibly controversial interpretations. I disagree with the systematic phonemicization of Alyea¹ in several respects. I have chosen to represent glottalized stops and continuants as the appropriate stop or continuant plus a glottal stop, aspirated stops and affricates as stop or affricate plus glottal fricative, and uvularized stops as stop plus uvular fricative. Most of the evidence for this interpretation.

1. Alyea, Carol, "Some Sioux Phonological Rules,"

SIL Work Papers, 1971, U. of North Dakota

ation is morphophonemic. In certain verb stems where there is a nasal vowel in the first syllable, it is necessary to analyze that syllable as beginning with a glottal stop in order to correctly describe the morphophonemic behavior of the stem. When a 'normal' stem begins with a vowel, we get such forms as ukapxe 'we two hit' from u + apxe. But when the verb is something like u 'use' we do not get *uku 'we two use', as might be expected, but rather ukʔu, which indicates that the verb stem has the underlying representation ʔu. This points not only to the existence of glottal stop as a phoneme, but also to the possibility of glottalized segments being derived from the sequence consonant + glottal.

Similar evidence exists for an analogous interpretation of uvularized and aspirated segments. A full presentation must be reserved for later in the paper, however (Sec. III). The 'irregular' verb eya 'say' has the following partial conjugation--
epxa 'I say', eha 'you say,' eya 'he says,' etc. The description of this verb is simplified, and made more general, if a rule like y goes to h is used. The p of the first person could then be treated as a reflex of the ordinary first person marker wa, providing the independence of x and h is allowed, as in my interpretation. Whatever interpretation is

used, the complementary distribution of uvularization and aspiration must still be accounted for. In my interpretation h is underlying, and h becomes x before non-high vowels or high nasalized vowels. The existence of h as a phoneme is of course not in doubt. So we would have the first person form epxa coming from ep^ha, which brings out more clearly the underlying relationship between the first and second person.

Furthermore, although at least one hetero-organic three consonant cluster does exist in Lakota, namely the suffix kšto, this of course does not provide a counter -example to a morpheme structure condition forbidding three consonant clusters. On the contrary, I think some such constraint does exist. In view of this, it is interesting to note that two consonant clusters consisting of a glottalized or uvularized stop plus another consonant are almost as rare as three consonant clusters like kšto.

Evidence of a weaker sort lies in the reversibility of the relevant CC patterns, at least with respect to uvularization.

An interesting theoretical question is raised here, turning around the empirical claim that glottalized continuants, of which there would be a full set in Lakota under Alyea's interpretation, are rel-

atively rare and 'unnatural' segments. Within the present theoretical framework then, would an evaluation device consider the single segment interpretation to be more costly than the separate segment interpretation, or would no distinction in naturalness be made at all?

II. The affixes. I would like to turn now to a listing of some of the affixes, and a partial categorization of them into groups.

A. Suffixes-- I have in general decided to limit myself to prefixes in this paper, partially for the sake of brevity, and partially because the suffixes do not seem to be as directly involved in the verb, with the exception of pi, the plural morpheme, kte the future morpheme, and o or e, the imperative morphemes, as the prefixes are. Consider for example, the fact that when two verbs are conjoined by na, pi is the only suffix which must accompany each verb, the rest being found at the end of the sentence.

B. Prefixes-- I have divided the prefixes into four groups.

1. This consists of the stem-integral instrumental prefixes, consisting of ka-, which indicates that the action of the predicate is characterized by striking, pa-, when the action involves pressure or weight, yu-, when hands are used to perform the action, and

ya-, which is used when the mouth is involved. These meanings are by no means clear-cut, as will be demonstrated in Section IV. These four prefixes are especially notable for the peculiar properties of their initial consonants. These have been called stem integral because of their close affinity with the basic stem. They are always found directly in front of it, and always accompany the stem which they modify, never moving up to higher or down to lower verbs.

Also in this group are ki and kiči. These are not really indirect object pronouns, because they must be accompanied by pronouns in order to function pronominally. They might better be described as indirect objective or benefactive derivational affixes. They normally directly precede the above four, but can move to another verb in some cases(or fail to move to the principal verb).

Also patterning with this group are the reflexive and possessive adjectives, ikʔi (ičʔi) and ki, respectively. All together, these group 1 prefixes form with the stem what I have called the composite stem, or C-stem. This is the point at which the pronouns occur(to the left of the C-stem).

2. The personal pronouns-- Each one of the pronouns exhibits peculiar behavior with regard to different

rules, but they can be divided into the two broad sub-categories of active and inactive.²

Active

<u>wa</u>	<u>ya</u>	<u>y</u>
+PRO	+PRO	+PRO
+1st	+2nd	+1st
+sing	+active	-sing
+active		

Inactive

<u>na</u>	<u>ni</u>	<u>wiča</u>
+PRO	+PRO	+PRO
+1st	+2nd	+3rd
+sing	-active	-active
-active		

as well as-- či which is wa + ni.

3. Marginal Prefixes-- This group consists of three instrumental prefixes, na- indicating that the action of the predicate is done with the foot(see section IV), wa- indicating that the action is done with a saw or knife, and wo- when shooting, poking, or blowing is involved in the predication.

Another member of this group is wa- (different in distribution from the above, in that it is ordered

2. It is not correct to call these ergative and nominative, respectively, for Lakota is not a true ergative language, this being defined as a language wherein there is one pronominal form for subject of transitive and one for object of transitive, subject of intransitive, and subject of stative. see Fillmore, "The case for case," in Bach and Harms Universals in Linguistic Theory pp.53-55, 57-60. Also, Sapir, E. Review of Uhlenbeck, Het passieve karakter van het verbum transitivum of van het verbum actionis in telen van Noord Amerika IJAL 1-82-86

before it.), which completes the predication of verbs. For example, from yawa 'to read something' comes wayawa 'to read' and wablawa 'I am reading'.

Also included in this group are a small number of syllables, which need to be specially marked +marginal perhaps, so as to allow the personal pronouns to be inserted after them. This group would include such syllables as the ma in mani 'to walk'. Perhaps these are relics of a process of verb compounding (or stem compounding), but synchronically these behave, with several exceptions,³ like the other members of group 3. The features common to these semantically somewhat disparate elements I have tried to express in a phrase structure rule like V goes to M(margin) + C-stem. These elements of group 3 are all to be found under M in the tree. There is some evidence that this is partially correct. For example, the group of seven apparently similar instrumental prefixes behave quite differently depending upon their membership in class 1 or 2. In particular the stem initial consonants of the group 1 prefixes are the only ones which undergo the various 3. One exception is ceya 'to cry'. This verb is conjugated normally-- waceya 'I cry'; but when other elements are used, such as ki or kiçi, these are inserted after ce, and then so of course are the personal pronouns-- wacekiya 'to pray' wacewakiya 'I pray'. In one verb ce seems to be marginal, in the other integral. This may be related to the palatal affricate (see rule 4, sec. III)

changes to be found in the rules.

4. Propositional vowels-- Vowels of this type may have to be marked by the feature +prep. These morphemes exhibit some very peculiar behavior, both in ordering and within the rules. I have not attempted to account for the ordering in this paper. These vowels can occur in at least the following environments--

wa + ____ + na, wa, wo (absolutive__instru.)

ka, pa, yu, ya, + ____ + verb stem

na + ____ + personal pronouns

wa, wo + ki,kiči + ____ + verbstem

In some cases the prepositional vowel may occur in a different place within an identical set of stem and affixes, with concomitant change in meaning.⁴ Perhaps this could be expressed in a regular fashion in the lexicon, where a verb would be marked for whether its prepositional vowel occurred in the margin or in the stem.

The single most important peculiarity of prepositional vowels as far as the rules are concerned, is that they are assimilated by nasalized high vowels. In particular, this accounts for the peculiar behavior of the first person plural morpheme ʉ when the prepositional vowel stands alone in the margin.

Two or more prepositional vowels may occur in

4. Uncorroborated data from Buechel, A grammar of Lakota , p.156

composition. In this case, glide insertion rules similar to those which operate for the imperative are used, and the composed vowels take on the character of an ordinary marginal element. For example,

oxloka el eyoukʔasni 'we peeped in the hole'
 o + kʔasni 'look in or out'
 eyo + kʔasni 'on the inside looking out'
 aʔeyo + wa + kʔasni 'I looked in from the outside'

III. The rules-- Here we are confronted with ^wtho main problems--getting the constituents into the correct order and generating the correct shapes.

A. Order- I am principally concerned in this paper with what happens after the correct surface structures have been obtained. But I will present a few suggestions for phrase structure rules and means of correctly ordering the constituents of the verb.

S goes to NP + VP

VP goes to NP + V

V goes to M(margin) + C-stem⁵

A tree would look like this

4. I took the terminology for this rule from Mathews, G.H., Hidatsa Syntax, The Hague, 1964 but I make no claim to have used it as he did.

Prefixes from group 1 are attached directly to the left of the C-stem node, in the following order
 ki + kiči + ka, pa, ya, yu.

The elements of group 3 are marked +margin and are ordered as follows wa + na, wa, wo + the irregular initial syllables like ma.

The plural marker pi is adjoined to the right of the C-stem node whenever any noun marked +plural (-sing) and +animate is dominated by the same S which dominates the verb. However, when wiča, the 3rd person plural inactive pronoun is present, pi is not adjoined.

After these processes have taken place (except for pi insertion perhaps), the pronouns are added in the following manner

NP + X + M + C-stem				
+PRO				
1	2	3	4	SD
2 +	3 + 1	+	4	SC

Cond 1- X equals any constituents dominated by the same S node which dominates 1.

Cond 2- 2 and 1 command each other⁵

With respect to this process, the pronouns are ordered in the following way

1. wiča
2. u
3. ma, wa, ni, či
4. ya

5. Command being defined as: A commands B if B is dominated by the first S node over A.

A Third condition is needed to account for the behavior of y.

Condition 3- If 1 equals y and 3 equals v(one isolated vowel in the margin), then the transformation blocks.

Condition 3, along with the ordering of application, accounts for the fact that y is not inserted when a single prepositional vowel is present in the margin, but is inserted if wiča has been inserted. This is because after wiča is adjoined to the right of the margin, there is no longer only a single vowel in the margin, and the transformation does not block.

Condition 2 may be too strong or incorrect in its formulation. I included it to account for the behavior of the prefixes with respect to the causative verb ya. I have decided to treat ya as higher verb, for example napogewaya 'I made it swell'

In this case, since wa does not command the margin node in the lower sentence, it would not be inserted there, but rather to the right of the margin node of the upper sentence(not marked in the tree). Other verbs besides ya act in this manner.

B. Rules- there are the two basic types here of purely phonological and morphological, such as rule 7. The rules are to be applied in the order which they are numbered. Surface structure being somewhat shallow in Lakota, there did not seem to be much justification for the use of a transformational cycle, as developed in Chomsky and Halle's The Sound Pattern of English. Perhaps this could be fruitfully applied to stress phenomena.

1. V_{R1} goes to i / $___ ++kte$
 " " " e / $___ ++$

As far as I have been able to determine, verb stems in Lakota fall into two arbitrary classes as to whether or not they undergo this rule. It is always the final vowel, and it usually is a. But that is as far as the pattern goes. In modern Lakota, a rule seems to have been added which nasalizes all i's derived from other sources before kte.

2. i goes to $\emptyset$ / $\left[\begin{matrix} k \\ ? \end{matrix} \right] ___ +y, k, p$ verb stem
 i goes to $\emptyset$ / $\left[\begin{matrix} +obs \\ -cont \end{matrix} \right] ___ \left\{ \begin{matrix} ++ & \text{optional} \\ ++ +obs & \text{obligatory} \end{matrix} \right.$

3. ? goes to $\emptyset$ / $[+cons] __ (+) \begin{bmatrix} +cns \\ +voc \\ -nasal \end{bmatrix}$

This rule accounts for the retention of underlying glottal stops on nasalized verb stems as mentioned in the introduction.

4. k goes to $\emptyset$ / $\begin{bmatrix} +voc \\ +PRO \\ -3rd\ ps. \\ -nasal \end{bmatrix} + \begin{bmatrix} __ i + \check{c} \end{bmatrix} \text{ stem}$

This rule is involved in the derivation of the so-called 'short form' of the pronouns, which occur only before palatal affricates in the stem.

5. $\begin{bmatrix} +voc \\ +PRO \\ -active \end{bmatrix}$ go to $\emptyset$ / $__ + \begin{bmatrix} +voc \\ +nasal \\ +high \end{bmatrix}$
 $\begin{bmatrix} +voc \\ +prep \end{bmatrix}$
 $\begin{bmatrix} +voc \\ +sing \\ -1st \end{bmatrix}$ goes to $\emptyset$ / $__ + i, y$

6. k goes to y / $k __$

This rule is tentative. No geminate consonants occur in the language.

7. y goes to l / $\begin{bmatrix} +pro \\ +2nd \\ +active \end{bmatrix} + \text{margin} __ \begin{bmatrix} +voc \\ -nasal \end{bmatrix}$
 $\begin{bmatrix} w \\ k \end{bmatrix} + __ \begin{bmatrix} +voc \\ -nasal \end{bmatrix}$

This rule is crucial to many processes. The notation in the first environment indicates that the change

takes place whenever ya is anywhere within the margin. Why only ya should function in this way and not wa is puzzling, and may have to do with the fact that ya can be either a singular or plural, while wa is only a singular pronoun.

7b. y goes to h / irregular

7c. *yu* goes to $\emptyset$ / irregular

Rules 7b and 7c should be ordered before 7a, in which case the relevant irregular stems would be marked +R7b or + R7c, as required.

8. +voc goes to -nasal / 1__

There is a universal constraint on nasalization after liquids.

9. l goes to $n / \frac{i}{+R^2} ++kte$

Which is to say that l's derived by rule 7 change to n if they precede a vowel which has been altered by rule 2. This rule or something like it is necessary to explain the lack of nasalization in certain vowels which preceded kte and should be nasalized. It would be nice (the rule would be more natural), if it changed l to n before nasalized vowels, but then an equally unnatural rule would have to replace rule 8 in order to account for the absence of nasalization in forms like wablaka 'I see'.

10. w goes to p / ____ +1

w goes to $m / \dots + n$

This rule should be written with variable feature specifications, but I couldn't figure out a simple way to do it.

11. $\varnothing$ goes to $\varnothing$ / $x + __ + 1$ cond- x is not equal to $\begin{bmatrix} +\text{PRO} \\ +\text{1st} \end{bmatrix}$

Superfluous ya deletes except when preceded by a first person pronoun.

12. Contraction rules

- a. $a + i$ goes to e c. $i + o$ goes to o
 b. $i + I$ goes to i d. $i + e$ goes to i

In other words, a hierarchy of 'strength' would be back vowels stronger than front, high vowels stronger than low. Some additional glottal stop retention or insertion rules may be necessary in order to prevent this rule from operating when it shouldn't.

13. $\varnothing$ goes to $\begin{bmatrix} +\text{voc} \\ +\text{cns} \\ a \text{ flt} \end{bmatrix} / \begin{bmatrix} +\text{Voc} \\ -\text{cns} \\ a \text{ flt} \end{bmatrix} \text{---} \begin{cases} \begin{bmatrix} +\text{voc} \\ +\text{imperative} \end{bmatrix} \\ \begin{bmatrix} +\text{voc} \\ +\text{prep} \end{bmatrix} \end{cases}$

This glide insertion rule inserts glides which agree in rounding(flatness) with the preceding vowel.

14. $\begin{bmatrix} +\text{obs} \\ -\text{cont} \end{bmatrix}$ goes to $\begin{bmatrix} +\text{voice} \end{bmatrix} / __ (+) \begin{bmatrix} +\text{cns} \\ -\text{obs} \end{bmatrix}$

In other words, p and k go to b and g before $m, n, l, w,$ and y .

15. $\varnothing$ goes to $\begin{bmatrix} +\text{voc} \\ -\text{syl} \end{bmatrix} / \begin{bmatrix} +\text{obs} \\ -\text{cont} \end{bmatrix} \text{---} \begin{bmatrix} +\text{cns} \\ -\text{obs} \\ -\text{voc} \end{bmatrix}$

In words, there is an open transition between b,g and l,m, and n (but not before semi-vowels as in Alyea's incorrect formulation (op cit)).

16. k goes to č / $\begin{bmatrix} +\text{voc} \\ -\text{low} \\ -\text{comp} \\ -\text{prep} \end{bmatrix}$ —

k palatalizes after non-low front vowels, but prepositional vowels do not cause palatalization.⁶

17. h goes to ø / ++č__

18. h goes to x / $\begin{matrix} \text{c} \\ \text{—} \end{matrix} \begin{cases} \begin{bmatrix} +\text{voc} \\ -\text{high} \end{bmatrix} \\ \begin{bmatrix} +\text{voc} \\ +\text{high} \\ +\text{nasal} \end{bmatrix} \end{cases}$

There does seem to be a constraint on uvular fricatives before high vowels even when not following a consonant.

19. ø goes to k / $\begin{bmatrix} \text{u} \\ +\text{PRO} \end{bmatrix}$ — + $\begin{bmatrix} +\text{voc} \\ -\text{nasal} \\ +\text{prep} \end{bmatrix}$

Both the PRO and prep features may be superfluous here. The + prep could possibly be replaced by a second formative boundary after the vowel.

20. ø goes to $\begin{bmatrix} +\text{nasal} \\ +\text{cons} \\ \text{a grave} \\ \text{b comp} \end{bmatrix}$ / $\begin{bmatrix} +\text{voc} \\ +\text{nasal} \end{bmatrix}$ — $\begin{bmatrix} +\text{obs} \\ -\text{cont} \\ \text{a grave} \\ \text{b comp} \end{bmatrix}$

21. $\text{aw} \begin{Bmatrix} \text{a} \\ \text{o} \end{Bmatrix}$ goes to ɔ $\text{ay} \begin{Bmatrix} \text{a} \\ \text{e} \end{Bmatrix}$ goes to æ

6. In Santee loan words, only i causes palatalization, not e.

C. Irregular verbs, reflexives and possessives.

In this section, I would like to show how the analysis given above provides a simple explanation for the form of some 'irregular' verbs, as well as reflexivization and possession (Lakota has a form of the verb in which, more or less, the action is predicated on an object which belongs to the agent.)

1. Irregular verbs-- One type of irregular verb, which we shall see are not irregular at all, are the futures in *mn-*. For example, the verb *ya* has the following conjugation-

<i>mnikte</i>	I will go
<i>nikte</i>	you will go
<i>yikte</i>	he will go
<i>uyikte</i>	we two will go
<i>uyapikte</i>	we will go
<i>lapikte</i>	you plur. will go
<i>yapikte</i>	they will go

The ordered rules given above will generate all of these forms. Let us look at the derivation for the first person singular-

<i>wa + ya ++ kte</i>	underlying
<i>wa + yi ++ kte</i>	rule 1
<i>w + yi ++ kte</i>	rule 5
<i>w + li ++ kte</i>	rule 7
<i>w + li ++ kte</i>	rule 8
<i>w + ni ++ kte</i>	rule 9
<i>m + ni ++ kte</i>	rule 10

This yields the correct form. It involves a certain depth of ordering, but all the rules, with the possible exception of 9, are independently motivated. Note especially that the underlying 11 accounts for

the absence of nasalization in the final form. In modern Lakota apparently, this vowel is nasalized, indicating most probably that a rule has been added near the end of the grammar which nasalizes all high vowels before kte, regardless of where they are derived from. Note also that in the plural forms, the intervening pi prevents the crucial rule 1 from operating, yielding the radically different forms. These processes apply to a number of verbs which end in ya.

Let us look now at the verb gla 'to go home' which has the irregular future wagnikte 'I will go home' yagnikte 'you will go home' etc. The derivation of the first person proceeds as follows-

wa + kla ++ kte	U.R.
wa + kli ++ kte	Rule 1
wa + kli ++ kte	Rule 8
wa + kni ++ kte	Rule 9
wa + gni ++ kte	Rule 14

This yields the correct form.

Looking now at the verb cya 'to say' which was mentioned in the introduction, we see that it too has a strange surface form -- epxa 'I say', cha 'you say' eya 'he says' etc. I contend that the irregularity of this verb is reduced to the single irregular rule 7b. y goes to h, providing my segment interpretation is used. The derivation-

wa + e + ya
 e + wa + ya ordering trans.
 e + w + ya rule 5
 e + w + ha rule 7b
 e + p + ha rule 10
 e + p + xa rule 18

This yields the correct form. Observe how a linguistically significant generalization is lost,--the similarity between the persons-- by not using a set of ordered rules to generate the forms.

Further evidence for the correctness of this interpretation is the fact that eya is conjugated normally with the active pronouns when ki intervenes after the prepositional vowel.

2. Reflexives and possessives.

Reflexives and verbal possessives are formed similarly in Lakota, and both fall out with the ordered rules given above. The normal reflexive marker is ičʔi, which is inserted between the margin and the composite stem (and adjoined to the composite stem. The inactive pronouns are then used with this form. The interesting alternations occur with the y, k and p-stems. Consider yuwiye ya 'to get ready' For 'I get myself ready' the form is migluwiye ya. Treating ičʔi as being underlyingly ikʔi, which presents no problem due to the independently required rule which palatalizes k after non-low front vowels, we get the following derivation--

ma	+	ik ^ʔ i	+	yuwiyeya	
ma	+	ik ^ʔ	+	yuwiyeya	rule 2
ma	+	ik	+	yuwiyeya	rule 3
m	+	ik	+	yuwinyeya	rule 5
m	+	ik	+	luwiyeya	rule 7
m	+	ig	+	luwiyeya	rule 14

This yields the correct form. Note the similarity between this process and the process which generates the ordinary conjugation of y-stems. Stems beginning in ka rather than yu undergo almost identical process, except for the operation of rule 6, which changes geminate kk to ky. The behavior of stems beginning in pa clearly point to the existence of a vowel and glottal stop deletion process, for in these verbs, nothing happens after rule 5, since p is not a semi-vowel nor does it become geminate. For example, from papsu 'spill' we get kpapsu 8to spill one's own' as in-

asapi ki yakpapsu 'you spilled your milk'

The possessive 'your' is contained in the Lakota verb. So the underlying representation of the predicate of the above sentence would be

ya + ki + pa + psu

where ki is the possessive marker (not the same as the benefactive ki)

IV. Some remarks on the instrumental prefix na.

One of the most interesting features of the verb in Lakota is the variety of things which can be expressed within it, things which would require circumlocutions and separate phrases in other languages. In view of this fact, I was prompted to examine a bit more closely the meaning of the instrumental prefix na.

The most common meaning of this prefix is an instrumental one, indicating that the action of the verb was performed by, or related to, the action of the feet. Examples of this type are numerous, and range from the obvious- naʔuka 'gallop' naži 'stand' naxtaka 'kick' -- to the not-so-obvious like napʔo 'to raise a cloud of dust when walking' (from pʔo 'fog') napuʔæ 'to start a car (by pumping the accelerator)' našna 'to slip, miss one's footing'. The process of composition occurs with at least adjectives and verbs, and possible with nouns.⁷ Examples-- našapa 'to soil with the feet' (from šapa 'soiled, dirty') našla 'to make bare with the feet' (from šla 'bare, bald') nablaja 'to smooth with the feet' (from blaja 'smooth, level') In general, the process of composition with adjectives follows the

7. It is difficult to ascertain the existence of noun composition, because of the frequent interchangeability of noun and adjective stems in Lakota.

semantic pattern na + X equals render X with the feet, where X equals adjective. Verb composition is even more common.

But there are a large number of na-stems where the addition of na does not add an instrumental meaning to the verb. The meanings of these verbs fall into several rough categories, which occasionally overlap each other, indicating that further consolidation might be possible, given a greater subtlety of meaning distinction on my part. There are also several verbs which don't seem to fit in to any category, but surprisingly few. We get a broad category which might be labeled 'spontaneous action' and then four sub-categories as follows-- 1. spontaneous movement 2. associated spontaneous noises 3. spontaneous bodily action 4. miscellaneous. For example--

Class 1

naplaza	'to burst open(tire)'
naplaga	'to open up(umbrella)'
naga	'to open up(wound)'
nakawa	'to spring open'
nasnize	'to burst'
namna	'to come apart (seam)'
našloka	'to fly out (cork)'
naskahq	'to come loose'
naphope	'to burst with noise'
naphemni	'to twist of itself'
na ² ičabya	'to come loose'
nasuza	'to splinter, fly off'

Class 2

nagaga	'to spatter'
nakpakpa	'to crackle'
naoaxpaga	'to snap'
napiza	'to creak'
namnuze	'to creak'
naxlaxla	'to rattle'

Class 3

načāčā	'to shiver, tremble'
naḡḡaka	'to twitch'
našli	'to form swollen sores'
napča	'to swallow'
našoka	'to thicken, swell'
naxʔq	'to hear'
naša	'to blush'

Class 4

nakča	'to become smooth'
naša	'to blush'
naska	'bleach'
naskopa	'leak out'
naʔiyoyake	'evaporate'

In general, when the na-verbs are used instrumentally they are conjugated with the active pronouns, which are inserted after na since it is +margin. From našpi 'to break off with the foot' comes nawašpi 'I break off with my foot'. Often na verbs require the causative auxiliary ya-- nagoya 'erase with the the foot' nago waya 'I erase with the foot'. In other cases, na stems optionally take ya, with concomitant meaning change. For example, from naxpe 'to kick down' we can get both nawaxpe 'I kick down' or naxpe waya 'I cause to fall by kicking'.

One exception to this patterning was found-- the case of načakuthq 'to wear a path' Buechel gives the first person as načakuwathq, indicating that thq might be an auxiliary verb of some kind (acquire, give birth to?). But my language helper, resisting this inflection, preferred to use the auxiliary ixpeya 'to throw down', forming načakuthq ixpewaya 'I wore a path'. It is interesting to note that with certain na stems we can get the use of both the active and inactive pronouns, with no other morphological changes, but only a change in meaning. So, for example, from šli, meaning 'to ooze out' we get našli. If the active pronouns are used we get nawašli 'I squashed something underfoot' but with the inactive set we get namašli 'I broke out in swollen sores or pimples,' This is roughly what one would expect. But consider anamamna 'I ripped my clothes on something' vs. anawamna 'I ripped (burst) my shoe on something' The only general pattern here is that the active pronouns seem to be necessary to bring out the instrumental(foot) meaning of the prefix na.

Another stem with a variety of possible derivations is poge 'to swell' . From this stem we get napoge 'to swell of itself' and napogeya

'to make it swell(like dough for example)' Furthermore, we can also get the inactive pronouns with

napoge as in namapoge 'I got a blister'

When the verb is transitive, ma of course is then used as an object, as in namaxtake 'he kicked me'

When a verbstem which can take either set of pronouns is used in this way, then an ambiguity results.

It is interesting to compare the active and inactive uses of na and yu, another prefix indicating the use of the hands, which seems to be more strictly transitive in its use than na. The difference is analogous to the use of english cook in the stew cooked and I cooked the stew. I shall call these cook_1 and cook_2 respectively, although Fillmore points out that this is not a difference of meaning but of case frame, lexically. (Fillmore, op. cit.) From xla 'ring' we get naxla 'to ring by itself(as an alarm or telephone). This is similar to cook_1 . But from yuxla we get bluxla 'I rang(the bell).⁸

I found one further alternation of active and inactive meanings. One finds namapsipsiče 'I go into convulsions' vs. owapsipsiče 'I jump up and down (fruitlessly trying to get something).

8.To complicate matters even further, consider

bluxla 'I rang (a big bell)
wakaxlaxla 'I rang (a little bell)'

What is the role of reduplication in verb morphology. In some instances it appears to be a plural marker for inanimate things, in other cases it has an indeterminate function. In particular, notice the large number of reduplicated endings in the na verbs(3).

I suspect that it is only the prefixes of the margin which are susceptible to taking on a variety of both transitive and intransitive meanings. The stem-integral instrumental prefixes appear to be restricted to the transitive type represented by *cook*₂.

Obviously, there is a great deal of work to be done among these prefixes, discovering fully their syntactic and semantic functions. A careful examination of the complexities would be revealing for analogous phenomena in other languages, which are often incorporated in phrasal circumlocutions.

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