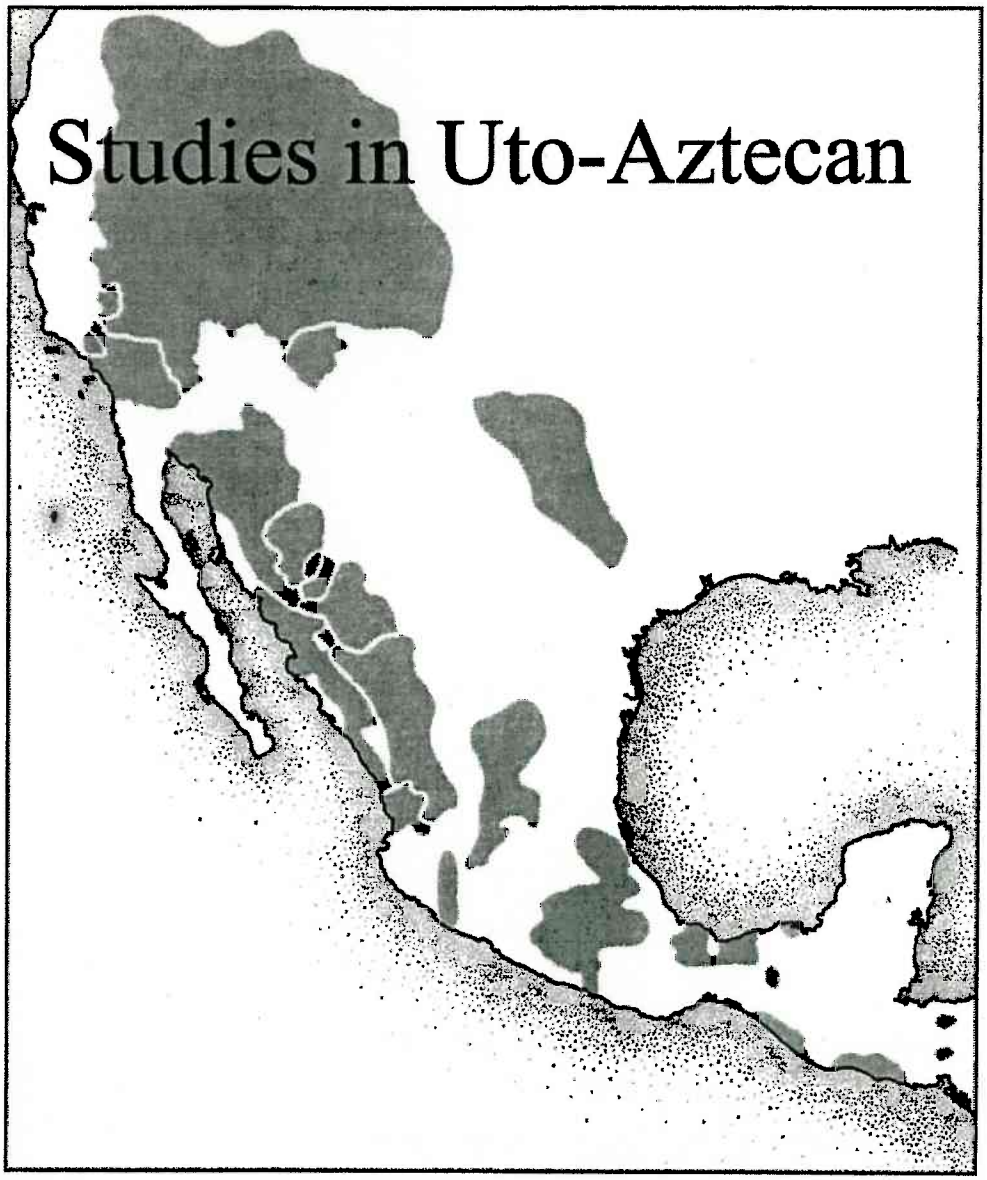
# Studies in Uto-Aztecan



*edited by*
Luis M. Barragan
Jason D. Haugen

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# New Sets Yield New Perspectives for Uto-Aztecan Reconstructions

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## 1.0. Introduction

Edward Sapir (1913-14) was the first to demonstrate convincingly that previously hypothesized branches did constitute a language family now called Uto-Aztecan (UA). In 1962 Charles Voegelin, Florence Voegelin, and Kenneth Hale authored *Typological and Comparative Grammar of Uto-Aztecan* (VVH), a founding study of UA phonology and sound correspondences, treating 170 cognate sets. In 1967 Wick Miller published *Uto-Aztecan Cognate Sets*, whose 514 sets served for three decades as the primary source for Uto-Aztecan (UA) cognate sets. Miller continued working in UA and kept a running list or computer data-base of potential cognate sets. The 1100-plus potential sets of that rough draft collection overlap considerably and need sorting, as Miller would be the first to admit; nevertheless, that latest plateau or printout was made available by Wick and the University of Utah's Department of Anthropology in 1988 (M88), for whomever wanted a copy. Many cognate collections within the various branches of UA have contributed significantly to our knowledge of UA and form the basis of many of Miller's 1100-plus sets in M88: Bascom (1965) in Tepiman; Bright and Hill (1967), Hill and Hill (1968), and Munro (1990) in Takic; Iannucci (1972) in Numic; Lionnet (1986) in Sonoran; Campbell and Langacker (1978) in Aztecan; and Kenneth Hill's (2001) Serrano Dictionary in progress contains numerous comparative offerings for Northern Uto-Aztecan languages. Soon to appear is this author's *A Comparative Vocabulary of Uto-Aztecan Languages*, which rough draft presently contains some 2500 cognate sets. A larger number of sets naturally grants new perspectives: first of all, more examples better confirm or dispel earlier hypotheses; second, new sets often give rise to new insights. This paper presents a sample of what might be learned from the new sets.

## 2.0. The Languages and Branches of Uto-Aztecan

The Uto-Aztecan language family consists of some 30 languages mostly in the Southwestern U.S. and Mexico. The most frequently cited languages and their abbreviations, as well as the branches to which they belong, appear in table 1.

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**Table 1:**

| | | |
|---|---|---|
| Mn | Mono | WESTERN NUMIC |
| NP | Northern Paiute | " |
| Pn | Panamint | CENTRAL NUMIC |
| Sh | Shoshoni | " |
| Cm | Comanche | " |
| Kw | Kawaiisu | SOUTHERN NUMIC |
| Ch | Chemehuevi | " |
| SP | Southern Paiute | " |
| CU | Colorado Ute | " |
| Hp | Hopi | single language branch |
| Tb | Tübatulabal | single language branch |
| Sr | Serrano | TAKIC |
| Ca | Cahuilla | " |
| Ls | Luiseño | " |
| Cp | Cupeño | " |
| Od | O'odham/Papago | TEPIMAN |
| LP | Lower Pima | " |
| NT | Northern Tepehuan | " |
| ST | Southern Tepehuan | " |
| Eu | Eudeve | TARACAHITAN |
| Tbr | Tubar | " |
| Yq | Yaqui | " |
| AYq | Arizona Yaqui | " |
| My | Mayo | " |
| Wr | Guarijío | " |
| Tr | Tarahumara | " |
| Cr | Cora | CORACHOL |
| Wc | Huichol | " |
| CN | Classical Nahuatl | AZTECAN |
| Pl | Pipil | " |

Prerequisite to further discussion on the classification and branches of the UA languages, consider data relevant to that classification. The lexicostatistical studies of Miller (1984) and Cortina-Borja and Valiñas (1989) are among the more recent and viable. Their data tally the number of lexical agreements between each pair of languages from a list of 100 lexical items, consisting of 12 substitutions to Swadesh's 100-word list. Cortina-Borja and Valiñas added six languages to Miller's data and analyzed the data by other means; table 2 presents most of those data:

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NUMIC

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tina-Borja and Valiñas added six
a by other means; table 2 presents

**Table 2:**

Mn Mn
NP 77 NP
Pn 59 58 Pn
Sh 58 58 87 Sh
Cm 57 58 79 88 Cm
Kw 52 56 54 55 49 Kw
Ch 50 55 61 58 54 75 Ch
SP 53 58 62 62 59 79 86 SP
CU 52 57 59 61 59 76 78 87 CU
Tb 39 42 37 38 35 39 42 39 40 Tb
Gb 26 26 26 26 23 24 27 26 27 40 Gb
Sr 26 24 24 24 21 26 28 27 27 35 45 Sr
Ca 29 27 27 27 24 27 31 31 29 38 42 50 Ca
Cp 28 27 24 24 23 26 30 31 28 37 34 38 65 Cp
Ls 26 27 25 24 22 24 27 27 26 34 38 35 50 48 Ls
Hp 33 32 27 23 22 31 33 31 32 38 29 29 31 31 26 Hp
Od 23 26 25 25 23 26 28 28 30 35 25 27 31 28 25 32 Od
LP 24 26 24 24 23 24 26 26 27 35 24 27 30 27 24 35 85 LP
NT 25 28 26 26 23 27 28 30 29 37 26 30 32 29 26 33 79 79 NT
ST 22 24 23 23 21 24 24 26 27 33 26 28 31 28 25 30 73 75 82 ST
Wr 26 29 23 23 24 24 24 25 28 36 29 34 34 29 28 32 44 47 47 48 Wr
Tr 23 27 21 21 21 22 22 23 26 32 28 34 33 26 28 28 41 42 42 43 83 Tr
Op 26 29 21 20 20 20 26 24 23 33 26 31 33 29 24 33 40 44 40 39 55 54 Op
Eu 28 27 23 23 22 26 24 26 27 35 26 30 34 29 25 35 45 47 45 43 59 52 73 Eu
My 27 28 25 26 24 27 25 27 28 35 29 33 36 26 28 34 43 45 49 49 58 51 53 61 My
Yq 29 30 26 26 24 29 26 29 30 35 28 32 35 26 28 36 45 47 49 49 58 51 55 62 93 Yq
Tbr 28 27 27 28 27 28 27 30 31 33 24 28 29 26 23 30 40 41 46 43 48 44 42 51 51 53 Tbr
Wc 25 24 23 23 21 23 23 24 25 32 24 28 34 26 27 28 41 43 42 41 51 48 48 49 48 51 41 Wc
Cr 25 22 22 23 21 22 21 22 23 30 19 21 24 23 22 26 34 34 35 35 42 38 35 42 45 46 39 58 Cr
CN 18 18 16 16 14 16 15 16 16 24 20 22 23 19 19 24 29 29 30 29 32 33 39 40 38 39 36 39 37

Many students of Uto-Aztecan presently speak of Northern Uto-Aztecan and Southern Uto-Aztecan (Heath 1977:27; Heath 1978:222; Langacker 1978:197, 269; Langacker 1977:5; Fowler 1983:234, Cortina-Borja and Valiñas 1989), though a few reject Northern Uto-Aztecan (NUA) and Manaster Ramer (p.c.) rejects Southern Uto-Aztecan (SUA). NUA does exhibit phonological innovations, such as *-l- > -n-, *-c- > -y- (Manaster Ramer 1992b) and morphological innovations (Heath 1977, 1978), while SUA may exhibit a slightly closer lexical unity (see discussion in Miller 1983, Goddard 1996, Cortina-Borja and Valiñas 1989). Jane Hill (2001) also discusses significant evidence for NUA, in contrast to a lack of such for SUA. Nevertheless, until a comprehensive morphological study is done, opposing the objectors of either half of UA seems premature. So even though some branch divisions are yet debated, let us momentarily speak of four primary branches in NUA and four in SUA (the geographic, non-NUA half of UA, at least). Traditionally, NUA has

consisted of Numic, Takic, and two single-language branches: Tübatulabal and Hopi, and for SUA let us propose Tepiman, Taracahitan, Corachol, and Aztecan.

**Numic** (Num) is the largest branch of NUA in area and number of languages. Numic is further divided into three sub-branches: Western Numic (Mono [Mn], Northern Paiute [NP]), Central Numic (Panamint [Pn], Shoshoni [Sh], Comanche [Cm]), and Southern Numic (Kawaiisu [Kw], Chemehuevi [Ch], Southern Paiute [SP], and Colorado Ute [CU]). As seen in the tabulations above, the Numic languages show a high correlation within each branch of Numic (76-88), and a lesser correlation between the Numic languages of different branches (49-62). Lamb (1958) and others have explained the Numic languages' spread from the NUA homeland of Southern California out into the Great Basin. The data show the inner-most language of each branch to be more closely related to the outer-most languages of the same branch than to the other neighboring Numic languages of different branches. This pattern shows considerable diversity in Southern California between languages of differing branches only a few miles away vs. those of the same branch perhaps 1,000 miles away. For example, Pn in Southern California is linguistically much closer to Sh (87) in Wyoming and Cm (79) on the plains, all three of Central Numic (CNum), than Pn is to either nearby Mn (59), of Western Numic (WNum) and also in Southern California, or to nearby Kw (54), of Southern Numic (SNum) and also in Southern California. This greater diversity in the geographically limited homeland speaks convincingly for a three-way Numic split in Southern California before spreading northward and eastward into the Great Basin.

**Takic** (Tak) has traditionally included the UA languages of Southern California, less Tübatulabal (Tb) and the Numic languages. Within Takic is a tighter **Cupan** group—Luiseño (Ls), Cahuilla (Ca), and Cupeño (Cp)—though the numbers above show Serrano (Sr) as close to Ca as Ls is to Ca. Serrano, Gabrielino (Gb) and other now extinct languages together with Cupan constitute the Takic branch. Takic shows a much greater diversity than Numic. The numbers between the Takic pairs range from 35 to 50 (except for Ca-Cp 65) vs. Numic's numbers (49-88). Matters relating to that diversity have periodically caused the validity or unity of the Takic branch to be questioned. **Californian** (Alexis Manaster Ramer 1992a; Kenneth Hill 1998) is a recent union of Takic with Tübatulabal (Tb). Numbers as low as 34 between Gb and Cp, and 35 between Sr and Ls approximate several other 34's between Takic and non-Takic languages (Wr, Tr, Eu, Tb, Wc); those inter-Takic numbers are no larger than the 35 through 40 that Tb shares with four Takic languages (Gb, Sr, Ca, Cp). Thus, Manaster Ramer's (1992a) and Hill's (1998) union of the Tb and Takic languages into a Californian branch of NUA is viable and reasonably consistent with the above data, and the question of Takic's unity remains a valid one. Nevertheless, for our purposes, Takic is a useful concept and Tb's separation from Takic finds some support (see discussion under Tb), though hardly overwhelming.

**Tübatulabal**'s (Tb) numbers with Numic range from 35 to 42, with Takic they range from from 34 to 40, and the Tb-Hp number is 38. If Tb's numbers show a slight leaning toward Numic, the differences are so slight and the ranges so overlapping that Tb appears to be about equidistant to all other branches of NUA; thus, Tb seems to hold an especially central place in NUA. However, its

being as close to both Numic and Hp as to Takic keeps the author from wholeheartedly accepting it as closer to Takic. In fact, even though Tb may be equidistant to the other NUA branches, considering matters from the other direction, we see that Numic is closer to Tb (35-42) than Numic is to Takic (21-31) or to Hp (22-33), and that Hp is closer to Tb (38) than Hp to Takic (26-31) or Hp to Numic (22-33). Furthermore, Cortina-Borja and Valiñas (1989:235) see Tb to be slightly more closely associated with Hp and Numic than with Takic. Thus, it may be useful to retain Tb as a NUA branch for now. Nevertheless, Tb and Hp both hold quite central positions, not only in NUA, but in UA generally: the Tb and Hp numbers with SUA branches are higher than other NUA languages with SUA languages, though Ca and Sr are not far off.

**Hopi** is a puebloan language presently spoken in northern Arizona. The Hopi hold a unique position in UA--unique as a single-language branch of NUA and unique as the only known UA tribe to participate in the Ancient Pueblo (Anasazi) culture, along with three other language families (Kiowa-Tanoan, Keresan, Zuni). Some measures put Hp closer to Takic (Cortina-Borja and Valiñas 1989, 228), while the numbers above show the closest Hp correlate to be Tb (38). Interestingly, however, Hp's next highest numbers are shared with Yq (36), Eu (35), LP (35), and My (34), all of SUA, after which several low 30's (30-33) are shared with some Takic and Numic languages, but also with some other Tepiman and Taracahitan languages. This fairly equal distancing with many SUA and NUA languages further confirms Hp's unique place in UA.

**SUA** consists of the branches Tepiman (Tep), Taracahitan (TrC), Corachol (CrC), and Aztecan (Azt). Miller (1984) includes Tep, TrC, and CrC in **Sonoran**; however, regardless what lexicostatistics may portray, Tep and CrC in many respects differ more from TrC phonologically and grammatically than any two NUA branches. Hints of greater diversity in SUA areas surface regularly: one such example is the close proximity of all UA reflexes of PUA *kw. Within a few miles of each other are Cahitan bw, Tbr kw, and Tr w/b/ko (Stubbs 1995), while all of NUA reflects a nearly unanimous kw.

**Tepiman** (Tep) is so unique phonologically (*kw > b, *c > s, *s > h, *y > d, *w > g) among UA languages that it may merit distinction from Taracahitan strictly on phonological grounds, regardless of word counts. However, even word counts show a tight Tep entity with numbers ranging from 73-85 between Tep languages, while 34-49 are the numbers between other Sonoran and the Tep languages, about the same as between NUA branches. That fact and the unique Tep phonology both recommend a separate Tep branch.

The **Taracahitan** (TrC) languages are the core of Sonoran, i.e., Miller's Sonoran minus Tep and Corachol. As mentioned above, the author prefers to distinguish Tepiman from Sonoran, both on lexical and phonological grounds; similarly, the Corachol languages (Cora, Huichol), at the other end of the Sonoran spectrum, form a convenient pair of languages more closely related to each other than to anything else, and perhaps more similar to Aztecan in some ways than to TrC. The TrC languages include Eudeve (Eu), Opata (Op), Tarahumara (Tr), Guarijio (Wr), Tubar (Tbr), Yaqui (Yq), Arizona Yaqui (AYq), and Mayo (My). It has been stated that **Sonoran** is clearly a mesh (if not a mess) in its overlap and intertwining of phonological and lexical complexities (Miller 1984), probably more so than is NUA.

**Tubar** is a unique language in UA. While its geographic locale is in the center of Taracahitan or Sonoran, with which it is often classified, two factors make its proper classification enigmatic, if not hazardous. First, the lexical data are limited; second, the limited data, obtained shortly before extinction, show numerous loans and influences upon this small language surrounded by other larger UA languages. It is apparent that Tbr is in part a product of phonological influences from Tep and lexical loans from TrC, yet it is a kw-language, isolated geographically from the only other kw-languages of SUA: i.e., the Corachol and Aztecan branches. Classification by word counts may be misleading, in that the Tbr-speaking population was very small and was surrounded by much larger numbers of Tep (NT) and TrC (Tr, Wr, My, Yq) speakers. Phonological influences from neighboring Tep languages upon Tbr include some *s > h, some *w > g, and initial *p > w (Stubbs 2000b); and Tbr's lexical position may be more due to loans and meshing movements than genetic position. A small population would be more vulnerable to surrounding linguistic influences than a large population would be. Therefore, we might be better off not to count on word-counts too heavily to certify conclusions about Tbr. Interestingly, Tbr also shares a number of cognates with and only with the other SUA kw-languages; however, few of those sets are in anyone's 100-word list. Consistent with that, Cortina-Borja and Valiñas (1989:237) also see some K-MEANS clusterings linking Tbr with Cora, the most distant of the two Corachol languages from TrC. It is natural that Nahuatl, the cultural icon of the area, would be the source of loans in Tbr and surrounding Taracahitan languages. However, other Tbr affinities with only Corachol and/or Aztecan (the other SUA kw-languages), but not with other TrC languages, could make one wonder whether Tbr is a lone survivor of the areas to the northwest of the Aztecs from whence the Aztecs are sometimes said to have come in part, or whether Tubar was, in some way, more closely associated with the other SUA kw-languages. I hesitate to call it a single-language branch, because I do not think it is, not like Hopi is; yet classifying it as TrC or anything else based on word-counts may be as hazardous. It is indeed an enigma, and lack of data may ever keep it so; nevertheless, as long as it must be an enigma, we may as well keep it an enigma in TrC, where the above lexical count would suggest it belongs.

**Corachol** is a viable grouping, not only because Cora and Huichol show a closer lexical relationship to each other (58) than to any other UA languages, but phonologically they form a pair and align better with Aztecan in some ways than with other Sonoran languages. They may share an innovation with Aztecan of *p > h/ø and a retention of *kw, neither of which is prevalent in the rest of SUA.

The **Aztecan** branch consists of the many dialects related to Classical Nahuatl. Cortina-Borja and Valiñas (1989) include nine in their classification study; and Yolanda Lastra de Suárez (1986) deals with data in many more dialect locales in her exhaustive work *Las Areas Dialectales del Nahuatl Moderno*.

While the majority of the close relationships of sub-branches would remain as determined by 100-wordlist counts, one must wonder if the less clear classificatory relationships would exhibit interesting differences if a 2000-wordlist were employed, or a list of 200 grammatical features/morphemes, or a study of morphological innovations. The 100-wordlist is certainly the easiest to

do; but others should be done also. The results may or may not be more valid for classification, but they would likely vary one from the other and would undoubtedly reveal interesting insights; a combination of such measures may be the most valid of all.

## 3.0. The Sound Correspondences of Uto-Aztecan

While some Proto-UA (PUA) consonants may justifiably attract debate, such as a PUA *r vs. *l and *ŋ vs. *n, the secure PUA consonants include *p, *t, *k, *kw, *ʔ, *h, *s, *c, *m, *n, *l, *w, and *y; the PUA vowels are *i, *a, *u, *o, and *ï. An oversimplified portrayal of the basic consonant correspondences (according to Sapir 1913-14, VVH 1962, Miller 1967, Steele 1979, Manaster Ramer 1992b, Stubbs 2002) follows in table 3, and vowel (and medial /*l/) correspondences appear in table 4:

**Table 3: Consonant Sound Correspondences (mostly initial position)**

| PUA | *p | *t | *k | *kw | *m | *n | *c | *s | *w | *y | *ʔ | *h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Num | p | t | k | kw | m, ŋw | n | c,-y- | s | w | y | ʔ | h |
| Hp | p | t | k,q | kw | m | n | c,-y- | s | w,l | y | ʔ | h |
| Tb | p | t | h,k | w | m | n | c,-y- | š | w | y | ʔ | h |
| Sr | p | t | k,q | kw | m | n | c,-y- | s,h | w | y | ʔ | h |
| Ca | p | t | k,q | kw,w | m | n | c,-y- | s | w | y | ʔ | h |
| Ls | p | t | k,q | kw | m | n | c,-y- | s,š | w | y | ʔ | h |
| Tep | w,v,-p/v- | t,c | k | b | m | n,ñ | s, š | h,ø | g | d,j | ø, ʔ | ø, ʔ |
| Eu | p | t | k | b | m | n | c, č | s | w | d | ø, ʔ | h |
| Tr,Wr | b,p | t | k | w | m | n | c, č | s | w | y | ø, ʔ, h | h |
| Yq,My | b,p | t | k | bw | m | n | c, č | s | w | y | ʔ | h |
| Tbr | w,-p- | t | k | kw | m | n | c, č | s,h | mw,ny | y,ñ | ø,h | h |
| Cr | h | t | k,č | kw,čw | m,mw | n | c, č | s | w | y | ʔ | ʔ |
| Wc | h | t | k | kw | m | n | c, č | s,z | w | y | ø | ø |
| CN | ø,p | t | k | kw | m | n | c, č | s,š | w | y | ø, ʔ, h | ø |

Exceptions for *kw before round vowels (i.e., *kwo, *kwu) are discussed in Stubbs 1995. Some PUA *t palatalized to c/č in time to participate in the sound change c > s in Tepiman and are thus easily mistaken for PUA *c (Stubbs 2000a).

**Table 4: Vowel Sound Correspondences and medial *-l-**
(Sapir 1913-14, VVH 1962, Miller 1967, Bright and Hill 1967, Langacker 1970, Munro 1990, Stubbs 2002, Kenneth C. Hill, p.c.,):

| PUA | *i | *a | *u | *o | *ï | *-l- |
|---|---|---|---|---|---|---|
| Numic | i | a | u | o | ï | n |
| Hp | i | a | o | ö | ï | n |
| Tb | i | a | u | o | ï | n |
| Sr | i | a | u | ö | ï | n,r |
| Ca | i | a | u | i | e | n,l |
| Cp | i | a | u | i | ɛ | n,l |
| Ls | i | a | u | e(i) | o(u) | n,l |
| Gb | i,e | a | u,o | e,o | o | n |
| Tep | i | a | u | o | ï | l,d,r |
| Tr,Wr | i | a | u,o | o | e,i | l,r |
| Yq,My | i | a | u | o | e | l,r |
| CrC | i | a | ï | u | e | l,r |
| CN | i | a | i | o | e | l |

## 4.0. Consonant Clusters in PUA stems

The commonly accepted form for UA stems has been CVCV. While many stems undoubtedly align with CVCV, more evidence is emerging to suggest that many Proto-Uto-Aztecan (PUA) stems contained consonant clusters not previously recognized, in forms such as CVCCV and others. First of all, Manaster Ramer and Blight (1993) and Manaster Ramer (1997) have noted evidence for reconstructing clusters for several etyma, such as *kapsi 'thigh' vs. *kasi (Miller 1967). Sometimes those clusters survive in a minimum number of languages, but not in most languages. Second, we see frequent evidence in UA that vowel syncopation (the deletion of an internal vowel as a common phenomenon in UA) creates additional clusters, and that even those later clusters are reduced quite quickly (CVCVCV > CVCCV > CVCV), suggesting that most UA languages do not maintain consonant clusters well. (See examples 1-6, 13 below.) Third, the difficulties found in the correspondences of the medial consonants in UA could logically be the result of reductions of previous consonant clusters. One can observe (Miller 1967:5) that the initial consonant correspondences are fairly clear and consistent, while the medial consonant correspondences are horribly varied and inconsistent. Yet the possibility that many of those medial consonants are reduced consonant clusters may eventually explain some of the variety and difficulty, if not most of it. If UA had 13 proto-consonants (also debatable), then a consonant cluster could feasibly consist of 169 possible combinations (13 x 13), though not all such combinations are likely to have existed, of course, but many to most could have. Perhaps a dozen of those clusters reduced to the velar nasal (ŋ) in some languages. Perhaps another dozen combinations reduced to a glottal stop (ʔ) in some or most languages, etc. A certain cluster might reduce five different ways among the branches of UA. Those kinds of complicating possibilities may underlie the puzzling medial consonant correspondences in UA. Fourth, Manaster Ramer (1993) has

1 1967, Langacker 1970, Munro 1990,

| | |
|---|---|
| | *-l- |
| | n |
| | n |
| | n |
| | n,r |
| | n,l |
| | n,l |
| ı) | n,l |
| | n |
| | l,d,r |
| i | l,r |
| | l,r |
| | l,r |
| | l |

; been CVCV. While many stems
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languages. Perhaps another dozen
some or most languages, etc. A
ays among the branches of UA.
ay underlie the puzzling medial
h, Manaster Ramer (1993) has

developed a theory of UA phonology that also suggests a variety of syllabic structures, some of which include consonant clusters.

Some new cognate sets show further evidence of clusters being reduced to a single consonant and entire syllables being lost (1-8). The following cognate sets are largely new and taken from *A Comparative Vocabulary of Uto-Aztecan Languages* (rough draft 2002), the author's work in progress. (The first number is for identification in this article; the second or the number in parentheses identifies its place in the present draft of *A Comparative Vocabulary of Uto-Aztecan Languages*. Abbreviations employed are n=noun, v=verb, t=transitive, i=intransitive, " = gemination.)

1 (2023). ***pa-takcï** 'thirsty': Eu varákce 'tener sed'; Tr baracé- 'darle a uno sed, tener sed.' Note the consonant cluster in Eu that has been reduced in Tr. [TrC]

2a (1680). ***(wï")-tono?oki** 'scrape, pull off/out': Pn -tono?oki(n) 'scrape, vi'; Pn (wït)tono?oki(n) 'scrape, vt'; Ch wïn?ógi 'shave (body), rake, v'; Sh (Crapo 1976) wï-noih 'scrape, v'; Sh (Crapo 1976) -noih 'yank, pull out, vt'; Sh (Miller 1972) -noih 'pull out.' [Num]

2b (1680). ***tono?i** 'shake off': SP ton?noi 'shake off'; NP nïïtïnoi 'shake water off (of dog).' There can be little doubt that these Numic forms are related, yet note the reduction of five segments in Pn (-tono?-) to two in Ch (-n?-) and in Smokey Valley Shoshoni (-no-) (Crapo 1976). [Num]

3 (1771). ***tïpku** 'younger in-law or relative': Wr tepó 'wife of older brother or younger sibling of husband' and Hp *tïpko 'younger sibling or person in one's clan or phratry of the same generation.' Hp o < *u, and some Wr/Tr o are occasionally from *u, so both may agree with **tïpku*. Wr did not allow the cluster and therefore reduced it: -pk- > -p-. [Hp, TrC]

4 (100). ***taŋaC/taCNaC** 'bag, sack': M88-ta45; K. Hill 1994/2001; Sr taŋat 'sack'; Gb taŋár 'sack'; Hp taŋa 'contained things'; Hp patŋa 'squash' (with pa-). While Miller and Hill list the Sr, Gb, and Hp forms, consider also the latter two syllables of Mn kusatá?ni 'sack'; Tbr tanaté 'zurrón, mochila de cuero en que se acarrea a la espalda el ineral' (perhaps a loan from CN); CN taana?-tli 'basket with a handle'; Sr qawaataŋaṯ 'pocket'; Yq tana 'lado, esquina'; Yq ?ía-tana 'de esta banda' (a shore as a container/border).

Consider also some forms of ***pa-taŋaC** 'squash, pumpkin' (likely <'water-bag': Ch paráŋar(a) 'pumpkin'; SP pataŋwataN 'pumpkin'; and Hp patŋa 'squash, pumpkin'). The forms with prefixed pa- are only in Southern Num and Hp. In contrast to Hp taŋa, note the missing syncopated vowel in Hp patŋa (<*pa-taŋaC) when that vowel would have been in a second syllable (patŋa) vs. a first (taŋa).

NUA -ŋ-, SP -ŋw-, and Mn -?n- would suggest an earlier cluster. Some propose that NUA ŋ may be the result of a phonemic split of PUA *n (e.g., Miller 1967: 10). Two matters suggest otherwise: first, sometimes there is evidence for a cluster underlying the velar nasals of NUA; second, neither the following vowel nor any other environmental conditioning factor is consistently

discernible. Therefore, I suggest that previous consonant clusters or other factors underlie some NUA ŋ, and that these ŋ or clusters were simplified to n in SUA. As for the final consonant, the CN glottal stop and Sr's final –t (Manaster Ramer 1993) both suggest a final consonant. [Tak, Hp, Num, TrC, Azt]

5 (1155). ***colowa/colwo*** 'be hungry': Wr coloá-ni 'be hungry'; (Wr co?-cóla-ni 'be hungry, pl'); Hp cöŋö-w(ĭ), cöŋ- 'hunger.' Wr coloá- and Hp cöŋö- match fairly well, since Hp ö < *o, and a cluster of *-lw- > -ŋ- in Hp is natural enough. Because most SUA *l correspond to NUA n and most NUA ŋ to SUA n, this interesting pair (Wr and Hp) could suggest a cluster, because NUA ŋ aligns with SUA l. [Hp, TrC]

6 (1154). ***tapa/tĭpa*** 'hunger/hungry': Eu hisúmrava/hisúmava/hisúmawa 'hambre, n.' (for Eu -suma-, see 15 below); Yq tebáure/tebáoli 'tener hambre'; AYq tevauri 'hungry, adj'; AYq tevaure 'be hungry, v'; My téba?ure 'tiene hambre.' If the -rava portion of the Eu form is cognate with Cahitan *tepa, then a cluster reduction (-mr- > -m-) is visible in Eu, as well as an unaccented vowel changing from a > e. However, even if the Eu form is not cognate, the Cah forms certainly are; and the variant Eu forms show a lost r when clustered with m. [TrC]

7 (2128). ***tĭ?niya*** 'trap': Kw tĭ?niya 'trap, v'; Kw tĭ?niya-pï 'trap, n'; ST tĭdya 'set a trap (for an animal).' The Kw and ST terms are a nice fit (ST dy < *y), and a fairly long match; however, note the evidence in Kw -?n- for an earlier cluster. [Num, Tep]

UA languages often do not maintain vowel clusters any better than consonant clusters; thus, sometimes the loss of a consonant leads to the loss of the whole syllable, as in the following example:

8 (2). ***supa-*** 'adobe': Tr supánari;Tr supácari;Wc šĭnaríiya 'adobe.' Besides length, the two Tr terms suggest we are dealing with a compound. The first Tr term and Wc show *su...nari in common, since Wc ĭ < *u. However, because CrC often shows *p > h/ø, which would encourage the loss of the isolated vowel, we can reconstruct medial *p: *supa- 'adobe' or *supa-na as in one Tr form, but for which Wc shows only šĭna-, and Wc ĭ does correspond to PUA and Tr u. [TrC, CrC]

## 5.0. Vowel leveling and assimilation

Vowel leveling and assimilations also occur much more frequently than has been acknowledged in UA reconstructions. For example, sometimes assimilations like *CaCi (a-i) > e-i/ĭ-i and *u-a > o-a are so pervasive, that the latter vowelings (e-i/ĭ-i, o-a) are often reconstructed; however, sometimes traces of evidence for *CaCi and CuCa emerge. Other kinds of assimilation or leveling, such as *a-i or i-a > e-e and *u-a > o-o, also occur. Consider the following examples:

9 (1627). ***cikwa** 'rain, v': Od siibani 'drizzle, sprinkle' and Hp cekwekwe-ta 'be raining big drops as at the outset of heavy shower' (cekwe- 'soak') suggest *cikwa; the consonants agree (Od s < *c; Od b < *kw), and since Hp e is the lone vowel that does not correspond to a particular PUA vowel, a leveling of i-a > e-e is exactly the kind of phenomenon that often produces Hp e. The s of Tr sikuríwa 'rain hard, v' does not correspond to *c, but in light of the frequent *c/s dichotomy, it should be kept in mind as a possibility. [Hp, Tep]

10 (98). ***kwila** 'badger': Ca wílyaly 'badger'; Tbr kwelé-t/ keré 'badger.' [Tak, TrC]

11 (2022). ***takuC** 'thirst(y)': Pn taku" 'thirst, n'; Pn takukko?ih 'be thirsty'; Pn takucciïwah 'be thirsty'; Sh taku-pïkkah 'be thirsty'; Sh taku"-ppïkka 'be thirsty' (Smoky Valley Sh); Cm takïsuaitï 'feel thirst.'; Kw tagu-(ye?e) 'be thirsty'; SP ta u" 'thirst, v'; CU tagúy-narú?ay 'be thirsty, lit: thirst-buy'; Mn pasïtugu?i 'be dry from thirst'; Ca tákut piš 'with/because of thirst.' Note Mn u-u < *a-u, and Cm ï < *u. [Num, Tak]

12 (1599). ***hupa/hopa** 'pull out': Kw hovo 'pull out (hair, grass, seeds), v'; Ch hová 'pull out, v'; LP hupana 'arrancar.' While LP usually lacks *h, initial devoicing or some other aspiration of the initial vowel may apply; if not, then only the Num forms are related; nevertheless, LP shows *u*, and the tendency of the low vowel *a* to lower **u* > *o* may explain the other two (*u-a > o-a). [Num, Tep]

The following (13, 14) are additional examples of *u-a > o-a:

13 (1188). ***puCca** 'jump': Cp púčaqe/pučáqe 'jump, vi'; Ca pe-púčaq 'jump'; Eu hapóca 'brincar, corcovear'; Tr počí-ma 'saltar, brincar'; Tr hibóči 'ir a saltos, v freq'; Tr o?poči 'freq and emph of počí-ma.' Sh pocci 'hop' and Sh poppi 'hop' and Cm pohbitï/popitï 'jump,v.' These forms suggest a consonant cluster; otherwise, Manaster Ramer's law *-c- > NUA -y- would not allow medial *-c-. Note that NUA forms (Cp, Ca) and a SUA form (Eu) show a final vowel of a, which could explain the lowering of *u > o in all but Tak; for if we propose PUA *o, then Cp and Ca should show i. Thus, the vowel changes suggest *u-a > o-a > o-i. [Num, Tak, TrC]

14 (1563). ***puha/i** 'poison': NT ivóíñai 'envenenar'; Kw poha-vi 'poison'; and the -wui- portion of Od hialwui 'poison, n' collectively could suggest an original *puha > poha/i. [Num, Tep]

15 (1158). ***suma** 'hungry': Eu hisúmrava 'hambre, n'; Eu hisúme 'haber hambre'; Eu hisúm-ce 'tener hambre'; ST uama 'die of hunger.' *suma > Tep (h)uma > ST uama anticipating the final vowel. Tep languages often anticipate the vowel after the next consonant, as in *u-a > ua-a. [Tep, TrC]

16 (1593). ***(pi/ca)-suta** 'pull, drag': Mn casutu?i 'pull out' (probably 'hand-pull'); Pn soto" 'pull, vi'; Pn pi-soto" 'pull, drag, vt' (probably 'back-pull'); Sh -

pisuta 'drag behind, instr, vt.' This set is another example of vowel leveling; *u-a > o-o/u-u. Note that in both (12) and (16), *a-u and *u-a > u-u in Mn. [Num]

17 (1532). ***pas**... 'pot': Sr pahaat 'pot, bottle, olla, jug, water container'; CN a?paas-tli 'earthen bowl, tub'; and probably Wr pehtori 'cajete para comer' and Ls péšli-š 'pottery vessel, dish, vessel of any kind'; these show an -st- cluster going to -ht- (in Wr) and to -šl- (in Ls). They probably point to something near *pas since Wr and Ls probably assimilated or raised and fronted the first vowel. [Tak, TrC, Azt]

18 (593). ***kwiha/kwahi** 'dig': Eu bihá- 'escarbar'; My hí'ibwehe 'está excavando, escarbando, cavando'; Yq hí'ibwehe 'escarbar'; AYq bwehe 'dig, vt'; AYq bwahe 'dig, vt.' Because Yq bw < *kw and Eu b < *kw, these certainly appear cognate, though the vowels provide plenty to contemplate. [TrC]

19 (2055). ***cayawa** 'throw out, pour': CN čayaawa 'scatter, pour, sprinkle s.th. down'; CN čayaawi 'for s.th. to spill, sprinkle down'; Wr cewá-ni 'throw, hit with a missile'; perhaps Mn pazawa 'pour (a liquid), vt' (perhaps with prefixed pa-). This appears to exemplify another reduction, as well as a vowel assimilation toward the palatal consonant: *-*aya*- > *e* in Wr, perhaps a simple loss of a consonant in Mono (*-aya- > -aa- >-a-), and perhaps *cayawa > *caywa > cewa in Wr, though it would be preferable if other examples of these phenomena could be found for those languages. [Num, TrC, Azt]

## 6.0. Some Unaccented Vowels Changed to i or ï

Unaccented vowels seem more likely to change, often to i or ï, which seem to serve as something like the UA schwa, much like the mid-central vowel resulting from any vowel in unaccented syllables of lengthy English words. Manaster Ramer (1993) has proposed that in PUA the stress usually fell on the initial syllable (perhaps 2/3 to 3/4 the time), except in forms such as CVCVC and others (perhaps 1/3 or 1/4 the time). The fact that the vowels of initial syllables are more consistently and easily reconstructable than the vowels of second syllables also suggests a greater frequency of stress in PUA initial syllables than in later syllables. Both of those observations are also consistent with a pattern often observable in UA reconstructions of three or more syllables (whether compounds or not), where the first and third vowels appear to be more stable than the second; that is, the second is often syncopated or weakened by what we might call the UA schwa phenomenon, wherein the second vowel changes to i or ï. The next two sets (20, 21) exemplify such a weakening of the second vowel. The three sets (22-24) following them exemplify a change in the first vowel when the second vowel is stressed. In fact, whenever the semantics agree and three of the first four segments align, excepting one vowel, we might suspect something caused that vowel to change. Consider the following:

20 (454). ***(pa)-hawa** 'fog, steam': Yq báhe(wa) 'fog'; AYq haawa 'vapor, steam, n.'; AYq vahewa 'mist, fog'; AYq vaiweče 'fog, mist'; My baihwo 'neblina, brisa'; My háawa 'vapor'; Eu baúua (baúwa) 'rocío, neblina'; Eu beiwat

'neblina'; Ca háway 'be foggy, vi.'; Ca háway-š 'mist, fog.' The diachronic fragility of h often results in a dipthong and the near loss of the middle syllable after the prefix *pa-. Also of interest is the fact that all forms without the prefix *pa- show *hawa (Ca, My, and one Ayq form), while all forms with the prefix pa- show a higher vowel—(h)ïwa/(h)iwa—and/or a syllable reduction in that same syllable when it is the second syllable. Thus, those two vowels (ï and i) often seem to result from lack of accent in unaccented syllables, and not from PUA *ï or *i. [Tak, TrC]

21 (2312). ***hatawa** 'yawn, v': Mn na?ïdawï 'yawn, vi'; NP ïdamuwïnï 'yawning, vi'; Pn hïtawa 'yawn, vi'; Cm ïhtamakï?atï 'yawn, vi'; Kw ?atawa 'yawn'; Eu hátawa (prêt: hátauhri) 'bostezar'; My ten háha?awa 'está bostezando'; Yq háawe 'bostezar'; note the glottal stop in Cahitan corresponding to *t in the other UA languages (*t > l/r > ?) as it frequently does in Cah. Cr ha?ateewa 'bosteza.' In TrC where the 1st vowel is stressed, the *a is retained, while second and third vowels sometimes change, but in the Num terms, where the second vowel is stressed, the first vowel goes to ï, the UA schwa, in all Num forms except Kw. [Num, TrC, CrC]

22 (1956). ***sa?ma** 'spread, v': Kw sa?ma 'spread out (e.g., a blanket)'; SP sa?ma/sam?a 'spread out (a blanket)'; Ch som?á 'spread a blanket.' Note the vowel change in the unaccented syllable of the Ch reflex, perhaps to a round vowel o (rather than ï or i) due to the following bilabial m. [Num]

23 (1511). ***sVNpa/sVppa** 'quiet': Ch sumpáva-(ni) 'slowly, quietly'; Ch sampáva 'slowly, quietly'; CU sïpáy 'be empty, quiet, lonely'; CU sïpá-?uní 'become empty, quiet, lonely.' (CU -p- < *-pp-; CU -v- < *-p-). The varieties of the first vowel make its reconstruction hazardous, but note that the accent is on the second syllable, which helps explain the first vowel's variability, and note that the other three of four segments, as well as the semantics, quite agree. [Num]

24 (1998). ***patto-** 'swell': Cp pátiče 'swell, rise, vi'; Ca pátiš 'swell, bloat, vi'; Ca páti 'get bloated, get round, vi'; CU pïtö´-?nay 'swell up, vi.' (Because *o > Ca/Cp i and *o > CU ö, then Ca, Cp, and CU all correspond nicely through four segments). Note also the UA schwa ( ï ) in the unaccented syllable of CU. Consider also Cm paro?ikitï 'rise, swell (as river, creek)'; Cm pohtokitï 'puff up, bloat, swell'; Cm atabaro?itï 'rise, swell (tend to flood, as water in a creek), v'; and probably Wc hátïka 'hinchar, pl' though Wc hatu... would be expected. [Num, Tak, CrC]

25 (2106). ***yawa/i** 'do with hands, touch, play, wipe': Ca yáw 'catch, get hold of, touch'; Od ðag/ðagi 'verbal action with the hands'; Od ðagšp(a) 'touch, press on, play (instr)'; Od ðagion 'wipe, vt'; Od ðagkon 'drop, wipe, vt'; Od ðagimun 'massage, knead'; Od ðaghim 'feel one's way along'; Pima of Yepachic (PYp) dakto 'touch, feel' (Shaul 1994; PYp g (< *w) probably devoiced to k in a cluster with t); Eu nadéwa 'limpiar' (Eu d < *y); AYq yeewa 'play with, caress, fondle, vt'; Yq yéewe 'jugar'; My yeewe 'está jugando.' Though semantically more aloft,

the following also belong: Od ðagito 'discard, leave, vt'; PYp dagito 'leave, vt.' [Tak, Tep, TrC]

26 (1562). ***yalipa*** 'poison': Mn (y)enipá? 'poison, n'; Mn enipa?a 'poison, v'; Wr yeloá 'poison, n'; Wr yeloé-na 'poison, vt'; PYp dirav 'poison for fish.' The three consonants of PYp match well (Tep d < *y and v < *p), and there may be explanations for the vowels. Regarding Wr yeloá, I believe that other examples of *-VpV- > -oV- in Tr and Wr can be found, where a change of p/v > w appears to have rounded the preceding vowel, which round vowel alone remains after all other traces of the consonant have vanished. As for PYp dirav, Tep vowel-assimilation patterns often anticipate vowels, which anticipation may have happened twice in the PYp form: *a-i-a > i-i-a > i-a-a. Note a similar anticipation in ST uama < *suma 'hunger.' Note that PYp ho?o-pisa 'bat' < *pati 'bat' (Stubbs 2000a) also showed a vowel change of *a-i > i-a. This set is also an additional example of *l > n in NUA (Mn). [Num, Tep, TrC]

27 (1191). ***coNaya*** 'jump': Ca Cíŋay 'hop'; Cr ticúna?i 'jump!'; Wc cúniiya 'gotear, saltar.' The first three segments match well, since *o > Ca i, > CrC u. Furthermore, both Ca and Cr suggest that the second vowel is a; Wc i is another example among many of V > i/_y; and we have another NUA ŋ corresponding to SUA n. [Tak, CrC]

28 (1494). ***sïka/saka*** 'owl': CN šašaka 'owl'; Kw sïïkaatï 'barn owl'; Tb še'egapiš-t 'barn owl.' Due to their proximity, either Kw or Tb could have borrowed from the other; nevertheless, either may be related to CN šašaka. If so, then either CN assimilated the first vowel (*ï-a > a-a), or a once unaccented a > ï in NUA. Could an original high vowel (ĭ) explain the palatalized š in CN? [perhaps Kw, Tb, Azt]

29 (1478). ***pïtïwa/pïtawa*** 'open, uncover': Tb peleew~?epeleeu 'open it up'; Hp pïrï-k-na 'unfold, open up, unwrap, vt'; Eu périna 'abrir (la mano o un libro)'; CN petlaawa 'disrobe, undress, uncover, polish s.th.'; Pl peelua 'abrir, vt'; Pl ta-pelua 'abrir, vt.' As in 'owl' above, the CN form yields *a* before another *a*, as opposed to ï/e in other UA languages. [Tb, Hp, TrC, Azt]

30 (1882). ***soko*** 'squash': Tr siko-báči 'calabaza blanca or pintada'; Wc šukúuri 'jícara ceremonial'; Eu sosók 'calabaza sahualca, calabaza redonda'; and probably Kw soganaa-vï 'wild gourd' if a -naa suffix encouraged the second vowel to become *a*. [TrC, CrC, Num]

31 (406). ***kwinu?a*** 'turn around': Cm kwinu?yarï 'spin around, turn around'; Ch kwiin?a 'to turn'; SP kwinu?nu 'revolve, turn around'; ST biññia 'turn around.' [Num, Tep]

leave, vt'; PYp dagito 'leave, vt.'

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## 7.0. Sets Further Exemplifying Previous Observations/Hypotheses

Returning to a previous set, the following Ca and Tbr terms for 'badger' further demonstrate that some Ca w < *kw, as specified in Miller 1967:5, in addition to the vowel leveling (i-a > e-e) mentioned earlier.

10 (98). ***kwila** 'badger': Ca wílyaly 'badger'; Tbr kwelé-t/ keré 'badger.' [Tak, TrC]

The following Ls and AYq terms are an additional example of Manaster Ramer's law of *-c- > -y- in NUA (Manaster Ramer 1992b):

32 (592). ***haca/i** 'dig, scratch': Ls heya/heyi 'be dug, vi, dig, vt'; AYq hečihtia 'scratch, vt.' In light of Manaster-Ramer's sound law of medial *-c- > NUA *-y-, Ls heyi and AYq heči- are a nice match, if *a-i > e-i; otherwise, Ls e < *o. [Tak, TrC]

The following two examples show voicing of an originally voiceless consonant in some environments: PYp b < *p in 33 and Tr g < *k in 34, though word initially is rare.

33 (258). ***opawa** 'brain': Od oag (< *owag) 'brain, nerve'; LP ovagadui 'sesos'; LP oopaga 'sesos, médulas'; PYp obgar 'brain(s)'; NT ováágai 'los sesos.' [Tep]

34 (1091). ***kïpu/kipu** 'hear': Eu keivuwa-/keivúve 'escuchar'; Tr gipú 'oir, escuchar'; Wr kepú-na/ma 'oir.' [TrC]

35 (422). ***cakwa** 'close, lock': Mn cakwiti?i 'close, lock, bolt'; CN cakwa 'to close, enclose, lock up, vt'; CN cakwi 'close, get closed, vi.' Examples of medial *kw in both NUA and SUA are not particularly abundant; therefore, another is welcome. [Num, Azt]

36 (1939). ***kïca** 'waist': Eu kecáka 'cintura'; PYp kesar 'womb.' Semantically, the pair are close enough; phonologically, they are a perfect match through four segments, since PYp *s* like all Tepiman *s* < **c*. [TrC, Tep]

37 (1542). ***mawa** 'break ground or clean ground': Hp maalama 'break new ground, clean a field'; Eu máwa 'plow, v.' These constitute another NUA-SUA example of *w > l/_a in Hp. [Hp, TrC]

38 (1234). ***pisi** 'leaf': Mn pisi 'leaf'; Pn pisi(cci) 'leaf'; PYp vihigim 'have complete leaves.' The Central Numic forms with PYp yield another example of Tepiman h < *s. [CNum, Tep]

39 (1679). ***suma** 'scrape, smooth, v': ST humaa 'scrape, v'; CN šiima 'smooth, shave, vt; Pl šiima 'cut hair, shave.' These show another example of PUA *u > i in CN. [Tep, Azt]

## 8.0. Sets Highlighting Tubar's relationship to Corachol and Aztecan

40 (64a). ***napVsV*** 'ashes' (listed in M88-na3, Miller 1967): Eu nápsa/naposta; Yq náposa; My náposa; Tr na'piso; Wr nahpisó. (64b). ***nasi*** 'ashes': Tbr nasí-t; Cr nasí; CN neš-tli; Pl neš-ti. Note that the Tbr form aligns better with CrC and Azt than with the TrC forms. [TrC, CrC, Azt]

41 (219). Tbr tilu-r 'eye' is the only UA language not showing a form of *pusi for 'eye.' Relative to the Tbr term, consider Wr telula 'a black rock for polishing pots' and CN tliilloo-tl 'blackness' (Stubbs 2000b). In light of the near identity of Tbr tilu-r 'eye' with the Wr and CN terms, it may have originally meant or derived from something like 'little black rock/thing' which an eye does resemble. [TrC, Azt]

42 (254). ***pikoti*** 'bow (string)': Tb pihooli-t 'bowstring' and Tbr wiko-lí-t 'bow' both agree with *pikoti-t; and Cah *wikori 'bow' (Yq wíko?i; My wíko?ori/wíkori) may be borrowed from Tbr. This transference would suggest that Tubar was once a larger entity than it is now, since the sound correspondences (*p > w in Tbr) suggest that both Yq and My borrowed this term from Tubar. Eu bákoci/vákoci 'bow' and Eu vákota?an 'make a bow' likely belong, since they share five of six segments, differing only in a vs. i for the first vowel. [Tb, TrC]

43 (263). **tasikali** 'tortilla': though it may be a regional loan from Nahuatl, the number of languages containing a reflex of *tasikali 'tortilla' are worth noting: CN tlaškal-li 'tortilla, baked bread'; CN tlaškaloaa 'make tortillas' (cf. CN iška 'to bake'); Tbr tasekalí-t/tasikalí-t 'tortilla'; Yq tahka?i; NT táškali 'tortilla'; NT is obviously a loan since Tep h should correspond to PUA s; the high front vowel (i/e) separating the cluster in Tbr and the palatalized š of CN both suggest an original presence of a high front vowel; yet interestingly, only the Tbr term shows that original voweling from which the CN and Cahitan forms derived (Stubbs 2000b). Note that Yq has also nearly lost the consonant cluster: *-sk- > -hk-.

44 (998c). ***(h)usa*** 'grass': Tbr osá-t, usá-t 'hierba, zacate'; Cr (h)ïša 'grass, straw.' These two do agree well with each other in *(h)usa, since Cr ï < *u. [TrC, CrC]

45 (1232). ***sawa*** 'leaf' (VVH64, Miller 1967, M88-sa1) appears in nearly all SUA languages with its respective correspondences (Miller 1967; Miller 1988); however, note that both Cr samwá and Tbr samwa-t show PUA *w > mw, as opposed to a consistency of *sawa in the rest of TrC (Yq, My, Wr, Tr) and *haga in Tepiman. Miller (1967) lists Cr mw as a reflex of PUA *m, but not *w; so this pair exhibits a unique parallel between Cr and Tbr. [Tep, TrC, CrC, Azt]

46 (2176). ***tïpil*** 'vulva': CN tepil-li 'vulva'; Tbr tipisí-r 'vulva, feminine gender'; for r/s alternations, cf. Tbr watisám/watíram 'thirsty'. This is another set appearing only in Tbr and Azt.

47 (1937). ***yoli...*** 'stomach': CN yooliiš-tli 'stomach'; CN yooltitlan 'stomach'; Tbr nyolí-r 'stomach'. The CN terms, as derivatives of CN yool-li 'heart,' give rise to the possibility that the Tbr term is a loan therefrom; but if so, why is it not in the other Sonoran languages surrounding Tbr, and why would this Tbr loan not show y like other loans rather than Tbr's correspondence ñ? While it may have been borrowed early enough to undergo the sound change, this and the rest of the above (40-47) collectively give us some things to think about regarding a potential special relationship between Tbr and the other SUA kw-languages. Indeed, all new findings in UA generally reflect on all else in UA and often cause us to rethink all else.

**References**


Anonymous. 1981. *Arte y Vocabulario de la Lengua Dohema, Heve, o Eudeva*, ed. Campbell W. Pennington. Mexico City: Mexico, Instituto de Investigaciones Filológicas, Universidad Nacional Autónoma de Mexico.

Bascom, Burton W. 1965. *Proto-Tepiman*. Ph.D. Dissertation. University of Washington.

Bascom, Burton W. in prep. *Northern Tepehuan Dictionary*. Ms.

Bednark, James, project director. 1987. *Paiute-English, English-Paiute Dictionary*. A publication of the Yerington Paiute Tribe.

Bethel, Rosalie, Paul V. Kroskrity, Christopher Loether, and Gregory A. Reinhardt. 1993. *A Dictionary of Western Mono*, 2nd ed.

Brambila, David. 1976. *Diccionario Raramuri-Castellano*. Mexico: La Obra Nacional de la Buena Prensa.

Bright, William, and Jane Hill. 1967. The Linguistic History of the Cupeño. In Dell Hymes and William E. Bittle (eds.), *Studies in Southwestern Linguistics*, pp. 351-371.

Bright, William. 1968. *A Luiseño Dictionary*. UCPL 51. Berkeley and Los Angeles: University of California Press.

Campbell, Lyle. 1985. *The Pipil Language of El Salvador*.Berlin, New York, Amsterdam: Mouton Publishers, 1985.

Campbell, Lyle, and Ronald W. Langacker. 1978. Proto-Aztecan Vowels. *IJAL* 44: 85-102, 197-210, 262-279.

Collard, Howard, and Elisabeth Scott Collard. 1984. *Vocabulario Mayo*. Serie de vocabularios indígenas, no. 6. Mexico, D.F.: Instituto Lingüistico de Verano.

Cortina-Borja, Mario, and Leopoldo Valiñas C. 1989. Some Remarks on Uto-Aztecan Classification. *IJAL* 55/2: 214-39.

Crapo, Richley H. 1976. *Big Smokey Valley Shoshoni*. Desert Research Institute Publications in the Social Sciences, number 10. Don D. Fowler, ed.

Dayley, Jon P. 1989. *Tümpisa (Panamint) Shoshone Dictionary*. Berkeley: University of California Press.

Fowler, Catherine S. 1983. Some Lexical Clues to Uto-Aztecan Perhistory. *IJAL* 49: 224-57.

Givon, Talmy, ed., and the Southern Ute Tribe. 1979. *Ute Dictionary*. Ignacio, Colorado: Ute Press.

Goddard, Ives. 1996. The Classification of the Native Languages of North America. In William C. Sturtevant (ed.), *Handbook of North American Indians*, Ives Goddard (vol. ed.) of vol. 17 *Languages*, Washington: Smithsonian Institute, pp. 290-323.

Grimes, José E., Pedro de la Cruz Avila, José Carrillo Vicente, Filiberto Díaz, Román Díaz, Antonio de la Rosa, and Toribio Rentería. 1981. *El Huichol: Apuntes Sobre el Léxico*. New York: Cornell University.

Heath, Jeffrey. 1977. Uto-Aztecan Morphophonemics. *IJAL* 43/1: 27-36.

Heath, Jeffrey. 1978. Uto-Aztecan *na-class Verbs. *IJAL* 44/3:211-222.

Hill, Jane H. and Kenneth C. Hill. 1968. Stress in the Cupan (Uto-Aztecan) Languages. *IJAL* 34:233-241.

Hill, Jane H., and Rosinda Nolasquez. 1973. *Mulu?wetam: the First People: Cupeño Oral History and Language*. Banning: Malki Museum Press.

Hill, Jane H. 2001. Proto-Uto-Aztecan: A Community of Cultivators in Central Mexico? *American Anthropologist* 103(4):913-34.

Hill, Kenneth C. 1994, 2001. *Serrano Dictionary*. Drafts in preparation.

Hill, Kenneth C. 1998. Introduction, in Hopi Dictionary Project (eds.), *Hopi Dictionary: Hopìikwa Lavàytutuveni*. Tucson: The University of Arizona Press.

Hopi Dictionary Project (1998). *Hopi Dictionary/Hopìikwa Lavàytutuveni: A Hopi English Dictionary of the Third Mesa Dialect*. Tucson: University of Arizona Press.

Iannucci, David. 1972. *Numic Historical Phonology*. Ph.D. Dissertation. Cornell University.

Johnson, Jean B. 1962. *El Idioma Yaqui*. Mexico: Instituto Nacional de Antropología e Historia.

Karttunen, Frances. 1983. *An Analytical Dictionary of Nahuatl*. Austin: University of Texas Press.

Lamb, Sydney M. 1958. "Linguistic Prehistory of the Great Basin." *IJAL* 24/2: 95-100.

Langacker, Ronald W. 1970. The Vowels of Proto Uto-Aztecan. *IJAL* 36/3:169-180.

Lastra de Suárez, Yolanda. 1986. *Las Áreas Dialectales del Náhuatl Moderno*. México: Universidad Nacional Autónoma de México.

Lionnet, Andrés. 1978. *El Idioma Tubar y Los Tubares, según Documentos Inéditos de C.S. Lumholtz y C. V. Hartman*. México, D.F.: Universidad Iberoamericana.

Lionnet, Andrés. 1986. *Un Idioma Extinto de Sonora: El Eudeve*. Mexico City: Universidad Nacional Autónoma de México.

Manaster Ramer, Alexis. 1992a. *Tubatulabal 'Man' and the subclassification of Uto-Aztecan*. In California Linguistic Notes 23(2): 30-31.

Manaster Ramer, Alexis. 1992b. A Northern Uto-Aztecan Sound Law: *-c- > *-y-. *IJAL* 58/3:251-268.

Manaster Ramer, Alexis. 1993. Blood, Tears, and Murder. In J. van Marle (ed.), Historical Linguistics 1991: *Papers from the 10th International Conference on Historical Linguistics*, Amsterdam, 12-16 August 1991, pp. 199-209. Amsterdam and Philadelphia: John Benjamins.

Manaster-Ramer, Alexis and Ralph Charles Blight. 1993. Uto-Aztecan *ps (and *sp, Too?)" *IJAL* 59/1:38-43.

Manaster Ramer, Alexis. 1997. Uto-Aztecan *ps and Similar Clusters, Again. *IJAL* 63/2:248-56.

McMahon, Ambrosio, and Maria Aiton de McMahon. 1959. *Cora y Español*. Serie de Vocabularios Indigenas, no. 2. Mexico City: Instituto Lingüistica de Verano.

Miller, Wick R. 1967. *Uto-Aztecan Cognate Sets*. UCPL 48. Berkeley and Los Angeles: University of California Press.

Miller, Wick R. 1972. *Newe Natekwinappeh: Shoshone Stories and Dictionary*. University of Utah Anthropological Papers, no. 94. Jesse D. Jennings, ed. Salt Lake

City: University of Utah Press.
Miller, Wick R. 1983. Uto-Aztecan Languages. In William C. Sturtevant (ed.), *Handbook of North American Indians*, Alfonso Ortiz (vol. ed.) of vol. 10 *Southwest*, Washington: Smithsonian Institute, pp. 113-124.
Miller, Wick R. 1984. The Classification of the Uto-Aztecan Languages Based on Lexical Evidence. *IJAL* 50/1:1-24.
Miller, Wick R. 1988. *Computerized Database for Uto-Aztecan Cognate Sets*. Unpublished monograph. Salt Lake City: University of Utah Anthropology Dept.
Miller, Wick R. 1996. *Guarijío: Gramática, Textos, y Vocabulario*. Mexico, D.F.: Universidad Nacional autónoma de Mexico: Instituto de Investigaciones antropológicas.
Molina, Felipe S., and David Leedom Shaul. 1993. *A Concise Yoeme and English Dictionary*. Tucson: Tucson Unified School District.
Munro, Pamela. 1990. Stress and Vowel Length in Cupan Absolute Nouns. *IJAL* 56/2: 217-50.
Munro, Pamela, and William E. Mace. 1995. *A New Tübatulabal Dictionary*. (Revised preliminary version) UCLA.
Pennington, Campbell W. (ed.). 1979. *Vocabulario en la Lengua Nevome: The Pima Bajo of Central Sonora, Mexico*. Vol. 2. Salt Lake City: University of Utah Press.
Press, Margaret L. 1979. *Chemehuevi: A Grammar and Lexicon*. UCPL 92. Berkeley, CA: University of California Press.
Robinson, Lila Wistrand, and James Armagost. 1990. *Comanche Dictionary and Grammar*. Summer Institute of Linguistics and the University of Texas at Arlington Publications in linguistics, no. 92.
Sapir, Edward. 1931. The Southern Paiute Language. *Proceedings of the American Academy of Arts and Sciences* 65, 1931.
Sapir, Edward. 1913-14. Southern Paiute and Nahuatl: a study in Uto-Aztecan. pts. 1 and 2. *Journal de la Société des Américanistes de Paris*. 10:379-425 and 11: 443-88.
Saxton, Dean, Lucille Saxton, and Susie Enos. 1983. *Dictionary: O?othham Milgaan, English Papago/Pima*. 2nd ed. R.L. Cherry (ed.). Tucson: The University of Arizona Press.
Seiler, Hansjakob, and Kojiro Hioki. 1979. *Cahuilla Dictionary*. Banning, CA: Malki Museum Press.
Shaul, David Leedam. 1994. A Sketch of the Structure of Oob No?ok (Mountain Pima). In *Anthropological Linguistics* 36: 3, Fall.
Steele, Susan. 1979. An Assessment for Historical and Comparative Linguistics. In Lyle Campbell and Marianne Mithun (eds.), *The Languages of North America: Historical and Comparative Assessment*, Austin: University of Texas Press, pp. 444-544.
Stubbs, Brian D. 1995. The Labial Labyrinth in Uto-Aztecan. *IJAL* 61/4: 396-422.
Stubbs, Brian D. 2000a. More Palatable Reconstructions for Uto-Aztecan Palatals. *IJAL* 66/1:125-37.
Stubbs, Brian D. 2000b. The Comparative Value of Tubar in Uto-Aztecan. In Eugene H. Casad and Thomas L. Willet (eds.), *Uto-Aztecan: Structural, Temporal, and Geographic Perspectives*, Hermosillo, Mexico: Universidad de Sonora, pp. 357-69.
Stubbs, Brian D. 2002. *A Comparative Vocabulary of Uto-Aztecan Languages*. Ms. draft in preparation.
Voegelin, Charles F. 1958. A Working Dictionary of Tübatulabal. *IJAL* 24/3: 221-28.
Voegelin, C.F., F.M. Voegelin, and Kenneth L. Hale. 1962. *Typological and*

*Comparative Grammar of Uto-Aztecan*. Indiana University Publications in Anthropology and Linguistics: Memoir 17, supplement to *IJAL* 28(1).

Willett, Thomas. 1995. *Southeastern Tepehuan Dictionary*. In preparation.

Zigmund, Maurice L., Curtis G. Booth, and Pamela Munro. 1991. *Kawaiisu: A Grammar and Dictionary with Texts*. UCPL 119. Berkeley: University of California Press.

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