Vowel-Initial Roots in Yuman

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In many languages forms which are shorter than the normal canon exhibit irregular or defective behavior. (1) The canonical shape of a Yuman verb root, for instance, is

CV(C),

with appended derivational prefixes and suffixes forming a stem of the shape

C-C-C-CVC-C

(to which inflectional prefixes and suffixes are added), to cite just one example (cf. e.g. Langdon 1970). (2) Theoretically the root may be simpler, lacking its initial consonant --

V(C), as in a stem like C-C-C-VC-C

-- but in practice vowel-initial roots behave unexpectedly (in different ways, the most common of which is restructuring into a consonant-initial form) in the various Yuman languages I am familiar with. (3)

Vowel-initial roots have proven to be important in certain Yuman historical discussions (the best known of which involves Wares's (1968) solution of the problem of y's before stressed vowels in the Northern Pai languages, as in the well-known case of ARRIVE; cf. also Langdon 1975), but they have never been comprehensively surveyed. In this note I will describe the irregular morphology of vowel-initial roots in one language, Maricopa, and then will discuss the general behavior and appearance of such roots throughout the language family. (As a supplement to my description of the historical treatment of vowel-initial roots, I present an Appendix of cognate sets where at least one member of the family displays such a root.) Finally, I will present some observations on the retention root-initial glottal stop and the addition of glottal stop and other glides to roots which were originally vowel-initial.

1. Vowel-initial roots in Maricopa

Maricopa verbs with vowel-initial roots display a number of traits which distinguish them from other verbs in the language. The most striking of these characterize roots without derivational prefixes whose whole stem consists of the vowel-initial root, but even within a larger stem the behavior of such roots is irregular.

1.1 In Yuman languages like Mojave and Diegueño words with initial vowels are articulated (at least in isolation) with a marked aspirated onset (in Mojave, this is indistinguishable from the phonemic /h/). As Gordon (1980) notes, however, most vowel-initial words in Maricopa have
a much less marked onset which may even vary with [?]:

(1) ar’oy-k ‘he plays’ : [ar?oyk] [?ar?oyk] (rarely) [har?oyk]

(Words not in square brackets are cited in practical orthography, and the forms in square brackets do not show detail (such as inserted schwa) irrelevant to the point at hand. Stress is invariably on the root vowel — here, for instance, the root is oy (with stressed o) and a and r are derivational prefixes. The segmentable inflectional suffix k (and the m in (4) below) is separated from the stem with a hyphen — for details, see Gordon 1980.) Unprefixed vowel-initial stems, however, are invariably articulated with a strong aspirated onset:

(2) aamp-k ‘there’s some left’ : only [haampk]

1.2 A particularly striking and hitherto unremarked feature of unprefixed vowel-initial roots in Maricopa is that they take a ky- imperative prefix (as in (4)) instead of the normal k- imperative prefix used elsewhere (cf. Gordon 1980), as in (3):

(3) k-ar’oy-k ‘play!’

(4) ky-aay-m ‘give it to him!’

1.3 Vowel-initial roots almost always replace the normal Maricopa diminutive prefix m- (Munro 1978) with an alternate ny- whose occurrence with other roots is somewhat exceptional:

(5) arn’oy-k ‘(baby) plays’

(6) nyaay-m ‘(baby) gives it to him’

The palatalization seen in this replacement of m- with ny- seems suggestively similar to the change of k- to ky- reported in 1.2, but there seems to be no useful generalized statement of these processes to be made at this point. In light of other cases where vowel-initial roots acquire a glide onset (e.g. 1.4 below), one might wonder whether kyaaym and nyaaym could be analyzed as k-yaay-m and n-yaay-m, with the expected prefixes occurring before a new root beginning with y. However, the ky- and ny- morphemes described here and in 1.2 contain the Maricopa unit phonemes /ky/ and /ny/ rather than sequences of /k/ and /n/ plus /y/ — consider the fact that initial consonant plus /y/ clusters are always broken up by an inserted i-colored schwa, as in

(7) k-yuu-k ‘look at it!’ : [kiyuuk]

No such pronunciation is possible for words like (4).

(Since the diminutive prefix is normally added directly before the root portion of a Maricopa stem, incidentally, its appearance can often be a test for the synchronic presence of a vowel-initial root.)

1.4 The plural prefix uu- is also normally added immediately before the root of a Maricopa stem, as in (6b).<5> When uu- precedes a
vowel-initial root, it is normally followed by a \( w \) glide, as in (9b):

(8a) maa-m 'he eats'

(b) uumaav-k 'they eat'

(9a) aay-m 'he gives it'

(b) uu(w)aayk 'they give it'

Plural \( uu \)- precedes diminutive \( n- \) (1.3 above) when both appear on the same Maricopa stem, as in (10):

(10) uummaav-k (babies) eat'

But when \( uu \)- and \( n- \) precede a vowel-initial root, as in (11), the "inserted" transitional \( w \) seen in (9) appears after the diminutive:

(11) uumwaay-k (babies) give it'

This seems to be a clear case of a vowel-initial root "borrowing" an available initial consonant --- the inserted glide \( w \) of (9b) is interpreted as the beginning of that root, so \( n \) is added before this (new) root-initial consonant. This analysis is confirmed by the fact that the preconsonantal form of the diminutive prefix, \( n- \), is chosen over the \( ny\)- variant normally used with vowel-initial roots (cf. (6)).

1.5 Finally, derived causatives of vowel-initial roots present a confusing picture at odds with the general regular structure of Maricopa morphology. (12) exemplifies a standard Maricopa causative formation (with the most common causative prefix, \( k- \) --- cf. Gordon (1980)):

(12a) puy-k 'die'

(b) t-puy-k 'kill' : [tʰpuyk]

The schwa in (12b) is added to break up an initial consonant cluster by the standard Maricopa rules referred to in the discussion of (7) above. No schwa would be expected to appear in the causative of a vowel-initial root like (13b):

(13a) eemp-k 'move [intr.]'

(b) t- + eemp-k 'move [tr.]' : [teempk]

However, vowel-initial roots preceded by causative prefixes sometimes behave as if they were consonant-initial for purposes of schwa insertion, as in

(13b) (variant) [tʰeempk]

(14a) aaly-k 'swell'

(b) t- + aaly-sh-k 'make swell' : [tʰaalysk] ~ [tʰaalahysk]

2. Vowel-initial roots in Yuman

Because vowel-initial roots often mimic the behavior of consonant-initial ones, such roots, or the stems which contain them, are easily ignored or misclassified. In this section I will discuss the synchronic distribution and identification of such roots in Yuman.

2.1 In Maricopa the surest way to find an unprefixedd vowel-initial
stem is to look for a verb whose second-person subject form has only one syllable. Unprefixed consonant-initial roots have only one syllable in the third person, of course (since the Maricopa third-person subject marker is ø), and many first-person subject verbs do not take the expected glottal-stop person marker (Gordon 1980). However, the second-person prefix m- is never omitted, and its presence before a consonant-initial verb stem always conditions schwa insertion, resulting in a two-syllable surface form:

(15) m-maa-m ‘you eat’ : [m₃maam]

-- in contrast to the situation with unprefixe vowel-initial stems like

(16) m-aay-m ‘you give it to him’ : [maaym] -- never [m₃aaym]

Such diagnostics vary from language to language, as does the occurrence of the roots. Vowel-initial roots are quite common synchronically in Northern Diegueño (cf. section 3 below) and not uncommon in the River languages Maricopa and Mojave; a number are reported by Crawford (1966) for Cocopa. Clearly, they are rare in some languages -- for instance, in Tolkapaya Yavapai only one root, Ɂi ‘say’ is ever treated as vowel-initial, and then only in the second-person subject form, as in (17a). Note the contrast between second-person subject (17a) and second-person object (17b) -- for other Tolkapaya verb stems, these two forms would be homophonous:

(17a) m-Ɂi ‘you say it to him’   (b) m-’Ɂi ‘he says it to you’

The occurrence of such roots in other languages remains to be comprehensively surveyed.

2.2 Prefixed vowel-initial roots are often even harder to identify. The best clue in most languages is the occurrence of an unexpected segment between an immediately prereoot consonant and the initial vowel of the root. As noted in 1.5 above, Maricopa (and also Mojave and Diegueño (cf. Langdon 1970, Couro and Hutcheson 1973)) may show schwas in this position. Plural markers also may appear here, as with Maricopa verbs like

(18a) naaɾ-k ‘take away from’   (b) pl. ntuu(w)naaɾ-k

Normally, of course, the prefix uu precedes the root (cf. (8b) above); Ɂ, if present, precedes uu. The only indication that naaɾ-k is not an unanalyzable root comes in the plural, where the plural prefixes Ɂ and uu intervene between the Ɂ of this stem (thus revealed as a prefix) and the root aaɾ, giving (18b) instead of the expected *uunaaɾk.

2.3 At least eight verb stems containing vowel-initial roots are reconstructable for Proto-Yuman, and there are a reasonable number of other possible candidates, as shown by the cognate sets presented in the Appendix to this paper. In my annotations to the cognate sets, I note many recurrences of the same roots in different stems, suggesting that the total number of separate vowel-initial roots was not large.
Such roots are most common today in Northern Diegueño, largely because of the deletion of ?'s in root-initial position in that language, as discussed in section 3 below.

Vowel-initial roots are least common in the Pai languages, which have largely added root-initial ?'s to proto-roots without initial consonants — again, see section 3 below.

The inventory of such stems has changed less in the River languages and (as far as my information goes) in Cocopa, Southern Diegueño, and Kiliwa, all of which tend to be conservative regarding original ?.

However, all languages seem to prefix glides (w, y, j, or h) to original vowel-initial roots on occasion, resulting in the reanalysis of such roots as consonant-initial. As might be expected, vowel-initial roots are restructured with initial h (probably often as a result of the reanalysis of an aspirated onset; cf. 1.1 above) only in the languages in which Proto-Yuman *x has become h (i.e., in Mojave and the Northern Pai languages); such reanalyses thus presumably postdate the *x > h sound change.

3. The Retention of Root-Initial ? in Yuman

In this section, I will survey the synchronic occurrence of root-initial glottal stop in Yuman, contrasting three groups of languages — River/Cocopa (with which Kiliwa and Southern Diegueño largely seem to agree, on the basis of sparse data), Northern Diegueño, and Pai. The data surveyed is based on the cognate sets presented and discussed by Wares (1968), with the Northern Diegueño facts updated according to the data of Couro and Hutcheson (1973).

3.1 There are four correspondence patterns for root-initial glottal stops in Wares's data — I list these here along with the representative cognate sets from Wares, which I will not reproduce here. In addition, other sets among those presented in the Appendix illustrate the same four correspondence patterns, with (?) indicating a root-initial ? and (--) an apparent vowel-initial root.

(19) Correspondence patterns involving root-initial ?

<table>
<thead>
<tr>
<th>R/C</th>
<th>ND</th>
<th>PAI</th>
<th>Wares cognate sets</th>
</tr>
</thead>
<tbody>
<tr>
<td>I.</td>
<td>?</td>
<td>?</td>
<td>FIRE 165, METAL 246, NOON 305, SCREWBEAN 364, WOOD 491</td>
</tr>
<tr>
<td>II.</td>
<td>?</td>
<td>--</td>
<td>COUGH 92, FULL 187, SAY 362, SON'S CHILD 404</td>
</tr>
<tr>
<td>III.</td>
<td>?</td>
<td>--</td>
<td>MOON 281, COTTONTAIL 337, SALT 359, SALTY 360, SAND 361</td>
</tr>
<tr>
<td>IV.</td>
<td>--</td>
<td>--</td>
<td>GIVE 191, SWELL 431</td>
</tr>
</tbody>
</table>
SAY is an immediate problem, since despite its inclusion in group II above it is also the only word which shows vowel-initial root behavior in all three major branches of Yuman, River, Delta-California, and Pai (cf. the discussion in 2.1). Probably SAY was an original vowel-initial root ("ii") which was already in synchronic alternation with a glottal-stop-initial root ("ii") in Proto-Yuman times.

The multiplicity of correspondence patterns seen in (19) has led researchers from Wares onward to conclude that occurrence of root-initial glottal stop was arbitrary, although some tendencies (more ʔ's in River and Cocopa, fewer in Northern Diegueño) have been informally remarked. However, the facts can actually be quite rigorously described. I would reconstruct ʔ for patterns I-III and vowel-initial roots for pattern IV. Given these reconstructions, River and Cocopa are seen to be conservative. But the differences in the retention of ʔ in Northern Diegueño and Pai must still be accounted for.

3.2 Clearly, Northern Diegueño retains ʔ in non-root-initial position, as shown by the use of ʔ- as a first-person subject prefix and derivational noun formative. However, I believe that it may prove possible to show that Northern Diegueño has lost all root-initial ʔ's.

Of the crucial apparent counterexamples, the words illustrating correspondence set I above, FIRE, SCREWBEAN, and WOOD must be reconstructed with two initial ʔ's, with the ʔ-noun formative coming before the ʔ-initial stem (cf. synchronic Mojave ʔawaw 'fire', ʔiis 'screwbean', and ʔii 'wood', for example), but Northern Diegueño shows only one ʔ in these words. Since Northern Diegueño otherwise retains the initial ʔ noun formative, we may argue that the ʔ's in Northern Diegueño words like ʔawaw 'fire' and ʔii 'wood' are actually prefixes on vowel-initial roots (although at this point there seems to be no synchronic validation for this historically based analysis).

One of the words just discussed, SCREWBEAN, appears to have no cognate in the variety of Northern Diegueño (the dialect of Mesa Grande) reported by Couro and Hutcheson (1973); if a cognate is discovered at some point, however, we would still expect it to begin with just one ʔ. METAL is another of the words illustrating pattern I which are not listed by Couro and Hutcheson (Margaret Langdon, who prepared this book, reports that she was never able to elicit it); it may be justified to assume that the form of this word reported by Wares (1968) was wrongly identified as Northern Diegueño.

The only real problem among the pattern I cognates cited by Wares is NOON (Mesa Grande ʔaʔur; cf. ʔaʔur 'top'). These words have related variants without the ʔ (see BE ON TOP in the Appendix), which suggests that Mesa Grande 'noon' may be a borrowing from a more southerly Diegueño dialect in which ʔ's were preserved. Aside from this form, however, all the other apparent counterexamples illustrating correspondence pattern I are explainable.

3.3 In the Pai languages, ʔ's develop secondarily before many vowel-initial roots (correspondence pattern IV). As sets I-III show, however, some root-initial ʔ's were retained in Pai, while others were
lost. The conditioning for this seems to have been phonetic, based on what preceded the proto-root, as the words above and a few additional Wares cognates illustrate:

--- #? was retained when unprefix (SON'S CHILD) and after # (METAL), # (NOON), # (FULL, ANTELOPE 7), IV (ELBOW 139), and # (FIRE, WOOD, SCREWBEAN, CACTUS 64).

--- #? was lost after # (MOON, SAND, COTTONTAIL), # (SALT, SALTY, CHILD 74), # (COTTONWOOD 91), and # (RAIN 340).

The phonetic values cited here are for synchronic Northern Pai. This evidence suggests an easily stated generalization: delete root-initial #? after continuants, and retain it elsewhere.

If METAL is really reconstructable for Proto-Yuman (a somewhat dubious proposition, given the word's semantics), the fact that this word's # patterns with the noncontinuants for this root-initial glottal deletion process provides some previously unavailable detail about the phonetics of Proto-Yuman #.

A more important point concerns the ordering of the glottal loss rule with regard to the well-known rule (cf. Wares 1968, etc.) by which Proto-Yuman #p becomes Pai (and River) # in pre-root position. Since the # in RAIN patterns with the continuants with regard to this rule, it seems clear that Pai glottal loss followed the #p -> # rule. The details of the glottal loss process thus confirm the earlier ordering of the #p lenition rule which would have been predicted from its greater generality.

The analysis presented here may well have to be restricted to Northern Pai alone, for Paipai data presents a few problems for it. For example, Joel lists 'give' and 'see', two words illustrating pattern IV with derived #3's in the Northern Pai languages, as vowel-initial. Perhaps Paipai has a less general #3-addition rule, but more data is needed to confirm the facts. Also, the only counterexample to the root-initial #3 deletion rule proposed above which I have found in Wares's data comes from Paipai:

Wares #45 THIN ... Ma kwis?ar Co su?ir T si?ir P sa?er

Possibly the vowels between the #5's and #3's in these words are "real" (not inserted schwas), and we could save the #3 deletion rule by amending it to refer to continuant consonants only -- which would preserve a #3 in this environment, after the #5 in Paipai. Or perhaps (since this word does not seem to occur in Northern Pai) we are dealing with another loanword, this time into Paipai from a non-Pai language. Certainly more Paipai lexical data is needed to solve this problem.

4. An afterword on River root-initial glides

Wares (1968) showed that many River root-initial y's are derived when an # (or #) prefix preceded a vowel-initial root (MOUTH is the most famous example -- the #ii prefix in this and other words is asso-
associated with body parts), explaining that since these y's do not reflect \#y, it is reasonable that they do not undergo the usual River change of \#y to d [\%]. Wares did not specifically address himself to the problem of root-initial \#w's in River which would be expected to surface as y by the parallel historical change of \#w to y, a question which has been raised since by Munro (1972) and Langdon (1975).

There are a number of well-known cognate sets with such problem \#w's in River — two verbal ones, DO and BARK, are included in the Appendix; well-known nominal examples include the cognate sets for HEART and BUTTOCKS. With regard to DO, there are a great many phonetic, morphological, and syntactic similarities between this verb and the Yuman verb SAY which suggest that DO was derived from SAY (cf. Munro 1981). I have proposed that the SAY root which, as we saw above (section 3.1), alternated between \#ii and \#?ii in Proto-Yuman, was prefixed with the common causative/plural derivational formative \#uu- to form the various words for DO (with and without glottal stop) in the present Yuman languages.

I have long believed that the problem \#w's in the River languages were created by a change similar to that which created the problem y's noted by Wares — the development of a glide before an original vowel-initial noun or verb root. The obvious candidate for a pre-root prefix which might have stimulated such a development is the prefix \#uu- just mentioned, which is extremely common in River (its use as a plural prefix in Maricopa is illustrated in section 1 above).<8> So far, though, explanations have been proposed for various problem y's and w's on a case-by-case basis only. Thus, when we cannot justify the presence of a (body-part) \#ii or a (plural/causative) \#uu in a given form, there has been no sanctioned way to proceed. The cognate sets in the Appendix to this paper, as noted in section 2.3, illustrate that there have been many cases where y's or w's developed before vowel-initial roots across the family — GO, HEAL, MIX, SEE, SHAKE, SWELL, and WANT are among the cognate sets in the Appendix which show such additions, with, apparently, no conditioning prefix present.<9> Whether such developments were spontaneous or conditioned by some prefix that has since been lost is unknown. These cases provide new evidence, however, that pre-root y's and w's need not be historically organic — and confirm the unstability of original vowel-initial roots.

Footnotes

1. In the version of this paper presented at the workshop, I described how this statement could apply to less-than-canonical verb roots in the Cahuilla and Chickasaw languages.

2. Vocalic prefixes are also possible, but are far less common.

3. In this paper I will assume the following classification of the Yuman languages: Kiliwa branch: Kiliwa; Delta-California branch: Cocopa, Diegueño (including Northern and Southern Diegueño); River branch: Mojave, Maricopa, Yuma; Pai branch: Northern Pai (Yavapai, Hualapai (Walapai), and Havasupai), Paipai.
4. The Maricopa data cited here is from Pollyanna Heath (to whom I'm most grateful); I draw all of the analysis of standard constructions from Gordon (1980).

5. For details, see Gordon (1980) and Thomas-Flinders (1981), who argues that Maricopa uu- may be analyzed as inflectional rather than derivational.

6. My Tolokapaya data is from Molly Fasthorse, whom I thank. I believe that the importance of these facts was first noted by Lynn Gordon.

The Mojave forms reported later, incidentally, are from the late Nellie Brown; cf. Munro, Brown, and Crawford (in preparation).

7. Happily, Margaret Langdon reported at the conference that she agreed with this hypothesis.

8. No one has yet decided what the original semantics of uu- may have been, nor has anyone established conclusively the status of this prefix in the proto-language. This remains a fascinating subject for future research.

9. The pre-root vowel i in Mojave is a regular feature of a large class of CVC stems in that language.

Notes on the Appendix

Much of the cognate data comes from Wares (1968); other forms come from 100-word lists kindly filled out by Yumanists in 1976 (and hopefully being readied for publication sometime soon). Additional sources, and the abbreviations used in the Appendix, include Ki(lwâ) = M. Mixoo 100-word list; Co(copa) = J. M. Crawford 100-word list and Crawford (1966); N(orthern) D(iégueño) = Couro and Hutcheson (1973) and Langdon (1970), for Mesa Grande; S(outhern) D(iégueño) = M. Langdon Southern 100-word lists; Ma(ricopa) = Pollyanna Heath and Gordon (1980); Mo(jave) = Nellie Brown and Munro, Brown, and Crawford (in preparation); T(olokapaya)Ya(vapai) = Molly Fasthorse; Y(avapai)S = Shaterian (n.d.); Hu(alapai) = Winter (1979); Pa(ipai) = J. Jo#1 100-word lists; PW = Paipai as reported by Wares (1978). Thanks to all.

Orthographies have been adapted (hopefully without causing too much offense) for consistency and ease in typing. In particular, note that VV = V: i = ?; lly = palatalized voiceless lateral fricative; ty = alveolar t (Maricopa only), h = x (Northern Diegueño only); some predictable schwas were omitted in Hualapai.

Boundaries are indicated only inconsistently.
YUMAN VOWEL-INITIAL VERB ROOTS: COGNATE SETS WITH ANNOTATIONS

1. At least one language shows synchronic V-initial root in some form

1a. V-initial root in more than one branch

GIVE (Wares 191). Ki wii; Co -ii; ND -iny; Yu aay; Ma aay-m; Mo aay/a-ay; TY 'ee; Hu 'e'; Pa ee; cf. also Mo mat nyi iiaay 'make a treaty'.

GO [+ directional] (Wares 192). ND -aam; Ma aam-k, yam-k 'go'; Mo aam/a-aam; iyem 'go'; TY yaam 'go'; Hu yaam 'go'. [There are four GO sets -- cf. under 1b below.]

GO [+ directional + causative]. ND a-aam 'take along'; Ma waam-k / taam-k; Mo awk/awam/awem 'bring/take', hak chuuaam 'move several over'; Hu waam 'take away'. [The causative prefix is most commonly uu- -- at least the pattern seems reconstructable.]

IN/ON, BE [+ causative]. ND aauq/aur 'carry long object on shoulder'; tuu-ur 'carry on head'; Mo haly taoq 'transfer into a container'. [Are there any non-causative examples of this root?]

SAY (Wares 362). Ki 'ii; Co 'i; ND -ii (pl. -ip); Yu a'ia/a'e; Ma ('t)ii/e; Mo i'ii/e/e/e/e; TY 'i (cf. section 2.1 above); Hu 'i'; Pa 'i. [As noted in section 3.4 above, cf. GO below.]

SEE (Wares 365). Co wii; ND -wuuw, + directional uk / um; Ma yuu-k; Mo iyuu; TY 'u; Pa uu.

SHAKE. ND -innp / mat uunnimp / 'inn -ii; Ma een een ii-m (caus. t-een-een-k, t-een-sh-k), eel eel ii-m 'be delicate', 'eel'eel ii-m 'be shaky, about to fall', maty een-k 'be an earthquake' (caus. maty teen-k, pl. maty uuen-k); Mo i'en / emen i / yenayen i, aa'en 'rock baby', mat i'en 'be an earthquake', tuu'ena'en/tuu'iu in caus.; TY ch'in'in 'i, mat v'in'in 'i be an earthquake'; Hu chi'n'iin, winwin 'shake the head'. [A complicated set of sets -- there are many other potential candidates for inclusion. Cf. also MOVE below -- the division between these two sets may prove to be somewhat arbitrary.]

SWELL (Wares 431). ND -aarp; Ma aaly-k (caus. t+aalysh-k, sh+aalysh-k 'make swell with the hands'); Mo iyaaly; TY 'aal; Hu 'aal.

WANT. ND -ar; Mo a-ar/aar; Hu waal.

1b. V-initial root in one branch, supporting data from another (e.g. unexplained root-initial glides in River, variable glides elsewhere)

APPEAR. ND 'iiwalp 'be in plain sight'; Ma waal-k 'be visible'; Mo uualy 'be born, come out', mat uualy 'publically acknowledge one's
marriage'; TY 'aal 'come out (of sun)'. [Perhaps related to SWELL above?]

GO (Wares 193). Co aa; ND -aa; Mo iyaa.

GO [+ causative]. ND a-aa 'take one'; Ma waa-k 'drive'; Mo awa 'raise'.

LEAK. Ma ee-k 'have one's (milk) leak' (caus. t+ee-sh-k 'let down one's (milk)'); Mo e-ee/ee 'leak or seep out at the surface'; TY heel 'leak, of breast milk'; Hu yve 'i' 'seep'.

MIX. ND ayaap 'be together with, mixed (of long objects)', -miy 'be with'; Ma nym ee-k 'stir in', nym shee-k 'stir in with the hand', nym eem-k 'be with, go with'; Mo nyam sae / nyam sae 'mix', nyam aaev 'be with, go with', ily aaev 'be next'.

MOVE (intr). ND 'inn -ii / 'inn 'inn -ii; Ma eemp-k, tr. t-eemp-k, aaaaemp-k 'move with the feet', sheepk 'move with the hands'; Mo 'ena'en i / vaahem / chuuem / chuuhennm / 'ana'an i, tr. tuu'en, tahem 'move away', tahreek 'move close'; TY vhiny 'i / vhinyhiny 'i; Hu hiny 'move away', tr. t-hiny. [Cf. SHAKE above.]

SNEEZE (1) (Wares 401). ND -is; Ma aoh'wis-k; Mo aoh'wath/auh'ith 'sneeze on purpose'; TY hamchithk; Hu chith.

YEAR (BE A) (Wares 495). TW mat wam; Ma maty aam; PW mat 'aamk. [Probably derived from GO+directional above.]

lc. V-initial root only in River or Cooora

ALL. Co saamly; SD camly; Ma (maty) chaam-k; Mo ohaam/cha-aam (pl. chuuaam). [Might be derived from a form of GO.]

DISAPPEAR. Mo i-iiim 'be killed in battle, disappear, be all gone' (pl. subj.).

DO WITH. Ma eee-k (pl. uuiv-k); Mo e-ee/eev (pl. uuev). [Probably a "passive" of MIX above.]

GRUEL, MIX. Mo a-aaly. [Probably derived from SWELL above.]

HEAL (intr). Mo e-eem; TY yeem; Hu yem. [Refers to the formation of scabs -- probably LEAK above plus a directional suffix.]

KICK. Co k-ii-aar.

LEAVE (tr). Co p'aam 'it remains, is left over'; ND -cham; Ma aampa-k 'be left', uuaampa-k 'have some left'; Mo chaamaaam/chuuaampa 'have leftovers', aampa 'be left'.

NOT (BE). ND -maaw; Ma -ma-k (suffix); Mo -m-o-t- (suffix); TY 'um; Hu t'oop/t'oem. [Cf. Munro (1973).]
NOT CARE. Ma aaym-t-k; Mo aaym. [Perhaps related to GIVE above.]
PUSH. Mo chooot/choooot/choooot.
SHOUT. Ma 'uuk/uuk.
TAKE FROM. Ma n-aar-k (pl. ntuuaar-k). [Perhaps related to WANT above.]
THROW AWAY. Mo ily apm (sg. obj.).
UP AND DOWN. Ma uunukuunk i-i-m 'go up and down like a merry-go-round horse'; Hu t'ynt'tony.

2. Established correspondences suggest consonantal prefix on a vowel-initial root
ARRIVE (Wares 9). ND paa; Ma vaa-k; Mo ivaa; TY vaa; Hu vaa'. [Related to GO above.]

3. Established correspondences suggest derived root-initial glide before a vowel-initial root
BARK (v). Ma uwox-k; Mo uwoh; TY hwoh 'i / hwohwoh 'i; YS wowo 'i [also vohvoh 'i]; Hu woh-woh 'i'.
DO. ND wi; Ma wi/wi, waa 'do to'; Mo a'wii/a'we; TY wi; Hu wi'. [Cf. HAVE, OWN -- Wares 211.]
[Corresponding problem y's: FLY (v.) (Wares 172), VOMIT (Wares 466).]

4. Other potential V-initial roots
PUT. Ma chaa-m, chem-m; Mo ichaa, ichaa / ichem 'put down'; TY chaa 'put in a bunch of small round objects (e.g. grain)'; Hu chaa'.

5. V-initial root only in Northern Diegueño (unlikely to be reconstructable)
COUGH (Wares 92). ND uh; Ma 'ox-k; [Mo u'uuch;] TY 'oh; Hu 'oh.
FINISH. ND -o-ap 'get through eating or drinking' (Langdon 1970: 105).
FULL, BE. ND hup (pl. huu-up).

HEAR (Wares 215). [Ki kwii]; Co 'ii'iip; ND y-ip (pl. yuuiip); Ma 'av; Mo 'av; Hu 'eev; Pa 'eev. [Cf. Munro (1981).]

KNOW. ND nur (pl. ntuu-urp).

LAY DOWN. ND aa-ap (pl. aachap) 'lay down a long object'.

LIE ON STOMACH. ND aa-am 'lean over flat from kneeling position'; Ma a'amp; Mo a'amp.

ON [+ causative]. ND tuu-up 'put on the head', shuu-up, kuu-up 'put on the feet'.

ON TOP, BE. ND aa-ull (pl. aachuull) 'lay a long object on top, lay long objects on each other', chull 'lay a bunch on top', uu-ull 'pile up'; Ma t'or-k, aa'or-m 'lay a long object on top', tt'uur-k 'pile up round objects'.

SNEEZE (2) (Wares 401). ND ih -ii 'make sneezing noise'; Mo 'iish i 'sneeze by accident'. [Possibly sound-symbolically related to SNEEZE (1) above.]

SON'S CHILD (m.s.) (Wares 404). ND paa-aw; Ma 'aw; Mo a'aw; TY 'aw.

TALK. ND -aayp / ii-ay.

WALK (mistakenly in Wares 468?). ND -amp.

YAWN. ND -aaps.
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Department of Linguistics
Southern Illinois University
at Carbondale
OCCASIONAL PAPERS ON LINGUISTICS

Number 10

PROCEEDINGS
OF THE
1981 HOKAN LANGUAGES WORKSHOP
AND
PENUTIAN LANGUAGES CONFERENCE

James E. Redden, Editor

Held at
Sonoma State University, Rohnert Park
June 29-July 2, 1981

Department of Linguistics
Southern Illinois University
Carbondale, Illinois

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The 1981 Hokan Languages Workshop met jointly for the first time with the Penutian Languages Conference. Also, there were not only linguistic papers, but also anthropological and archaeological papers. These two groups of specialists on American Indian languages will meet together in the future and will also meet with anthropologists and archaeologists.

Unfortunately, not everyone who presented a paper at this joint meeting was able to prepare a final version for inclusion in this volume. Also, some of the Penutianists were not aware that the proceedings of the meeting would be published in this volume and had made arrangements before coming to the meeting to publish their papers elsewhere. The papers are arranged in the order that they appeared on the program at the meeting except for the Kendall paper, which was not read but sent in for the meeting.

The participants at the meeting gratefully acknowledge all the work done by Shirley Silver and her students in the Department of Anthropology at Sonoma State University, which made the conference run so smoothly and enjoyably. We especially appreciated the help of the students who ran the late-night van shuttle between the university and the motel where the airport bus stopped.

Copies of the 1977, 1978, 1979, and 1980 Hokan Languages Workshops are still available from the Department of Linguistics, Southern Illinois University, Carbondale, IL 62901. The volumes of the 1975 and 1976 workshops, which appeared in the SUU-C series, University Museum Studies, are now out of print, but copies may be obtained in microfiche or hard-bound volumes from ERIC Clearinghouse on Languages and Linguistics, Center for Applied Linguistics, 3520 Prospect St., NW, Washington, DC 20007.

James E. Redden
Carbondale, April 1982
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